

# FUTURARC

The Voice of Green Architecture in Asia-Pacific

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## LEARNING LIFE

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# BEGA

Das gute Licht.

# MAGNA

GLASKERAMIK

is a sustainable design product that is made from  
**100% recycled glass bottles**



Project: Bulgari Shanghai  
Designed by MVRDV  
Photograph: Bulgari, Xia Zhi

Being located in Teutschenthal, Germany, MAGNA Glaskeramik possesses full patented rights for the sustainable production of a unique, environmental and exclusive material under the **trademark of Glaskeramik®**.

A building and interior design material made of 100% recycled glass, industrial and glass bottles, being the final piece itself **fully recyclable**. MAGNA Glaskeramik has developed a crystallization course, where parts of the production are hand-made; acquiring a unique translucent optic that allows a crystal-like brilliance effect when shone upon by light and thanks to which, each slab is different, but always maintaining a full recycled glass composition.



Images: MAGNA Glaskeramik



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The PAL International School@TUFS nursery, designed by Naf Architect and Design Co., Ltd., goes beyond simply serving the need for childcare—it creates new values and excitement around children and their needs.

Photo by Toshiyuki Yano  
Read more on page 38.

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Cover design by Hans Lim with images from Shutterstock.com. The design is a tribute to FuturArc's first cover (featuring Ancient Tree Jinhua by Christ & Gantenbein), brought back to the present to celebrate the journal's final cover and FuturArc's impact on empowering past, present and future architects and designers.



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Dear **FuturArc** readers,

In certain circles, Earth is perceived as a kind of 'school' for sentient beings—especially humans—to learn more deeply about themselves. To what end? That depends on what you believe in. Some believe the ultimate purpose of this 'Earth school' is to enable us to learn certain lessons and then transcend them. How do we come upon these lessons? Call it destiny, fate, or what have you, the manner with which this happens differs for each individual being.

Why do I bring this up? Because this issue of *FuturArc* looks at the topic of learning vis-à-vis the architectural space or environment, built and/or natural, in which it occurs, and how sustainably each space is being fashioned to support learning and what lessons—pedagogical, environmental, ethical, and so on—are to be learnt. We also look at learning as not just a process confined to the classroom or school, but also one that is communicated and passed on implicitly, non-verbally. The best lessons are often transmitted in the unspoken; not by words but by actions.

Additionally, we turned the mirror on ourselves as a journal, a platform, of content creation and knowledge sharing. Are we still relevant as a medium through which new ideas can take flight to greater heights, and new stories presented so that readers may glean new insights? We spoke to key individuals in the design and media industry to find out. While all of them gave a resounding yes (print is still relevant!), it is not without irony that this issue turns out to be *FuturArc*'s last.

Yes, this is *FuturArc*'s final issue after 19 years.

*"The soul takes flight to the world that is invisible but there arriving she is sure of bliss and forever dwells in paradise."* Plato



**Personal notes...**



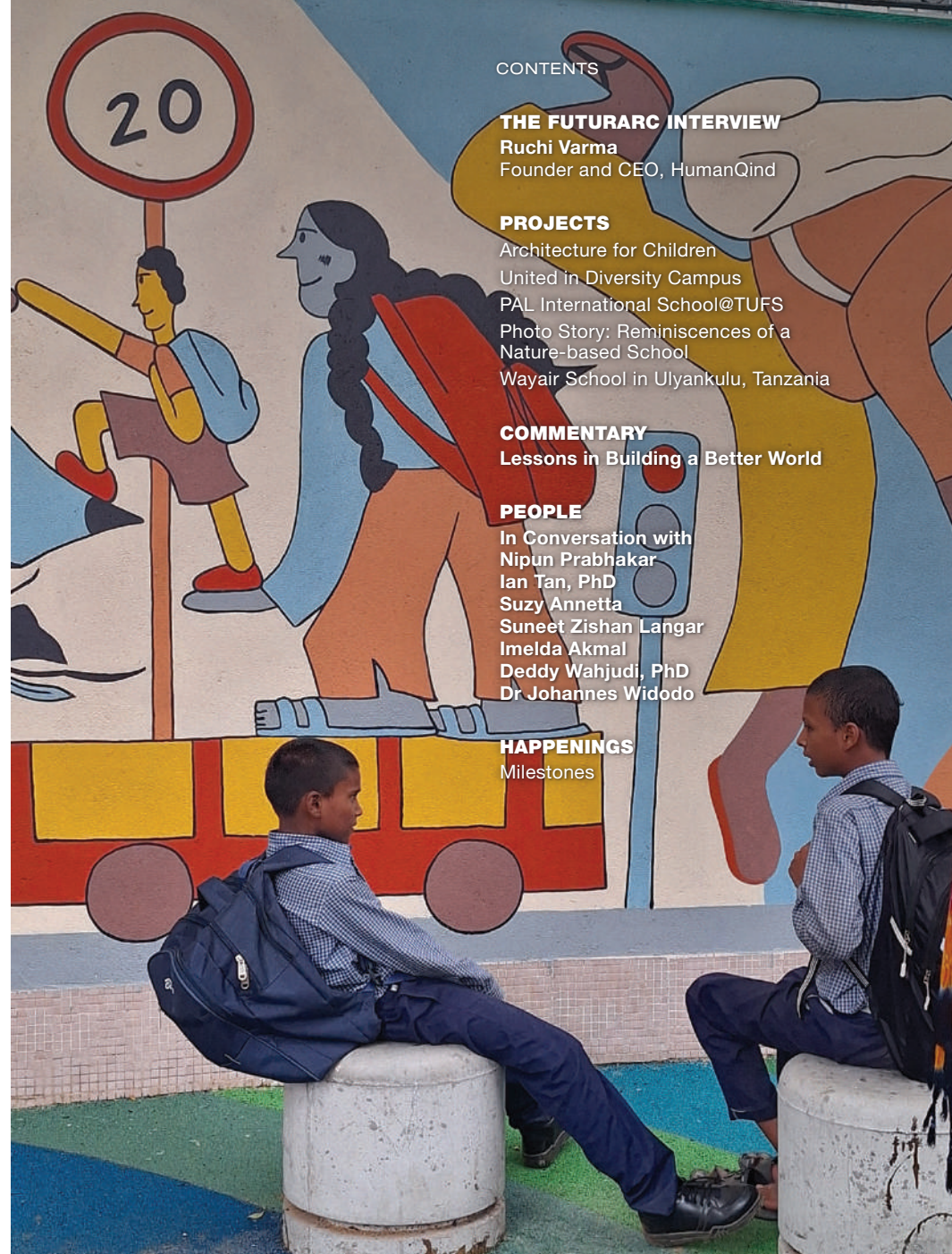
I am incredibly grateful to have had this opportunity to be part of something meaningful and impactful. The responses from readers from different countries over the years have definitely kept us going. Beyond exploring projects and points of view, *FuturArc* has also enabled students and professionals to present their designs through its design competitions. Thank you to everyone who has contributed to *FuturArc* in all ways. It has been an extraordinary journey of many lessons and learnings. – *Candice Lim*



More than a decade ago, as an architecture student, *FuturArc* was my introduction to a sustainable built environment. I read the magazine and competed in *FuturArc* Prize, absorbing timely conversations and design solutions beyond what was in my textbooks or image-sharing sites. I am deeply honoured to have taken up the 'trowel' these past few years in cultivating conversations and documenting exemplary work through this platform. Although the magazine ends here, I hope that we have planted the roots of sustainability for other readers like me. – *Dinda Mundakir*



It has been an amazing 19-year journey with the *FuturArc* editorial team, from the very first edition to this final issue. Countless covers and layouts have been crafted, always with the goal of delivering a "wow" moment for our readers. I'm grateful to Candice for giving me the opportunity to share my photography and sketches in the latest issues. Print media will always have its place, and who knows, maybe our paths will cross again. – *Hans Lim*



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# The FuturArc Interview

**RUCHI VARMA**

Founder and CEO, HumanQind

by **Bhawna Jaimini**

**Ruchi Varma** is the founder and CEO of HumanQind, a social design enterprise building equitable, kind and compassionate cities. An architect and urban designer by training, Ruchi has been advocating for a human-centred development approach through her work. She has worked extensively in the road safety and urban development sector with government and non-governmental agencies. She is the recipient of 2020 Echoing Green Fellowship and was a Dalai Lama Fellow in 2018. Ruchi spoke to *FuturArc* writer Bhawna Jaimini about building cities through compassion, an approach reflected in her recently completed project, Crosswalk: 250 Meters of Happiness, which won a global honour award at the World Urban Forum 2020 in Abu Dhabi.





# Unlike adults, children are still absorbing what is happening around them. They look at inclusion more naturally and don't have to unlearn.

**BJ:** In a country like India where there is no public participation around urban development, where did the idea of 250 Meters of Happiness, where schoolchildren led the change on the ground, come from?

**RV:** There was a sense of frustration from working on projects and visions that were not getting translated or implemented on the ground. I was starting to question if my entire education and training in architecture and design were a myth. Over a period of time, that becomes disheartening because we, as practitioners, have the privilege of knowing how good urban design and planning can impact the experience of urban life by infusing it with warmth and kindness. But often those things get relegated to beautiful renders in immaculately produced reports, which never see the light of day.

The other motivation for this project came from observing the street in front of my house, which has a school on the opposite side. I could clearly see how societal divisions were manifesting themselves into tangible everyday experiences of so many people who are invisible and marginal to the whole development. The sheer increase in the number of gated communities or even a simple thing like the height of the boundary wall, which is now much higher than what it used to be, are all a reflection of our society, which is becoming more and more insular. I was looking for a way through which I can explore care, compassion and nurturing as ingredients of design. I was also concerned about safety issues of children on the street, but that was not the motive. I wanted to have children as co-designers of this project because unlike adults, who more or less have formed their biases and have set ways of looking at the world, children are still absorbing what is happening around them. They look at inclusion more naturally and don't have to unlearn.

**BJ:** I believe that HumanQind is working with multiple schools across Delhi to implement more school streets like 250 Meters of Happiness. What learning points are you taking from this pilot as you scale up?

**RV:** The major learning from this project is the fact that children, as young as nine, have internalised and

accepted the state of our cities as they see it. They want to have a big car and are not keen on cycling or walking to their school, and are even forming opinions about gender roles. When I first started holding the workshops in the school—a private school—a realisation dawned on me that nowhere in the curriculum are the children acknowledged for who they are collectively today. The focus was so much on their future as individuals. It became clear to me from the first workshop that the children will be co-designers of this street. It was in this spirit of co-creation and 'collectivisation' through which came the blueprint of compassion that we named 250 Meters of Happiness. I was very keen to understand what will unfold when we take this process to other geographies and different school systems because India has varied school systems. We consciously chose different schools with shifting street typologies through which we wanted to address the layers of invisibility. And after working with 10 different geographies, we now know that this process is hugely successful in creating a space where different generations are seen and heard, and are given the agency to bring about change.

**BJ:** When you say layers of invisibility, what do you mean? Apart from children, who else is invisible in and to our planning procedures?

**RV:** These layers of invisibility were pointed out to us by the children. When we think of schools—by extension the streets outside—the image of very young children going to school comes to our mind. However, there is a range of four-year-olds to 18-year-olds going to school, who are often accompanied by their parents, grandparents or other caregivers. Schools are places of learning for these children, but they are also places for teachers, cleaners and other support staff required to run these institutions. And of course, there are animals and trees, which are not even acknowledged as stakeholders of any kind. There is a whole ecosystem of networks and connections on our streets that is ignored. And we were only able to grasp the degrees of invisibility because of the lived experiences of children on their everyday journeys to school. This was reiterated and reconfirmed by children we worked with in other 10 geographies too. They all had the same stories to tell, which opened us up to the scale of the systemic neglect.

**BJ:** Since schoolchildren have been key stakeholders of this project, what do you think we (architects and urban designers) can learn about shaping the built environment from them? And what have you and your team personally learnt from the children in the pilot project?

**RV:** Architects and urban designers need to see people as people and not just as clients as per their design brief. They need to drop the baggage of being the expert and be willing to listen on an equal level without patronising the people. I would also urge the built environment community to stop [narrowly] addressing the needs of children through child-friendly spaces. Through our process, children brought out an extremely nuanced understanding of spaces because they observe and absorb things very slowly—like telling us where exactly their mothers sit and wait to pick them up or exactly where they can hear the birds sing.

1 Ruchi Varma taking part in painting the mural in India's first school zone co-designed by children  
2 to 4 Completed in mid-2024, 250 Meters of Happiness transformed a dangerous street into a lively space for students, caregivers and the surrounding community





## Traditional approaches focused on car mobility not only ignore the human aspect, but also push children further to the margins.

Working on this project these last few years has taught me the value of lived experience and how that is as important as the scientific temperament. Rebuilding connections comes before redesigning and that is often a slow process, which might not fit in with timelines and budgets that we are used to operating with. However, what will emerge will last much longer and will be more impactful. The designer needs to trust this process when getting into a participatory or an engagement-led project like this.

**BJ: Almost all the stakeholders driving urban development in our country view children and their role in the cities through a very narrow approach of child-friendly spaces here and there, as you have rightly pointed out. However, children—accompanied or otherwise—don't experience the city only through these spaces. They are everywhere. So, apart from school streets, what other design projects/typologies do you think would benefit from children's participation?**

**RV:** I would say they should be part of every development project. The built environment community operates from a place of bias where they think that children don't know much or don't have anything to contribute. However, the process we followed in 250 Meters of Happiness has shown that they can really help rebuild our cities, which are in a massive crisis right now.

**BJ: What were the challenges around convincing the government agencies and authorities? More so, what were their apprehensions about a project like this?**

**RV:** From elected representatives to the Public Works Department, multiple people from varied government agencies have been involved in the project. The major challenge, which continues to this day even after the project is built, is that they continue to see this as a one-off anomaly in the realm of development.

What I have realised through this project is that government systems in India are not learning-based, where lessons from one project are absorbed and taken forward in another. It all comes down to whether the person in a particular position believes in the project or not. I have had the fortune of working with some very forward-thinking bureaucrats who were wholeheartedly invested in this, but there hasn't been any systemic change that would make it easier to implement this in other geographies we want to work in. These challenges are also exacerbated by being a female architect because government systems are also deeply patriarchal.

**BJ: How long did it take you to build the project and what are the key achievements?**

**RV:** The main achievement is that we now have a tangible example or rather a proof of concept that co-designing driven by compassion works. We have also been able to show that urban development projects can be done through volunteerism. Designed by India's young, 250 Meters of Happiness is India's first school zone [project] ever, and it was made possible through the efforts of many people around the world who contributed to it and that is an achievement I am extremely proud of. However, the most heartening thing has been to work with children who are growing up through some extremely challenging times and yet have been able to anchor themselves in this process. In a world so fixated on individual growth and success, I hope this collective memory holds them throughout their lives.

**BJ: Children are currently extremely vulnerable in Delhi because of the severe pollution crisis. As someone who has worked closely with both children and the government authorities largely held responsible for not acting on the crisis, what is the way out of this mess?**

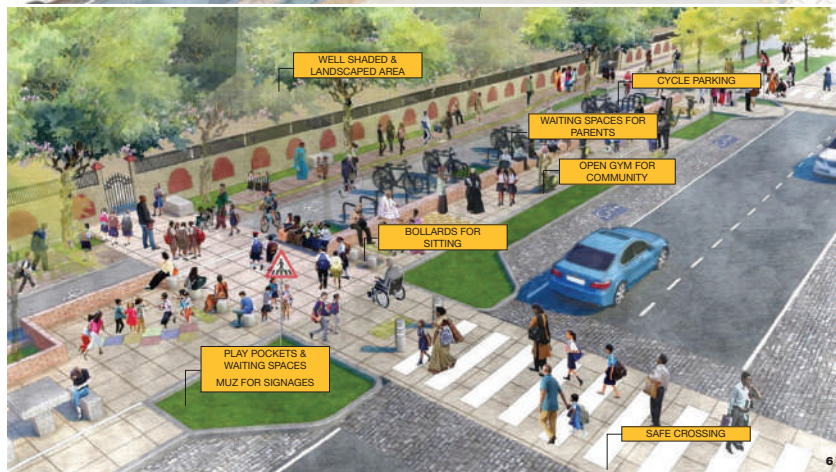
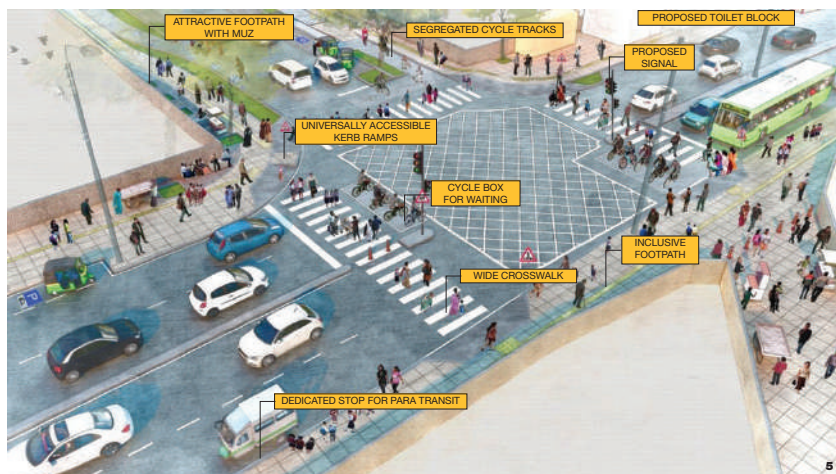
**RV:** We are in this crisis because of our ever-growing focus and dependence on cars instead of care. Vehicular emissions are one of the major causes of pollution in Delhi, but we are not addressing that or doing anything about why cars have become so synonymous with urban life. Instead of questioning the whole concept of cars, we are trying band-aid measures like banning diesel cars or subsidising electric ones.

In our cities, where 70 to 90 per cent of trips of shorter distances can be completed by walking, building decent walkways and footpaths—a simple intervention—can help drastically. We are not confronting the problem and focusing on what will actually bring long-term change. Change would mean investing in good





**There is a whole ecosystem of networks and connections on our streets that is ignored. And we were only able to grasp the degrees of invisibility because of the lived experiences of children on their everyday journeys.**



walking, cycling infrastructure and public transport, but we are not doing that. Our democracy is stuck in a five-year election cycle, which prevents them from taking long-term decisions.

**BJ: What have been the responses from the children (and their parents, if any) towards this programme?**

**RV:** When we started six years ago, everyone was deeply apprehensive about how this will get done and some parents still refuse to fully believe that it is their children who have designed this street. Imagine being a mother of two, and waiting for your children between 50 millimetres of space accorded to you by the cars parked on the street in the often-extreme weather of Delhi. This everyday experience of stakeholders has transformed when people who have never spoken to each other are forming friendships. There is a sense of safety, both physical and psychological. We no longer have to show renders, but you can actually go and experience it yourself.

## 250 Meters of Happiness

On a daily basis in India, 45 children are killed by traffic accidents, equivalent to eliminating one classroom. To children, the impact of unequal and unsafe school commute experiences can last beyond school years, resulting in physical and mental health issues. Children refer to their interactions in streets as 'near-death experiences' and undignified for them and their caregivers—feeling as if no one ever comes to ask what they need or how they would like to participate in creating safe, shared futures. Hence, traditional approaches focused on car mobility not only ignore the human aspect, but also push children further to the margins.

In 2019, through the Crosswalk programme designed by Ruchi Varma, a classroom of nine-year-olds collaborated in nine design workshops anchored in human rights, children's rights, sustainable development goals (SDGs) and a pedestrian-first approach to build a blueprint of compassion called 250 Meters of Happiness. Students reimagined their school street, created mental maps of associated feelings, engaged in active listening with their caregivers, and took part in 'walkshops' to co-design a plan based on inclusion and friendship. Their proposals included: a slow street where they can hear birds and safely cross roads; sidewalks that are wide enough for them to walk alongside their caregivers; places for their parents and grandparents to sit; safe cycling lanes; street lighting; removing car parking from footpaths so that neighbouring school students can also commute safely; trees and plantation on both sides; street furniture where they can do homework together; and additions of play equipment, colours and art to spark happiness.

Schools serve as a 'second home' to students, who in turn become change makers. This idea led to an exhibition where the visions created by one classroom were shared to the entire school, with every student, parent and alumni invited to vote on the plans. Once the school's community had stood behind a shared goal, an elected legislator was invited to review it.

In partnership with the Public Works Department, the project construction began in 2023. Students, along with school staff and resident welfare associations, supported the work zone development and sustained the momentum through exhibitions, data collection and storytelling. In April 2023, when the construction was almost completed, students used the space to initiate community art projects.

The school street was recently completed in mid-2024, with a designated vehicle speed of 20 kilometres/hour, supported by traffic-calming measures and compact intersections. Features such as 2.5-metre-wide footpaths, 2.2-metre-wide cycle tracks, play areas with learning aids and a gym, multi-utility zones integrated with drop-off/pick-up areas that are equipped with street lighting, school zone specific signages, and drainage on both sides of the street, have revitalised public life. As there are diverse types of seating for students and parents/caregivers, residents are also drawn to using the street after school hours, helping to improve its safety.

This intervention is India's first school zone designed by the young. It is also Delhi's first student-friendly street and serves as the pilot for the Delhi Government Safe School Zone Initiative, where cross-generational teams called 'road safety clubs' have been established at each school. Children, along with their caregivers, now plan for long-term traffic safety and school accessibility road maps, co-creating safe school zones through a six-step curriculum adapted from the Crosswalk initiative. HumanQind is the lead partner for the initiative, in collaboration with Transportation Research and Injury Prevention (TRIP) Centre at the Indian Institute of Technology (IIT) Delhi's Transport Department. The programme is supported by the collaboration of various levels of governance and multi-department efforts. At present, 10 other proposals are in various stages of development using the same approach, process and methodology.



**Bhawna Jaimini** is an urban practitioner and writer based in India. She founded the Centre for Urban Commons, a platform dedicated to creating more shared public spaces in Indian cities. Her first book *Happiness City* was published in 2024.

**5 & 6** Intervention proposals for student-friendly streets



# 360

## YEARS YOUNG

### MAKING THE WORLD A BETTER HOME

*“We are 360 years young, with a pioneering and innovative mindset in everything we do. So in 2025, we are preparing a worldwide celebration, a journey in which every one of you, in our 76 countries around the world, will be onboarded.”*

“

**Lynette Siow**  
CEO Saint-Gobain  
Singapore & Malaysia



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From high-performance glazing to construction chemicals, and from lightweight plasterboard to technical mortars, Saint-Gobain doesn't just supply products—it designs solutions tailored to the specific needs of customers and markets.

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With 360 years of history, Saint-Gobain stands as a testament to the power of innovation and reinvention. Its commitment to sustainable construction will continue to transform the industry, ensuring a brighter, more sustainable future.



#### 2025: A Special Resonance for Saint-Gobain

2025 holds a special significance for the Saint-Gobain Group, as it celebrates its 360th anniversary. This symbolic number highlights the company's global influence, built on innovative local and global solutions and its enduring commitment to making the world a better home.

The anniversary campaign, titled “360 Years Young,” pays tribute to Saint-Gobain's invaluable heritage, boldness, energy, and pioneering spirit. Over the course of 360 days, the company will unveil a rich programme of activations to engage stakeholders and commemorate its journey.

#### Saint-Gobain: 360 Years Young in 2025

In 2025, Saint-Gobain celebrates an extraordinary milestone that few organisations can claim: 360 years of continuous innovation, resilience, and leadership. Established in 1665 in France, Saint-Gobain has evolved into a global leader in sustainable construction and materials. Throughout its history, the company has remained at the forefront of progress, embracing change and driving innovation at every step.



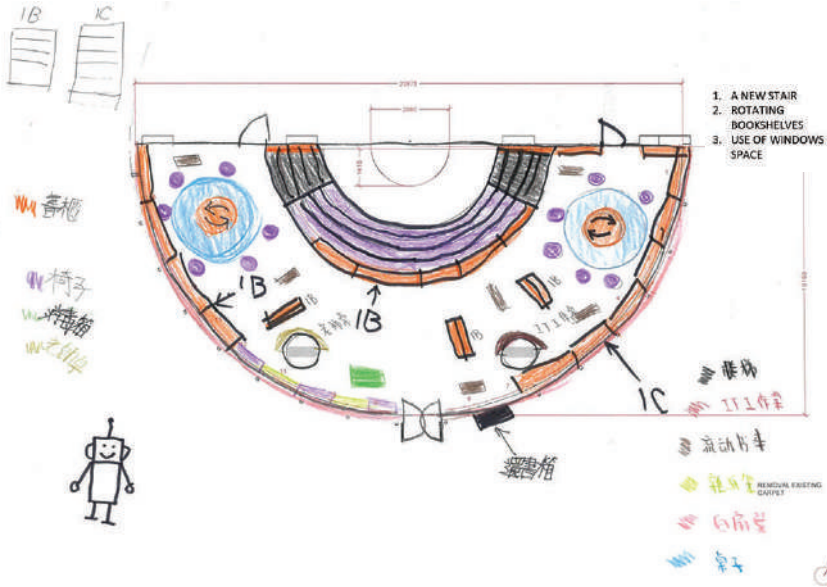


Image courtesy of Architecture for Children 1

## ARCHITECTURE FOR CHILDREN

The saying "hope springs eternal", attributed to Alexander Pope from his poem *An Essay on Man*, has been commonly interpreted to mean that something better will always come. In its full form, however, the emphasis seems to be on man's nature to expect things to be better, not that they always do.

The difference between expectation and actuality lies in how and what we do. Instead of just passively hoping, taking action is what makes all the difference.

Vicky Chan, Founder of Avoid Obvious Architects, is one such person who has been making a difference. He actively advocates his ethos of holistic, sustainable design through professional work and volunteerism, the latter in educating children on such concepts. He is also Founder of Architecture for Children, a non-profit organisation where he and other volunteers teach children through activities and programmes to learn about sustainable designs with ecology, environment and materials as basis of education and making them a reality.

Here, we look at two of his projects that have been designed and built with a children-first/based approach.

1 Child's sketch of the Library at Kwun Tong Government Primary School (Sau Ming Road) design 2 Aerial view of the Spring Pavilion with surrounding plants







Photos courtesy of Avoid Obvious Architects

### YUANYE SPRING

This award-winning farm project<sup>1</sup> was carried out in three essential phases that speak to furthering children's learning: design, construction and training.

In the design phase, the team conducted extensive school outreach programmes to gain insights into the specific needs of teachers and students regarding agricultural education. The objective was to blend traditional Chinese farming practices with new technologies, ensuring a comprehensive learning experience. The design of the farm was informed by these principles, with a focus on the 24 agricultural seasons that determine the project site layout. The master plan incorporates radiating circles emanating from the four-season pavilions, resulting in a cohesive design for the site. Notably, half of the site is dedicated to an indoor farm featuring six distinct farming technologies, showcasing sustainable food production in urban and rural contexts.

During the construction phase, the team prioritised sustainable materials, utilising mass timber, bamboo, salvaged stones and locally sourced soil for 50 per cent of the construction materials. Engaging children in the construction process served as an educational opportunity to highlight the importance of sustainable building practices. The construction workshop taught children how to utilise rapidly renewable bamboo to create lighting fixtures and art installations on-site. Additionally, children actively participated in cultivating a diverse range of farm species with culinary, cultural and medicinal significance, fostering a strong connection with the local ecosystems. Sustainable water and nutrient cycles, achieved through rain collection and aquaponics, facilitated the thriving growth of these plants.

In the training phase, children are immersed in hands-on workshops that cover both traditional and technological farming methods. Traditional farming practices are learned through fieldwork, providing insights into the meticulous care required for plant cultivation. Additionally, children are engaged with hydroponics and vertical farming techniques to explore the benefits and processes of automated farming. The introduction of robots on-site exemplifies how farming can be optimised through the integration of AI and technology.

"Our farm project stands as a testament to our commitment to providing children with a comprehensive agricultural education that bridges traditional and technological approaches. By imparting knowledge and practical skills, we empower the next generation to embrace sustainable farming practices and contribute to the future of agriculture," Vicky shared.

He added: "We have hosted students from 60 schools with 50,000 visitors a year. The farm is less about feeding people, but to show how farming combined with science can become a unique profession."

3 to 5 Teaching children to build the bamboo pavilion  
6 The paddy fields incorporate fish as part of the natural ecosystem  
7 The Fall Pavilion is built out of engineered bamboo



Photos courtesy of Avoid Obvious Architects





**8** Farming area of the medicine, used in COVID-19 treatment, that grows on fossilised wood **9** Robots are introduced to show how farming can be aided by technology **10** The master plan comprises crop circles emanating from the four-season pavilions **11** Aerial photo showing the farm's relationship to Quijiang River **12** Axonometric diagram showing the master planning concept



Photos courtesy of Avoid Obvious Architects

**10**

**Environmental and social impact**

**Net-zero construction**

Through active participation in the construction process and the utilisation of bamboo and salvaged materials, the children have contributed to advancing the project's net-zero goals. By employing sustainable materials, the farm has achieved a 72-per cent reduction in carbon footprint compared to other urban farms.

**Circular ecosystem**

The farm fosters a circular system where food and water are continuously recycled and reused. Children learn the value of waste reduction and repurposing, understanding that not everything needs to be discarded. They witness the transformation of waste into natural fertiliser and the recycling of rainwater on-site, instilling a sense of responsibility, respect and care for food resources. The farm also supports a rich biodiversity, with the presence of 20 local species of insects, fish and birds. Children discover the importance of inclusive environmental design, enabling harmonious coexistence with other species.

**Endurance**

The programme challenges children to endure physical hardships uncommon in more privileged settings. Tasks such as sawing bamboo, working under the scorching sun, and temporarily disconnecting from smartphones build resilience and persistence. Considering the impact of climate change on multiple countries, cultivating resilience in the face of challenging environments becomes crucial for their future adulthood.

**Farming knowledge**

Feedback from children and parents in pre- and post-surveys indicates a greater enjoyment of spending time at the farm compared to indoor play areas and classrooms. However, it is worth noting that the results vary based on weather conditions, with high temperatures impacting satisfaction levels. The farm acknowledges the need to further emphasise the rewarding aspects of hard work in a harsh environment, highlighting the importance and necessity of resilience.

**Resources**

**Construction circularity**

All brick pavers, woods and soils are found and reconfigured on-site to be used for the farm. For the new pavilions, engineered bamboo was used to keep carbon footprint low. The only place where about 3 cubic metres of

concrete were used was for the pavilions' foundation, keeping it a minimum in relation to the vast project area.

**Water circularity**

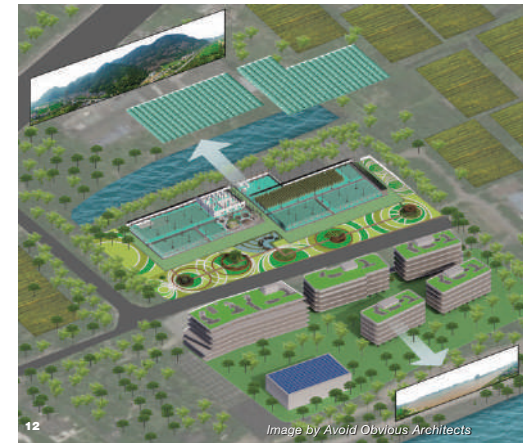
Rainwater is collected on the roof and fortified with nutrients for the interior hydroponics. The same water is then pumped into the paddy field for rice and fish. The water continues its journey to the remaining organic field for irrigation.

**Waste to gold**

The team upcycled 12 fossilised wood into a sculpture to grow medicine. They were originally trash found in the junk yard, but now they are growing medicine worth an estimated HKD100,000.<sup>2</sup> The idea to turn waste into something functional is a noteworthy business story.

<sup>1</sup> <https://competition.adesignaward.com/ada-winner-design.php?ID=160324>

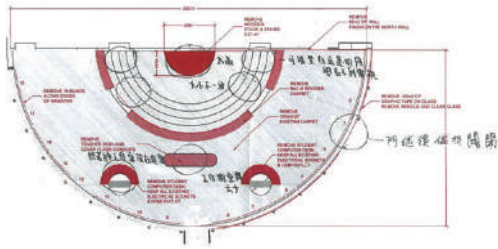
<sup>2</sup> Based on Chinese medicine market value by milligrams, according to the architect.



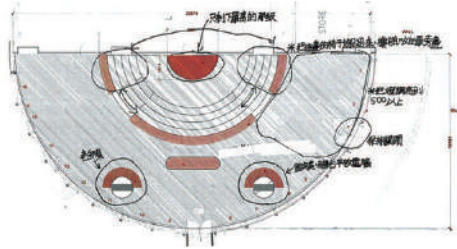
**12**

Image by Avoid Obvious Architects

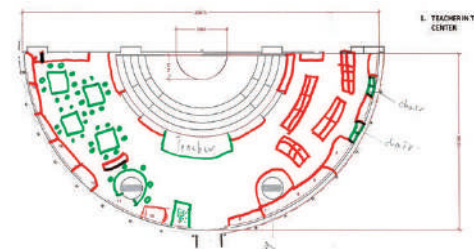




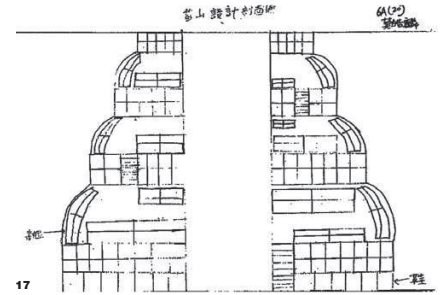
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16



17



Photo by Scott Brooks

15

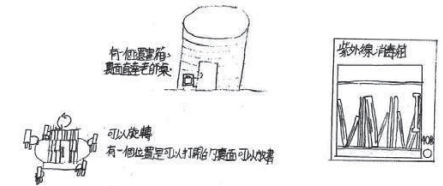
### LIBRARY AT KWUN TONG GOVERNMENT PRIMARY SCHOOL

In 2021, Kwun Tong Government Primary School (Sau Ming Road) entrusted Architecture for Children with the task of conducting classes and architectural design for their school library, with a twist: the library would be designed by the students themselves. This initiative marked the first of its kind in Asia, as it aimed to incorporate the actual drawings and ideas of the children into the library's construction.

The main objective of the renovation project was to address a new demand in expansion: results from a post-pandemic survey showed that the children preferred in majority to read physical books over digital ones. This could be due to a kind of 'digital fatigue' during the height of COVID-19 when students had to be confined to home-based learning.

Although having larger storage in the library was the original purpose of the project, the school believed that it could also become a teaching tool. Over the course of two years, Vicky and his team engaged in a comprehensive process that involved four school-wide lectures, a 10-week mentoring programme, 20 site visits with three contractors, and numerous school meetings to align the renovation with the school's objectives.

The classes provided a realistic design experience for the students, guiding them through various stages such as surveying, problem identification, idea generation and implementing practical solutions. The children actively participated in every step of the process, gaining hands-on experience throughout the 10-week internship. They learned skills such as data collection, plan drawing, model building and material selection, all of which were utilised to transform the library's interior. For example, as the previous



18

Images courtesy of Architecture for Children

13, 14, 16 to 18 Presentation drawings created by young students  
15 Stemming from the need to expand their library's storage, the school and Architecture for Children turned this renovation opportunity into a teaching tool by involving children in the design process





19



Photos by Scott Brooks

20

library had some issues with its lighting distribution, Vicky and his team taught the children how to do lux surveys and asked them to come up with low-energy approaches, including automatic blinds to adjust sunlight exposure to enable daylighting rather than rely on artificial light on sunny days. The students also learnt how to apply durable and zero-VOC materials for the school setting.

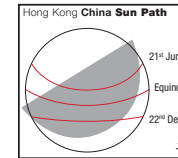
The outcome of this collaborative effort is an educational, playful and meaningful school library. Approximately 800 students are expected to use the library annually with access to 90,000 books.

**PROJECT DATA**

**Project Name**  
Yuanye Spring  
**Location**  
Wenzhou, China  
**Completion Date**  
February 2023  
**Site Area**  
8,000 square metres  
**Gross Floor Area**  
4,000 square metres  
**Number of Rooms**  
2  
**Building Height**  
6 metres  
**Client/Owner**  
Yuanye Group  
**Architecture Firm**  
Avoid Obvious Architects  
**Principal Architect**  
Vicky Chan  
**Main Contractor**  
Yuanye Group  
**Images/Photos**  
Avoid Obvious Architects

**PROJECT DATA**

**Project Name**  
Library at Kwun Tong Government Primary School (Sau Ming Road)  
**Location**  
Kwun Tong, Hong Kong, China  
**Completion Date**  
February 2022  
**Site Area**  
200 square metres  
**Gross Floor Area**  
200 square metres  
**Number of Rooms**  
1  
**Building Height**  
1 storey  
**Client/Owner**  
Kwun Tong Government Primary School (Sau Ming Road)  
**Architecture Firm**  
Architecture For Children Limited  
**Principal Architect**  
Vicky Chan  
**Main Contractor**  
Firwood  
**Images/Photos**  
Scott Brooks



21

Photo by Scott Brooks

**19 to 21** Based on input from the children, the library features well-lit reading and studying spaces near the windows, a stepped amphitheatre as seating area and curved, easily accessible bookshelves

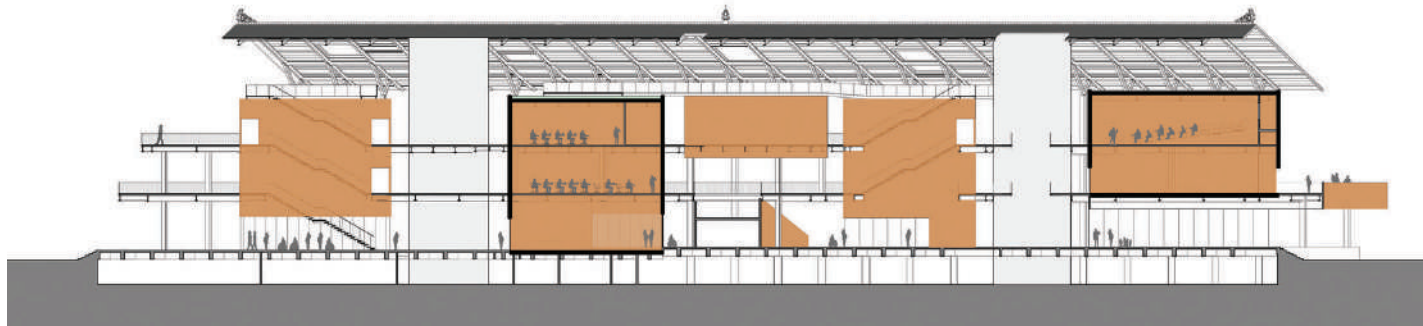


## UNITED IN DIVERSITY CAMPUS

Indonesia is home to around 4,500 universities,<sup>1</sup> ranking second globally after India in terms of the number of higher education institutions. In this context, United in Diversity (UID)—a learning hub co-founded by partners from Universitas Indonesia, among others—aims to complement traditional forms of higher education by specialising on 'lifelong learning' programmes to shape the leadership skills of professionals. Since 2003, the foundation has held transdisciplinary forums, conventions, workshops and training programmes that connect 'tri-sector' leaders: those of civil society groups, government institutions and the private sector.

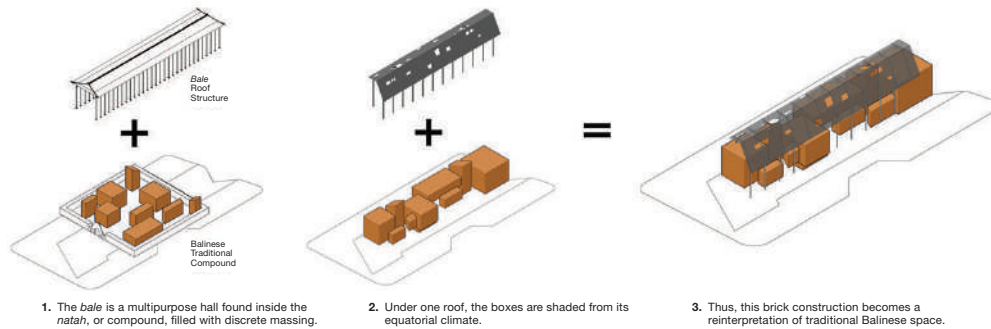
The learning hub's flagship has been built on Bali's Serangan Island, within the Kura Kura Bali special economic zone that is planned to be developed for eco-tourism and creative industries. UID's Bali campus is among the first large-scale buildings to be completed here and will form part of a Tech Park with an ecosystem of entrepreneurship incubators and research centres.<sup>2</sup>

"Where learning and teaching would typically occur only within contained rooms, our design facilitates collaborative learning through formal and informal gathering spaces that are permeable to suit the Balinese climate," Willis Kusuma Architects described.



1

1 Section 2 Massing diagrams 3 Functional diagrams

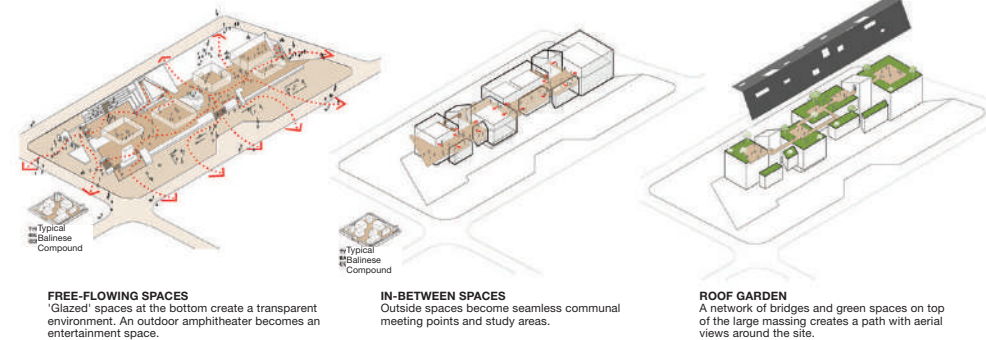


1. The *bale* is a multipurpose hall found inside the *natah*, or compound, filled with discrete massing.

2. Under one roof, the boxes are shaded from its equatorial climate.

3. Thus, this brick construction becomes a reinterpretation of traditional Balinese space.

2



**FREE-FLOWING SPACES**  
'Glazed' spaces at the bottom create a transparent environment. An outdoor amphitheater becomes an entertainment space.

**IN-BETWEEN SPACES**  
Outside spaces become seamless communal meeting points and study areas.

**ROOF GARDEN**  
A network of bridges and green spaces on top of the large massing creates a path with aerial views around the site.

3





All photos by Maria Wibowo Photography



#### SITE-SENSITIVE MASSING

The architectural design carries on the 'union in diversity' theme of its name. Inspired by Balinese village compounds with multiple buildings around a courtyard (*natah*) with a multipurpose hall (*bale*), different functions of the campus are housed across four storeys. These masses of various sizes are connected by open-air walkways and grouped under an overarching roof. "As a result, monolithic boxes 'float' in a discrete vertical arrangement to create potential spaces below, in between and above", said the architects.

Such a massing strategy is suitable for the building's seaside location in the tropical climate, as it passively draws in oceanic breezes to cool the spaces between the buildings. Skylights dotted across the terracotta roof have been carefully placed to create wells of light that illuminate darker central areas. Since the roof cools around 70 per cent of activity spaces, only the remaining 30 per cent require air-conditioning. Furthermore, storm water runoff is captured from the roof and channelled into rainwater harvesting ponds and collection tank, with a total capacity of 70,000 litres. This harvested water is reused for landscape irrigation and toilet flushing.

Taking advantage of the abundant sunshine, photovoltaic panels placed atop the drop-off foyer and covering the lower ground parking area generate 17.3 per cent of the campus's annual energy needs.

The design also takes into consideration the presence of Mount Agung, which is considered to be Bali's spiritual 'heart' and serves as a centre of orientation for vernacular buildings. With respect to this, the campus has two intersecting axes: a main axis that follows the access roads and a secondary skewed axis towards Mount Agung for the building structure and inner pathways.

4 The 'excavated' amphitheatre can be accessed through a stepped landscape and carved ramps 5 Aerial view showing the campus and its landscape





**EMBRACING LOCAL COMMUNITIES AND RESOURCES**

"Communal and breakout areas, found on every floor, can be used by students to sit down and gather during break time. These spaces are exposed to the surrounding environment whilst being shaded, encouraging the students to find comfortable study spaces outside of their air-conditioned classrooms. Amphitheatres on the ground floor are used to engage users during school or cultural performances", said the architects.

Not only students, but communities are also welcome to use the space for arts activities such as theatre and dance. Owing to the open-air concept, there are more options for outdoor activity spaces compared to indoor ones. Around 4,600 square metres of outdoor spaces are provided, including the garden, pond, amphitheatre, plaza and mezzanine yoga platforms, with 3,000 square metres of indoor coworking/lounge spaces including 10 classrooms and one auditorium.<sup>3</sup>

Approximately 80 per cent of materials have been locally sourced. During construction, local craftsmen were involved in the sourcing of materials and were also consulted for the construction techniques to apply. The 'floating' boxes are clad in brick veneers that were directly sourced from artisans of Pejatan Village, 28 kilometres away from the site. The roof is covered with reclaimed shingles and reused ironwood structures provided by a Balinese company located 24 kilometres away from the site. Throughout the interior, various recycled materials have been used, including plastic countertops, old bamboo and glass bottles for lamps, teakwood dust and plastic composite ceilings and floors, as well as unused container boxes as table legs.

The campus also features a dedicated space to exhibit Balinese cultural items and retell the general history of the island, called the Bali Abode gallery. For this, the design team consulted with the local community closely to learn what aspects of their everyday livelihoods and cultural ceremonies that they would like to present. "We hope that this gallery could inspire the younger generation to take pride in the history and cultural heritage of their nation, and provide inspiration to keep creating," said Tantowi Yahya, President of UID at the officiation ceremony that was held as part of the G20 (Group of Twenty) international forum.<sup>4</sup>

**PROJECT DATA**

**Project Name**  
United in Diversity Campus  
**Location**  
Serangan Island, South Denpasar, Bali, Indonesia  
**Completion Date**  
January 2023  
**Site Area**  
8,800 square metres  
**Gross Floor Area**  
13,100 square metres  
**Number of Rooms**  
58  
(Academic: 8 rooms, including 6 classrooms  
Admin: 3 rooms  
Commercial: 7 rooms  
Service: 40 rooms)  
**Building Height**  
24.4 metres (rooftop to basement level)  
**Client/Owner**  
PT Kura-Kura Bali Development  
**Architecture Firm**  
Willis Kusuma Architects  
**Principal Architect**  
Willis Kusuma  
**Main Contractor**  
PT China State Construction Overseas Development Shanghai  
**Mechanical & Electrical Engineer**  
PT Sumber Daya Agung  
**Civil & Structural Engineer**  
PT Cipta Sukses  
**Landscape Architect**  
PT Bukit Kembar Permai  
**Images/Photos**  
Mario Wibowo Photography



**6** The roof garden as a shaded communal space **7** Used throughout the building, brick veneers have been directly sourced from local artisans **8** The main staircase on the ground floor shows a smooth transition to the outdoor landscape **9** The building comprises variously-shaped masses that are grouped under one overarching roof

<sup>1</sup> <https://www.theindonesia.id/news/2022/07/29/063000/indonesia-has-4500-universities-but-only-20-enter-the-world-ranking>  
<sup>2</sup> <https://www.unitedindiversity.org/post/137/komitmen-uid-bali-campus-di-kura-kura-bali/en?i=137&title=komitmen-uid-bali-campus-di-kura-kura-bali&lang=en>  
<sup>3</sup> [https://issuu.com/kurakurabali/docs/uid\\_creative\\_campus\\_building\\_-\\_111\\_eco\\_features\\_-\\_f](https://issuu.com/kurakurabali/docs/uid_creative_campus_building_-_111_eco_features_-_f)  
<sup>4</sup> <https://mediatransformasi.com/2022/11/17/lutut-b-pandjatan-dan-sandiaga-uno-saksikan-peluncuran-united-in-diversity-bali-campus-dan-tsinghua-southeast-asia-center-di-kura-kura-bali/>





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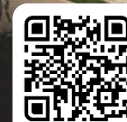


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## PAL INTERNATIONAL SCHOOL@TUFS: CHILDREN OF THE HILL

Photo by Toshiyuki Yano

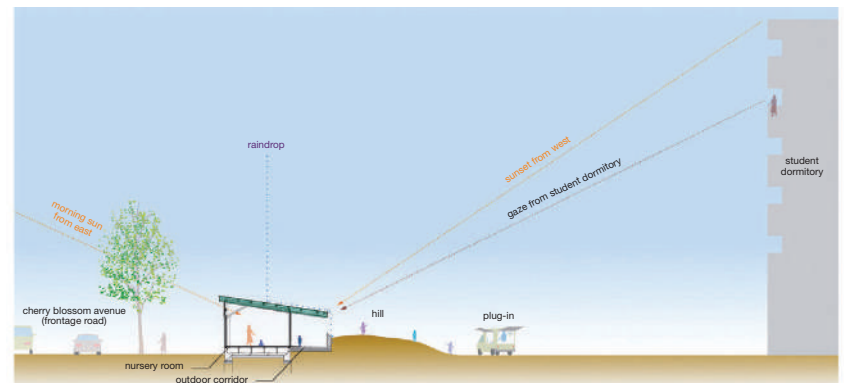
In 2023, Japan established the Children and Families Agency<sup>1</sup>, which was tasked with overseeing policies related to children and reversing the country's declining births.<sup>2</sup>

It could be said that this was an accumulation of the momentum already felt on the ground, one that must have been building up from the people experiencing different yet related issues of sustaining children and families in terms of not just social and financial support, but also infrastructure and services support such as amenities, play areas, childcare centres and so on. This nursery project is one such example of fulfilling a need for a university faculty that had the backing of the community by means of a crowdfunding initiative.

### ORIGIN

The nursery centre, along with its after-school programmes, is situated on the campus of Tokyo University of Foreign Studies. At the design meeting, the university president said, "It's been our long-standing desire to build a nursery school at the university." While this could be commonly interpreted as being attributed to a higher ratio of women in the faculty, the design team felt that the brief for creating this nursery school extends beyond simply serving the need for childcare—it lies in creating new values and excitement around

<sup>1</sup> Located at the university's central plaza, this crowd-funded nursery centre becomes a key part of the circulation hub and supports childcare needs  
<sup>2</sup> Section

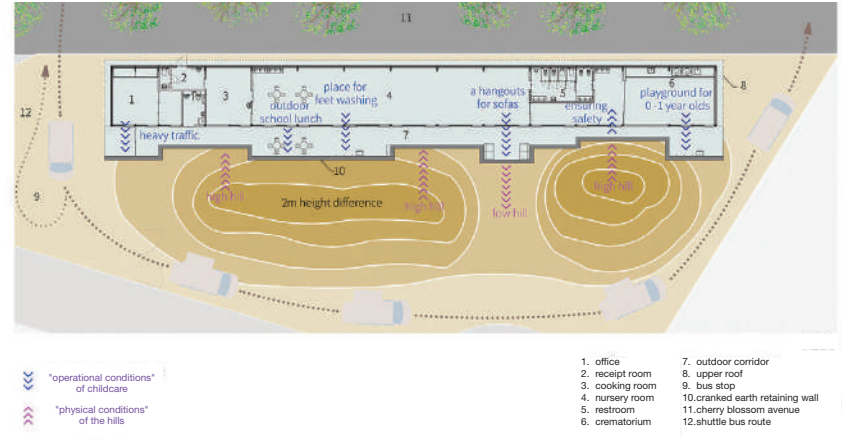


2





Photos by Toshiyuki Yano



5

children and their needs, which the team felt was coming from beyond the framework of the university. This sentiment could be gleaned from the fact that the target amount for this crowd-funded project was achieved in a matter of 17 seconds after the call started. In the end, more than 1,000 investors applied and raised nearly three times the goal.

**SITE**

The university’s central plaza is the hub of campus circulation, which is literally the centre of university activities, serving as the main venue filled with stalls for events such as festivals and the like. Creating another ‘plaza’ to this was the concept of designing the nursery school, which was intended to add a childcare programme at the end of the tree-lined avenue that extends from the central plaza. The basic design principle is to restructure the space by placing a low-height wooden school building as part of the abandoned hill (made up of leftover soil from another project) and to turn the childcare activities into a landscape feature.

The team hoped that connecting another ‘plaza’ with the central plaza in this way will highlight the characteristics of both and lay the groundwork for creating new value and interest. Many ideas were exchanged in the conversation at the early stage between the nursery school director and the university president, such as delivering lunch prepared in the nursery school cafeteria to students in a similar way to calling for takeout, or having university-level students of early childhood education to participate in the childcare programme as interns. Some of these have already been realised, and many more will be developed in the future.

**ENVIRONMENT**

As it is common for nursery schools to build artificial hills in their gardens, and after consulting with the director, the team decided to make use of an existing hill instead. The assumption was that the entire garden is an artificial hill and would be used as a three-dimensional field to enable the activities and imagination of the children to flourish. In order to reduce the amount of soil removed during construction, the school was built away from the centre of the hill, moved to the side, and stretched along a road in front, which is lined with cherry blossom trees. The roof of the nursery building is kept low so that when one stands on the hill, one can see the surrounding trees and scenery.

There is an outdoor hallway under the eaves of the roof, and a retaining wall separates the hallway from the hill. In order to minimise the earthwork, the team opted to narrow the hallway where hill is high and amount of soil is large by pushing the retaining wall toward the building and expanding the hallway where hill is low. Due to operational requirements, sofas for children were placed along the wider parts of the hallway. To help ensure safety, the hallway was also narrowed in front of the playground for children aged zero to one. As a result, the hallway and the hill are connected by retaining walls that are adjusted at seven locations along the 47-metre length of the building, and the eaves are also extended and contracted accordingly. To prevent rain from entering the hallway, the top edge of the retaining wall was cut diagonally toward the hill.

- 3 The entire garden is made out of an existing ‘artificial hill’, to be used as a field to enable the activities and imagination of the children to flourish
- 4 The retaining wall becomes a design highlight, connecting the nursery school’s hallway to the hill where children’s activities can take place
- 5 Ground floor plan





6

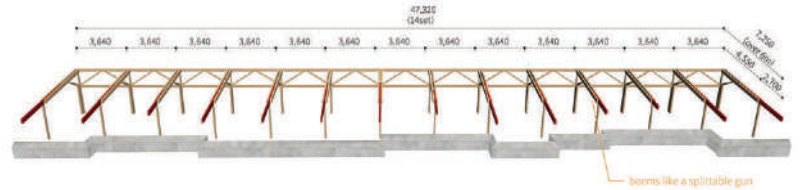


7



8

Photos by Toshiyuki Yano



9

Sliding door sashes on three sides of the building allow access from different places in the room and help to facilitate natural ventilation throughout the building. High window sashes were installed just below the roof in a position where branches of the cherry blossom trees can be seen. In the summer, the rows of cherry blossom trees provide shade from the morning sun coming from the east, and in the winter, when the leaves fall, the sunlight reaches indoors. The eaves and the adjacent student dormitory help to block the sunset from the west.

**MATERIALS**

The structure is made of wood for versatility and cost, and the cross section and length (6 metres or less) meet residential standards. Since the short side of the nursery building is 4.5 metres, while the eaves that extend from it are a maximum of 2.7 metres, the overall length could be said to exceed 6 metres. This can be adjusted by sliding a beam held at the tip like a "chopstick gun". Hence, the eaves, which have different lengths depending on the crank, could be supported by the same structural unit. This unit was repeated in 14 sets over the 47-metre-long length of the building, and was used as an interior design element too.

<sup>1</sup> <https://www.cfa.go.jp/en>  
<sup>2</sup> <https://asia.nikkei.com/Politics/Aging-Japan-opens-Children-and-Families-Agency-5-things-to-know>



10



11

Photos by Toshiyuki Yano

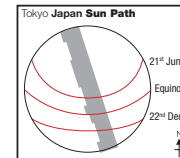
6 to 8 Sliding doors are installed on three sides of the building to allow for ease of access and facilitate natural ventilation  
 9 Structural diagram 10 & 11 Window sashes are installed below the roof to bring in natural daylight and provide views to cherry blossom trees

**PROJECT DATA**

**Project Name**  
PAL International School@TUFS  
**Location**  
3-11-11 Asahimachi, Fuchu City, Tokyo, Japan  
**Completion Date**  
August 2022  
**Site Area**  
1,310 square metres  
**Gross Floor Area**  
238.55 square metres  
**Number of Rooms**  
9

**Building Height**  
3.9 metres  
**Client/Owner**  
SEIWA GYOUGAKU GROUP  
**Architecture Firm**  
Naf Architect and Design Co., Ltd.  
**Principal Architect**  
Akio Nakasa  
**Main Contractor**  
Minow Construction

**Mechanical & Electrical Engineers**  
Setubi Keikaku (Shigehiro Nakamura, Hikari Asano)  
**Civil & Structural Engineer**  
EQSD (Yosuke Misaki)  
**Colour and Sign Planning**  
Naoko Tatsumi; Wab Design  
**Lighting Design**  
tuki lighting office  
**Images/Photos**  
Toshiyuki Yano; Naf Architect and Design





# REMINISCENCES OF A NATURE-BASED SCHOOL

by Hans Lim



I was a city kid, but when I was in elementary school, I used to stay at my grandmother's house, which happened to be located behind the school. Just a few minutes' walk from a neighbour's backyard is a forest on a hill. Thus, forest exploration was my only after-school pastime in childhood. Catching insects, chasing pheasants, digging 'caves' and rolling in the mud were nothing new, and rattan canes were often the 'main dish' for dinner (my punishment for coming home covered in dirt).

Times have certainly changed—it is now almost a challenge for urban children to get in touch with Nature, let alone watch poultry roam within the vicinity of their homes.

Working on *FuturaArc* since its very inception, I have seen beautiful early education buildings published in the magazine, such as the Green School in Bali, where 98 per cent of it was constructed out of bamboo and set within lush natural surroundings.<sup>1</sup> The core idea of the school's approach was that children can pay more attention to learning while growing up amidst Nature that can be seen, smelled, heard, tasted and touched.

In 2022, on Malaysia's National Day, Kuala Lumpur Steiner School had a one-day open house for the public. Architect Clement Wong, one of the school's founders, who was also a speaker at an upcoming TEDxPetalingStreet event, led a guided tour for the team, including me, of the urban forest school, which was established in 2019.

## 森林学校

我是个城市小孩，小学时常常待在祖母家，那里位于靠山的学校后方。只需几分钟，我就能通过邻居的后院直接抵达后山的森林。因此，森林探险成为我童年唯一的课后消遣。抓虫、追野鸡、挖山洞、在泥巴里打滚，变成了我日常生活的一部分。晚餐时藤条更是成为我的“主菜”。

随着时代变迁，今天的城市孩子接触大自然几乎成了一种挑战，甚至在家门口见到活生生的家禽，也成为一种奢望。

自从成为 *FuturaArc* 设计师，我就常在杂志上看到设计精致风格又独特的教育建筑，例如巴厘岛的绿色学校，它由 98% 的竹子建造，坐落在郁郁葱葱的自然环境中。学校的核心理念是希望孩子能够在可触、可见、可闻，甚至可听的大自然中学习和成长。

2022年，马来西亚国庆日当天，吉隆坡施泰纳学校举行了为期一天的开放日活动。学校的创始人之一、建筑师黄晓斌 Clement Wong，他也是当年TEDxPetalingStreet其中一位讲者，亲自带领团队，包括我在内，参观了这所成立于2019年的城市森林学校。

<sup>1</sup> Built on a hill, the school comprises small masses of classrooms and various supporting spaces, including a book store, parents' lounge and teachers' residence



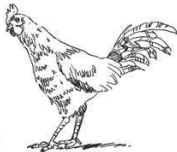


The car stopped at a curvy road, and the first part of the way to the school was a large slope surrounded by trees, with the first building flanked by artificial terraces and small pools. Walking up, you could see individual school units—classrooms, cafeterias, bookstores, etc. Running through the school units were small wooden kiosks and children’s play equipment. Further upwards, there is a forest that leads to a hill. I spotted a handsome rooster on the hill looking down and surveying our group of visitors.

车子停靠在弯曲的路旁，走向学校的第一段路是一个绿树成荫的大斜坡，来到第一栋建筑时，旁边是人工梯田和小水池。继续向上走，逐渐看见课堂、食堂和书店等。贯穿学校，还有大大小小的木亭和儿童游乐设施，再往上，则是通往后山的树林。在山上，有只雄鸡俯瞰着我们这一群访客。

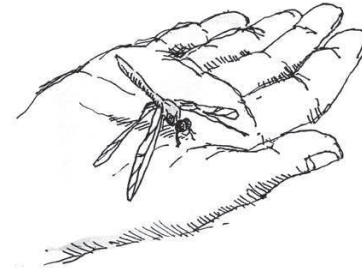
Small classrooms, built on the hill, had traditional blackboards. The laminated wooden walls were also covered with children’s paintings, exuding warmth. There were all kinds of handmade teaching materials in the corner of a classroom. There are no exams in the curriculum—the school wanted to adopt a more ‘humanistic’ approach to education. Teachers use guidance and games to bring out children’s curiosity—tapping into children’s most fundamental analytical and understanding skills, and innate imagination, to stimulate their interest in learning.

小课堂依山而建，仍旧使用传统的黑板，木板上挂满了孩子们充满温度的画作。课堂角落摆放着多种手作教材，显得非常古朴。学校没有考试，而是采用更加人性化的教育方式。老师通过口述引导和思维游戏，激发孩子的好奇心，并利用他们的分析理解能力和与生俱来的想象力，点燃学习的兴趣。



2 Slope leading to the entrance of the school 3 Artificial terrace with small pool  
4 & 5 Wooden kiosk and children’s play equipment 6 Aerial view of nursery and kindergarten unit





Learning from Nature is a key part of the Steiner education system's focus.<sup>2</sup> The children were guided by teachers to go out into the woods, so that they can be inspired by Nature physically, mentally and spiritually. Watching the children shuffle through the pavilions and slopes of the mountain behind the school, with beads of sweat on their foreheads and mud on their hands and feet, I thought to myself that this scene was not too different from what I had experienced as a child. Except for the more 'glamorous' clothes of urban children today, every child is still curious to play pretend, holding branches as makeshift bows and arrows, plucking leaves to use as 'cups' for playing house—games that seem to have been carried on from one generation to the next, with children of every age improvising and using their own creative imagination to play.

In Malaysia, in addition to international schools, there has been a rising trend of alternative private schools in recent years. Parents who are more financially capable tend to prefer sending their children to such schools as they hope that their children can study with more personalised attention and international outlook, which could perhaps encourage them to be more independent and expressive.

Clement said that it takes a certain amount of courage for parents to send their children to Kuala Lumpur Steiner School in the face of doubts from their closest areas or social spheres of influence. Under the Steiner system's holistic approach, children do not learn to write until they are six or seven years old, so it can be challenging to gain the approval of parents who grew up with a more traditional rote-based learning system.

I heard from a friend that the first condition for their children to be sent to another Steiner school was to turn off the TV at home. Parents are also encouraged to accompany their children to participate in school activities. The parent-child relationship is indeed full of challenges for dual-income families in the city. Can a parent's mind accept sacrificing their personal time for the sake of their child?

After leaving the forest school and driving away in my car, I could no longer smell the dirt, see the birds, nor feel the dragonflies flying over my palms. As soon as I got on the highway, life seemed to return to the same boring mode, and I thought of how in this 'flash mob' age full of digital distractions, contact with Nature has become a thing of luxury! Perhaps adults like us also need to be closer to Nature, not just the children, to 'recharge' and to remember our roots.

<sup>1</sup> As published in *FuturArc* 2Q 2010: Education Issue  
<sup>2</sup> The Steiner system, also known as Waldorf system, is based on the educational philosophy of Rudolf Steiner that aims for holistic learning to develop pupils' intellectual, artistic and practical skills ([https://en.wikipedia.org/wiki/Waldorf\\_education](https://en.wikipedia.org/wiki/Waldorf_education)).



在华德福教育中，向大自然学习是其中一项重要内容。孩子们在导师的引导下走入树林，让他们从身体、心理和精神上受到大自然的启发。我看着孩子们穿梭于后山的亭子和斜坡，额头渗出汗珠，手脚沾满泥巴，心想，除了今天都市孩子更「华丽」的衣服外，这一幕和我小时候的经历並沒有太大的不同啊？孩子即兴发挥的拿著树枝作为临时的弓箭，摘树叶当家家酒的「杯子」——这些激发每个年龄层孩子想像力的游戏似乎已经是一代代相传的童趣。

在马来西亚，除了现有的国际学校，近年来私立学校的兴起趋势也逐渐上升。经济能力较强的父母往往更愿意将孩子送到私立学校，希望孩子能够在更个性化和国际化的环境中学习，也许可以培养他们更多的自主性和表达能力。

Clement 提到，面对他人的质疑，送孩子来这里上课的家长需要一定的勇气。在全人教育的理念下，学校不设考试，孩子们在6、7岁时才开始学习写字，要取得一般采用传统填鸭式教育长大的父母认同，实属不易。

有朋友告诉我，他们的孩子被送到另一所施泰纳学校，首要条件是关掉家里的电视，同时家长们也被鼓励更多地参与学校活动。对于城市中的双收入家庭来说，亲子关系无疑是一大挑战。为了孩子，家长们是否愿意牺牲更多属于自己的个人时间呢？

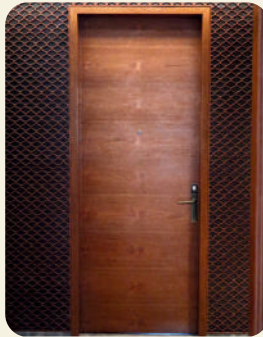
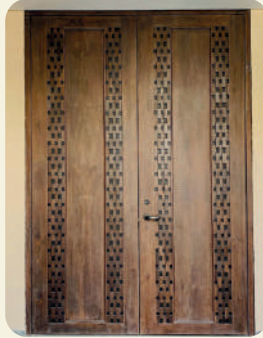
离开森林学校，开着车，一头栽入高速公路的车流中。周围不再弥漫泥土的气息，鸟儿不见踪影，连蜻蜓飞过手掌的轻盈触感也消失了。生活似乎又回到了单调的模式。我不禁想到，在这个充满数字干扰的「快闪族」时代，亲近大自然已经成为一种奢侈。不仅仅是孩子，也许像我们这样的成年人更需要接近大自然，替自己充充电，再继续打拼！

**7 to 10** Classroom featuring handmade teaching materials and students' works  
**11** Simple wooden slide and reused tires setup for play equipment  
**12** Families visiting the one-day open house of Kuala Lumpur Steiner School  
**13** Clement Wong (left) with the TEDxPetalingStreet team








  
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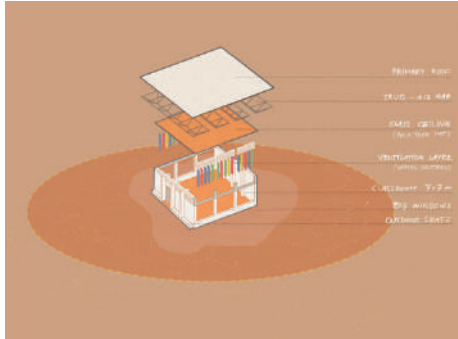
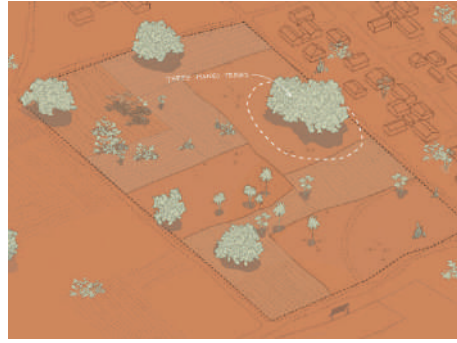
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## WAYAIR SCHOOL IN ULYANKULU, TANZANIA

Ulyankulu is a former refugee settlement in the Tabora region, located in the western part of Tanzania. The inhabitants had fled Burundi following ethnic violence and killings in 1972. Since the 1970s, the settlement has transformed into a town: people made improvements to their homes, electricity poles were laid out and the local markets began to expand. In 2015, the refugees and their families were granted Tanzanian citizenship, which permitted them to stay in the country.

This unique context posed a logistical challenge for the construction of public buildings, including schools. The area's specific designation as a former refugee settlement required additional construction and entry permits. Its remote location further limited access to resources and significantly

raised transportation and material costs. And finally, the experience of exile, displacement and isolation that Burundian refugees and their families have lived over the decades necessitated special considerations with the community regarding the ethics, role and purpose of the project.

"Ulyankulu is a very simple village when looked at [from] its architectural typologies," the architects shared. "Refugees built very modest shelters, mostly brick rectangular huts with pitched, corrugated metal sheet roofs... We believe that different spaces promote different activities, that both the abundance and the diversity of spaces are assets for living. There is no shortage of the first, but the latter is in short supply in Ulyankulu", wrote the architects.





All photos by Iwo Borkowicz

3

### A SUPPORTIVE LEARNING ENVIRONMENT IN HARSH CLIMATIC CONDITIONS

Typical schools in the area consist of classrooms simply placed on empty plots of land with little topography and vegetation, which, for 10 months every year, had scorching hot, dry weather. As the architects observed how classroom ceilings in the area could reach 65 degrees Celsius in summer, temperature control was one of their biggest driving factors of the design. On top of being overheated, the schools are overcrowded, with up to 200 primary school students per class using the classrooms in shifts.

To create a school that could feel at once familiar and refreshing to the community, the architects looked to the market for inspiration—an open lot enclosed by rows of huts, shaded by the canopy of large trees, where hundreds of people meet to trade.

Making use of a group of large mango trees on the site's central courtyard, the architects designed classrooms to "wrap around" them using locally made bricks, with tilted and elevated roofs to passively cool the rooms. Furthermore, the floors are thick concrete slabs with high thermal inertia, helping to keep the classrooms cool during the day. These efforts not only improve cross ventilation and ambient temperatures to foster a supportive environment for education, but also places Nature at the school's centre.

The decision to centre trees also refers to the site's history: in the 1970s, Ulyankulu was a forest reserve zone. Today, it is a deforested rural area with extensive tobacco farming, struggling with severe water scarcity in the dry season that leads to dehydration and infections. To address this, the roofs are designed to collect rainwater into filtered storage tanks with a collective capacity of over 70,000 litres during the short but intense rainy season. This amount of water is calculated to last nine months of the dry season, with each school day starting with pupils washing their hands and faces and brushing teeth, and filling up their bottles with 1.5 litres of safe, drinkable water.

**3 & 4** The classrooms were built with locally made bricks, with tilted and elevated roofs to passively cool the rooms



4





CLAY BRICKS SOURCED AND FIRED TRADITIONALLY ON SITE



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LOCAL WOOD



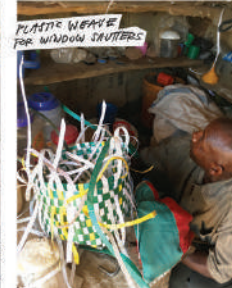
LOCAL WELDING SCHOOL



COW SKIN DETAIL



PALM LEAF MAT FOR CEILING FINISHING



PLASTIC MAT FOR WINDOW SHUTTERS



WEAVED TRAY - LAMP SHAPE

LOCAL CRAFTSMANSHIP

5 Wide canopy eaves help reduce solar heat gain; the roofs are also designed to collect rainwater into filtered storage tanks 6 & 7 To facilitate more flexible learning styles, the lightweight classroom furniture includes removable desktops and back supports that can be rolled up and rearranged 8 Locally available materials and familiar craft methods were used in the construction





**HOW SCHOOL DESIGN INFLUENCES PEDAGOGY**

The architects described the educational model in the local area as being anachronistic, with most schoolchildren repeating dictations. However, there are many dedicated teachers who are hungry for change in the educational system.

Thus, the educators' aspirations helped to inform this school's interior architecture, where classrooms are square to avoid directionality, suggesting a departure from the "blackboard-centric" education model. The furniture (by Icelandic designer Bjorn Steinar) offers removable desktops and back supports that can be slid out and unrolled into a mat, with lightweight frames that are easy to carry even by the youngest students, allowing for more playful types of group work. The minimalist design allows for easy replication elsewhere in the settlement, using commonly found materials such as wood, reinforcement bars and woven mats.

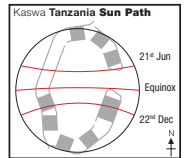
Each classroom also has a dedicated patio that can be used both during and after lessons by schoolchildren, teachers, parents and villagers. The classroom roof overhangs create shade along its perimeter, where outdoor seating areas are created. Children can enter the patios from all directions through playfully-shaped wall openings, by climbing or crawling on all fours. Each patio has its own character and function—from gathering places and playground infrastructure to technical functions like the water tank.

Furthermore, the school's 'ribbon wall' helped to define new spaces around the central courtyard. The biggest classroom building, known as the Theater, is designed with one side open and facing the courtyard, effectively serving as the 'stage' to an open-air auditorium. This is among the biggest shaded public spaces in Ulyankulu, which can also be used by villagers to hold meetings and celebrations for all ages.

"The project, despite its visibly different silhouette, is trying to connect to familiar local emotions. The kids, teachers, parents and all other users of the school will hopefully make the school their own, not only physically, but most importantly, mentally and socially," said JEUU.studio principal Iwo Borkowicz.

**PROJECT DATA**

- Project Name**  
Wayair School in Ulyankulu, Tanzania
- Location**  
Ulyankulu, Kaswa, Tanzania
- Status**  
Stage 1: Built; Stage 2: Planned
- Completion Date**  
Stage 1: January 2023
- Site Area**  
3,200 square metres
- Gross Floor Area**  
450 square metres
- Number of Rooms**  
Stage 1: 9; Stage 2: 3
- Building Height**  
1 storey (approx. 5 metres)
- Client/Owner**  
Wayair Foundation
- Architecture Firm**  
JEUU.studio; Arh+
- Principal Architects**  
Iwo Borkowicz; Adam Siemaszkiewicz; Łukasz Rawecki
- Civil & Structural Engineer**  
AKON Construction
- Images/Photos**  
Iwo Borkowicz



**9 to 11** Various activities taking place on the patios **12** The largest classroom, dubbed the Theater, is designed with one side open to serve as an open-air amphitheatre for gatherings





## LESSONS IN BUILDING A BETTER WORLD

by Kester Ray de Vera and Trinnah Marie Caracho

*Photo courtesy of The Modern Balsa Initiative*

Not all classrooms have walls. In reviewed studies,<sup>1</sup> learner-centred experiences, collaborative learning activities, hands-on learning and peer mentoring, among others, are emphasised in the pedagogical approaches to education outside the classroom.

Experiential learning is an active process in which students encounter authentic problems, construct novel hypotheses, test for real solutions, and interact with others to make sense of the world around them (Claiborne et al, 2020).<sup>2</sup> At the individual level, the benefits include:

- a bridging of the gap between theory and practice;
- a better appreciation and application of the concepts and principles learned;
- a deeper understanding of how their work impacts the world and refining of skills in ways that simply cannot happen in the classroom.

Architecture students might spend hours studying building codes, design theories and material science in class. It is only when they work as interns on an actual design project that they begin to see how those concepts come together in a functional, living space. Likewise, engineering students may delve into highly technical topics, learn about structural analysis and mechanical

systems and apply calculations in designing hypothetical structures. Through hands-on practice such as supporting a house design project or working on a construction site, they encounter challenges and sense nuances that textbooks alone cannot provide.

### AT THE INDIVIDUAL LEVEL

In structured learning in a classroom setting, the dynamics of working together with one's classmates under the teacher's guidance is an introduction to collaborative work. But it is greatly different from the real world. These experiences outside the classroom encourage essential life skills such as teamwork, communication and problem-solving, which are fundamental to the engineering and architecture fields. In hands-on learning or under mentorship, students are often asked to collaborate with diverse teams—be they architects, engineers, contractors or clients. Moreover, one must navigate different perspectives, deadlines and constraints. These experiences teach students how to adapt and innovate under pressure, manage complex tasks, and communicate their ideas effectively.

Stephanie Nepomuceno, an architecture student in her final year and a freelance artist doing murals and painting, said, "Designing and planning are not merely about creating something visually

## Designing and planning are not merely about creating something visually appealing; they carry the essence of dignity, pride and soul.

appealing; they carry the essence of dignity, pride and soul. Have the courage to face the unfiltered realities of the world. Discover your purpose, strive to understand others, walk alongside them, empathise deeply, and take meaningful action!"

She was among students who took part in the Young Builders Mentorship Program (YBMP) by Habitat for Humanity Philippines that provided mentorship to students and honed their technical and leadership skills (read more in Sidebar). The current batch of mentees were involved with projects in Caloocan and Valenzuela City in Metro Manila and Cavite in Luzon. Nepomuceno, on her part, facilitated a participatory design charette with the community members and prepared a conceptual design of a multi-purpose facility that will be built in the community.

These hands-on experiences give students a sense of purpose that goes beyond passing exams. The students realise that designs are not just ideas on paper—they can change lives, including their own. "Given that Habitat for Humanity's mission is to provide affordable housing to all, I think it's critical to get involved in initiatives that reflect your own ideals. Through this exposure, I was able to

find a greater meaning for my profession. I am excited and look forward to participating more in Habitat for Humanity's programmes in the future", said another mentee Yancy Jema Gracia Allede, an architecture student in her final year. Following consultation with the community, she created 3D massing with studies, diagrams and street sections, exterior and interior perspective images for the project's shared street concept.

For effective learning to occur, there must be a unity of thought and action. We can learn all about sustainable building methods. But our 'eureka moment' comes when we apply the theory and build a sustainable home that opens the door to changing lives. By stepping out of the classroom, students come forth to solve real problems and create spaces that serve people. Technical skills are no longer viewed through a 'clinical' lens; rather, they take on a deeper, human-centred meaning. Students are reminded that what they work on has the potential to make a lasting impact on society.

### AT THE SOCIETAL LEVEL

The local community who interacts with students outside the classroom also provides insights



2

*Photo courtesy of Habitat for Humanity Philippines*

<sup>1</sup> The Modern Balsa Initiative co-founder Augustus Nicko Bas (left) working with a trained carpenter from the community to prepare a simple rainwater harvesting system <sup>2</sup> Stephanie Nepomuceno, a mentee of YBMP, presenting a conceptual plan to members of the Sterling Park community in Caloocan City, Metro Manila, in August 2023





Photo courtesy of The Modern Balsa Initiative

## Experiences outside the classroom encourage essential life skills such as teamwork, communication and problem-solving.

3 The Modern Balsa Initiative's floating sanitation facility 4 Jea Jinerel Quejada (second from left), a youth volunteer with The Modern Balsa Initiative, and co-founder Augustus Nicko Bas (right) with children from Sabang Adgawan *barangay*

into issues such as affordability, sustainability and inclusivity. Thus, students are motivated to think more broadly about the ethical and social implications of their designs and constructions. It is when we apply design principles and tackle challenges that the hypothetical becomes real. This lays the ground for students to tackle the challenges they will face in their work lives. It also deepens students' passion for using their skills to create meaningful, positive changes in the world.

Now, what makes our day as building industry professionals? It is when our sound, safe and innovative designs are adopted by the people who are most affected by change. The young people behind The Modern Balsa Initiative are getting a foretaste of turning ideas into reality. The project involves building a floating sanitation facility for an indigenous community that is affected by climate change in southern Philippines.

Led by youth leaders, the initiative addresses the pressing challenges faced by a floating

community in the largest freshwater wetlands in Agusan del Sur province, Mindanao, southern Philippines. Sabang Adgawan is a *barangay*, or village, located in the protected Agusan Marsh Wildlife Sanctuary, a sprawling wetland area of rivers, lakes and swamps of over 14,000 hectares, nearly the size of Metro Manila. The *barangay* has a current population of over 2,000 people who come mostly from the indigenous groups of Agusanon and Manobo. They rely on fishing and agriculture as their main sources of livelihood.

Life in Sabang Adgawan revolves around water. Homes and communities are connected via rivers and lakes. The indigenous people traditionally build houses with one or two floors on raft-like platforms made of bamboo and balsa wood. The wood is able to float due to natural air pockets. The platforms are anchored using heavy-duty ropes and vines coiled around Bangkal trees, a native wetland tree that grows submerged in the middle of the flood-filled lake and swamps.

## Students are motivated to think more broadly about the ethical and social implications of their designs and constructions.

Residents of the marsh, especially the indigenous peoples, are already experiencing climate change impacts and environmental degradation over a decade ago. Houses that are built on wooden stilts have been raised higher with increased rainfall over the years. The marsh communities such as Sabang Adgawan experience annual flooding<sup>3</sup> as seasonal rainfall raises the water level. Between December and March, the flood waters can go as high as 10 metres. According to a local scientist and wetland expert, overlogging and deforestation<sup>4</sup> resulted in heavy rains going directly to the marsh. The changes in rain patterns also disrupt the indigenous communities' planting cycles, based on a 2011 report by the Philippines' Department of Environment and Natural Resources.

According to the leader of Sabang Adgawan, the *barangay* has a limited budget for community improvement. Since it is not connected to the city's mains, the families have difficulty accessing clean drinking water. It is estimated that a household would have to spend up to 900 Philippine pesos (USD15) per month for drinking water, excluding the cost of transporting the water via small boats. Lower-income families may rely on fetching water from Agusan Marsh's rivers, lakes and swamps to be used for household chores such as laundry. Families would often boil the water from the marsh before drinking it. Still, they risk getting

waterborne diseases due to the common practice of open defecation.

### THE MODERN Balsa INITIATIVE

Augustus Nicko Bas, a young entrepreneur and co-founder of The Modern Balsa Initiative, said, "We had several consultations, assessments and interviews with the community for the past two years since we first visited to ensure that we understand their crucial needs."

Besides the issue with 'sinking' houses due to rising water levels, the community cited the lack of adequate access to clean drinking water and safe sanitation, as well as the need for a proper waste management system. The needs were highlighted in consultation meetings with the head of the *barangay*, committee heads, health workers and key community members. These representatives had, in turn, consulted local community members for what would be built. According to Bas, the community voted for a dedicated sanitation facility that could help reduce the risks of water-borne diseases given the practice of open defecation.

After receiving the villagers' feedback and assent, Bas and co-founder Anthony Adrian Cale came up with a plan. A floating sanitation facility to be used for household chores such as laundry and waste management through the use of a floating septic tank was built. The main structure is



Photo courtesy of The Modern Balsa Initiative





Photo courtesy of Habitat for Humanity Philippines

## How students can support communities in need: Testimonials from Young Builders Mentorship Program (YBMP)

Launched by Habitat for Humanity Philippines in 2022, YBMP aimed to deepen students' understanding of housing and urban development issues, and enable them to contribute solutions. Each mentee is encouraged to commit an average of 15 hours every week over three to four months. Stephanie Nepomuceno and Yancy Jema Gracia Alleda are students who have taken part in YBMP, conducting key pre-design, design, and construction activities as well as relevant volunteering engagements.

### What has been the most interesting or memorable part of your experience with YBMP?

**SN:** The most unforgettable moments for me were the ones I shared with my mentor, architect Rho Ramos, and my friends Yancy, Yana and Gabe as we embarked on the mentorship programme. Despite coming from different universities, we bonded over laughter and thought-provoking discussions about the housing issues in the Philippines while connecting with people in need of decent housing. Visiting the sites and witnessing their realities firsthand, alongside professionals, inspired us and enriched our knowledge, making the entire experience truly impactful.

**YA:** Considering that I reside in the province, I valued the programme's flexibility. Making new friends and participating in community immersion were the two of my most memorable experiences.

### What were the most important learnings from the programme?

**SN:** That an architect must be empathetic to design spaces that truly meet people's needs. Architecture goes beyond aesthetics; it serves a deeper purpose. Having a decent home is a matter of dignity. Thinking outside the box fosters creativity, problem-solving, and genuine connection between users and professionals. Meeting homeowners and students has opened my heart to the importance of helping others, inspiring me to strive for success and wisdom as an architect in the future.

**YA:** I've discovered how we can enhance our knowledge and resources as builders to help others. I once thought that the construction industry was solely focused on capitalism. However, during this programme, I witnessed how professionals from various countries created housing prototypes to offer underprivileged individuals the opportunity to have a home. This experience has broadened my perspective on the building industry and inspired me to continue participating in these types of projects.

### Can you share your thoughts on the importance of outside-the-classroom learning, especially for engineers and architects?

**SN:** Learning beyond the classroom is an eye-opening experience, especially for building and design professionals. It cultivates empathy as we witness real-world situations and connect with the people involved. Collaboration between professionals and users is key to achieving successful, effective, and efficient design and planning.

**YA:** Exposure is essential to me. There are a lot of things, particularly in the construction industry, that you can only really appreciate by doing them outside of the classroom. I enjoy learning from those who are very skilled despite not having a degree.

## The students realise that designs are not just ideas on paper—they can change lives, including their own.

### Youth-led solutions for housing and urban challenges

The Modern Balsa Initiative was featured among the winners of the Habitat for Humanity's 2023 Youth Solutions Micro-grant.<sup>5</sup> Each of the five winning entries received USD2,000 to start, replicate, or scale up their solution to address housing and urban challenges. Piloted at Habitat's Asia-Pacific Housing Forum, the 2023 micro-grant attracted 68 project proposals from 13 countries in the region. The competitive process saw 10 shortlisted youth leaders pitching to technical experts. The following five solutions emerged as winners:

- **Team Nexa, India:** Addressing the needs of temporary workers living in informal settlements. Collapsible structures that are made of modular frames are used to build creches, living areas and toilets. Such reusable structures allow for adaptability and comfort.
- **Project Bazaar, also known as Fieldscan, India:** An innovative platform that uses geographic information system to provide infrastructure mapping, monitoring and management. It also offers real-time data on infrastructure projects.
- **Gajahlah Kebersihan, Indonesia:** Plastic waste will be transformed into affordable and lightweight ventilation blocks to improve airflow in houses in remote coastal areas.
- **Youth for Good Nepal, Nepal:** Local communities learn from experts on earthquake-resistant retrofitting methodologies through training workshops, hands-on demonstrations and distribution of educational resources.
- **The Modern Balsa Initiative, Philippines:** Meeting the needs of an indigenous floating community for proper sanitation and waste management. Select community members received basic masonry and carpentry skills to construct the floating sanitary facility as well as learn how to maintain it.

The next round of Habitat Youth Solutions will be open for application between February 14 and March 28, 2025. More details will be available, including on Habitat's Asia-Pacific social media ([www.facebook.com/HabitatAP](https://www.facebook.com/HabitatAP)).

made of steel with flooring of wood planks, and bamboo for floating. The facility took about 30 days to complete. It currently serves all the 411 households in Sabang Adgawan *barangay*.

The head of the *barangay*, Ricardo Boiser, is thankful that their community can benefit from the floating sanitation facility. He hopes that more of such facilities can be made available, so that every five households can have access to one sanitation facility.

Such is the satisfaction that we derive—to see our ideas come to fruition, from the concept to the drawing board to the actual construction. Along the way, we will face challenges and constraints. This helps to deepen our understanding of human-centred design that no textbook and classroom discussion could really offer. We get to appreciate that we are not merely studying to create buildings—it is about building a better world.

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**Kester Ray de Vera** is a construction specialist with Habitat for Humanity's Asia and the Pacific area office. After six years of working in the development sector, he went back to school and graduated with an engineering degree. He aims to spark the interest of architecture and engineering professionals in contributing their expertise to the non-profit sector.



**Trinnah Marie Caracho** is a volunteer programmes specialist with Habitat for Humanity's Asia and the Pacific area office. She has a bachelor's degree in development communication and a master's degree in public policy. She is extremely passionate about engaging children and youth as partners—and not just at the receiving end of solutions—in addressing global issues.

**5 Mentees from YBMP (in green shirts, left to right: Mariano Po, Yancy Jema Gracia Alleda and Stephanie Nepomuceno) with staff of Habitat Philippines and members of the Sterling Park community**



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# IN CONVERSATION

In this issue about sustainable learning environments, we decided to turn the mirror on ourselves, so to speak, as we too are an 'environment' that seeks to encourage learning by providing a space to enquire and explore what sustainable architecture is. Thus, we asked some notable voices in the fields of design and media, from creators and curators to storytellers and story-makers, key questions such as: whether journals and magazines like *FuturArc* are still relevant, and how the format and nature of our existence and expression factor into our purpose in this world (of media and beyond).



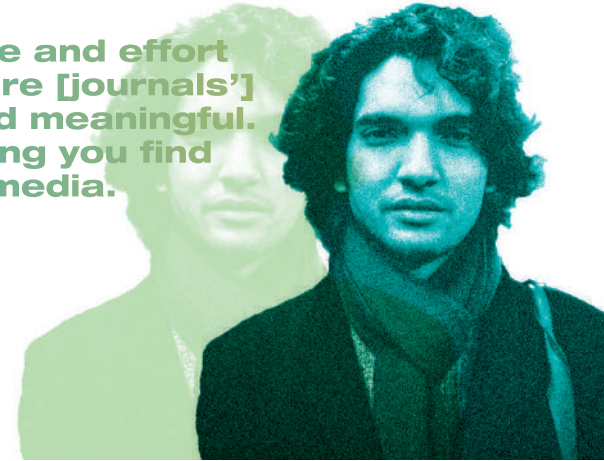


# NIPUN PRABHAKAR

Photographer-Journalist; Architect-Designer

**Nipun Prabhakar** is an independent photographer and architect who works with various South Asian indigenous communities, at the intersection of ideas, artefacts, folklore and the built environment. His work has appeared in major publications like *The New York Times* and *The Washington Post*, etc. In 2023, Nipun was invited to the Royal Institute of British Architects (RIBA) in London to present his work on architectural photography. He is also the founder of Dhammada Collective, a design group working towards a conscious, sustainable and equitable world. Nipun has been contributing his voice in words and photography to *FuturArc* since 2021. His writing and pictorial portrayal of issues that matter to him have found a deep connection with the magazine team and readers.

**I have seen the time and effort it takes to make sure [journals'] content is clear and meaningful. That is not something you find on blogs or social media.**



#### **What is the role of architecture journals today?**

Architecture journals are important because they give us curated and focused content. Online platforms have too much information, most of which are not filtered or checked. Journals stand out because they go through a proper editing process. As someone who has written for them, I have seen the time and effort it takes to make sure the content is clear and meaningful. That is not something you find on blogs or social media.

#### **Are they still a vital learning medium?**

Yes, they are, but not all journals are equal. Some still maintain their reputation for high-quality content. But others have shifted focus. They now feature projects because studios or PR agencies pay for it. That makes people question their credibility. The journals that stay vital are the ones that stick to honest reporting and thoughtful analysis.

#### **Do students and professionals read and refer to them?**

From what I have seen, professionals refer to journals more than students—they often use them as reliable sources for ideas, references, or to stay updated. Students, on the other hand, seem to use online platforms more because they are free and easy to access. However, when it comes to serious research, journals still have an edge because they offer credible and in-depth content.

#### **Is there a need for print media today? What are the pros and cons?**

Yes, there is still a need for print media. Print has a unique value—it takes time to create, and people who buy it usually give it the time it deserves. It is more thoughtful and lasting compared to digital media. The main downside is the cost. It is expensive to produce, and not as many people buy print today because online content is often free. But for those who care about quality and permanence, print remains important.

#### ***The Atlantic* is doubling down on print by becoming a monthly (again) in January 2025, going against the grain in today's media landscape. What are your thoughts regarding such examples?**

Its decision is rare but interesting. Many magazines are cutting back on print because it is expensive and hard to sustain. But *The Atlantic* seems to be confident about its audience and content. It reminds me of traditional crafts. Some artisans manage to keep going by focusing on quality and building trust over time. *The Atlantic* is doing something similar—they are betting on their ability to produce something people will value, even if it is not the trend right now.

#### **Are there any pointed observations that you'd like to add?**

Print media should not try to compete with digital platforms in speed or convenience. Instead, it should focus on what it does best—offering in-depth, thoughtful analysis, and something physical that readers can hold on to and return to. If journals stay true to that, they will always have an audience, even in a digital-first world.



# IAN TAN, PHD

Research Lead; Heritage Storyteller

**Ian Tan** tells stories about the urban environment we live in. He uses his understanding of cultural heritage, placemaking and conservation to do so. Through interactions with other built environment professionals, he is also inspired by emerging technologies, innovative building solutions and new design strategies that can create a more liveable and inclusive environment for all. He has a PhD in Architecture and currently works at Arup, a global sustainable development consultancy.

## **What is the role of architecture journals today? Are they still a vital learning medium?**

In architecture school more than a decade ago, I remember trade journals were the go-to sources for recent regional and international projects. Titles like *A+U*, *El Croquis* and *Architectural Record* were the standard bearers for the most up-to-date architectural tastes and best examples of framing and rendering one's design.

Just a decade later, with the proliferation of architectural sites and social media, we no longer lack access to beautiful images and provocative designs. I feel longstanding architectural journals now have the responsibility of setting the tone for critical architectural discourse through thoughtful interviews and multi-perspectival commentaries. While macro-issues like climate change and sustainability are at the forefront, regional-specific issues like cultural heritage and sustainable materials must also be championed.

## **Do students and professionals read and refer to them?**

### **Is there a need for them today? What are the pros and cons?**

It is a controversial stand, but I think professionals value their projects being featured in print more than online media. Newspapers and journals are viewed more positively, and are seen as more credible information sources.

Trade journals are valuable because they represent a sense of curation in terms of how viewpoints are being presented and how third parties, such as writers, photojournalists and editors, offer new perspectives that are more diverse compared to project components simply submitting their press release and images to online platforms.

That saying, the downside of trade journals is their awkward position between a journal published and written by professional bodies (for example, SIA, HKIA) and those catering to those academically inclined (for example, *Harvard Design Magazine* or *RIBA Journal*). It needs to find its unique selling point and be able to attract both high-quality readers and advertisers, without either party hating each other.

## ***The Atlantic* is doubling down on print by becoming a monthly (again) in January 2025, going against the grain in today's media landscape. What are your thoughts regarding such examples?**

I think the most successful media outlets exist as both online and in print. Examples include *art4d* (Thailand) and *ArtAsiaPacific* (Hong Kong). Versatile editorial teams adopt different cadence and depth catering to the varying attention spans of online and print readers.

## **Are there any pointed observations that you'd like to add?**

Will architectural magazines go the route of artisan zines? One of my favourite architectural magazines CLOG (<https://www.clog-online.com/>) seems to suggest that.

**Professionals value their projects being featured in print more than online media.**





# SUZY ANNETTA

Founder and Publisher, *Design Anthology*

**Suzy Annetta**, Founder and Publisher of *Design Anthology*, is a design editor and curator, and a recognised authority on design in Asia. Suzy has judged numerous design awards regionally, advised on selection panels, serves on the advisory committee for Design Trust, hosted and participated in numerous interviews and panel discussions at events, live television and podcasts, and has authored and edited numerous books on design and architecture.

**We are living in a fast-paced world, but architecture, or at least good architecture, takes time.**



#### **What is the role of architecture journals today?**

I am probably biased because I am from the pre-Internet generation, but for a young kid growing up in a small town back then, magazines and journals were a lifeline and one of the only ways to connect with the outside world. That was how I discovered architecture and design, and my interest in both. I believe that architectural journals continue to play an important role in disseminating vital information, but maybe more importantly, nowadays, is their ability to bring like-minded individuals together and foster a sense of community.

#### **Are they still a vital learning medium?**

I believe they are. There is scientific evidence that we process and retain information differently when we experience that in print versus digitally. I am obviously a print lover, but I am not a total Luddite. I believe in the role of both in our society. But I think print still plays an important role as so much information still exists only in that format. I would hate to think that information could be lost.

#### **Do students and professionals read and refer to them?**

I cannot speak to students, but I know that many practising architects still believe in the power of print and still have extensive print libraries within their offices.

#### **Is there a need for print media today? What are the pros and cons?**

Absolutely. There is so much more gravitas and weight behind something that is published in print. We treat that information differently too—we find our readers are more likely to keep and collect and re-read back issues of *Design Anthology* than readers of other online publications might. We are living in a fast-paced world, but architecture, or at least good architecture, takes time. To spend several years dedicated to a project that exists on the homepage of a website for only a day seems an injustice to me. In print, the content can live on. The obvious pro of publishing digitally is the reach that it enables.

#### ***The Atlantic* is doubling down on print by becoming a monthly (again) in January 2025, going against the grain in today's media landscape. What are your thoughts regarding such examples?**

I applaud them. But clearly, they have found a commercial model that works for them. The main reason print is becoming less and less visible is not because it is not wanted—it is because it is expensive. Paper, printing and shipping costs are the major expenses of a print magazine and these continue to increase year on year. Put simply, if brands or commercial partners do not support media in print, then it cannot survive.



**The real conversation we need to be having is about good versus bad journalism—and good versus bad reporting and writing.**

# SUNEET ZISHAN LANGAR

Editorial Director, Epistle

An architecture and design writer, editor, curator and presenter, **Suneet Zishan Langar** is the editorial director at Epistle, South Asia's oldest and largest communications consultancy for built environment stakeholders. He has worked on over 150 initiatives with a view to giving a voice to design and all those who practise, influence, or experience it. This includes leading strategic communications and PR for some of India's top architecture firms, design brands, and urban development agencies such as the United Nations Human Settlements Programme. He also serves as the editor-in-chief of global design publication *MuzwAa* and has contributed writing to *ArchDaily*, *Design Anthology*, *Wallpaper\**, *Hindustan Times* and more.

## **What is the role of architecture journals today? Are they still a vital learning medium? Do students and professionals read and refer to them?**

I think architecture and design journals must serve a different purpose than they did two decades ago. Access to knowledge is not a gap anymore; social and digital media today provide access to vast amounts of information right at your fingertips. If I am a student or young professional today and I want to find, say, a particular construction detail, learn how to work with a material I have never used before, or study buildings in a specific typology, I can browse drawings on Instagram, watch a YouTube video, or read project information directly from architects on digital platforms. These are far easier and more digestible ways of referencing and learning compared to books or journals.

But that is precisely where journals can play a role. With so much information out there, it is hard to separate fact from misinformation or disinformation—and that is the real gap today. We need someone to parse through it all, to point out what is accurate, ask the right questions, and extract insights that matter. Historically, journals have always carried that credibility. Readers trust them. That is what journals today need to leverage. Instead of trying to replicate what is already out there digitally, and failing, they need to buck the trend—to innovate and offer something fresh, something different.

## **Is there a need for print media today? What are the pros and cons?**

Beyond personal preferences, I do not think this is simply a debate about print versus digital or long-form versus short-form content. The real conversation we need to be having is about good versus bad journalism—and good versus bad reporting and writing.

I think we have lost sight of the most important purpose of journalism: to act as a moral and ethical compass for industry and culture. This is not just an issue in architecture and design media; it is part of a larger phenomenon. But in our field, it has manifested in a way that reduces the media to mere cheerleaders or, worse, entertainment porn. Or, at its lowest, press releases and advertorials masquerading as journalism.

We all know the built environment is a major contributor to some of the world's biggest challenges. Architecture and design shape lifestyles and aspirations, often fuelling the culture of irresponsible consumption that has brought us to where we are today. Yet, it is becoming increasingly rare to find architecture or design journalism—whether in print or digital—that is analytical, provocative, or willing to question the industry and call out bad practices; journalism that puts forward novel ideas and alternatives, that offers foresight and challenges the status quo, which is exactly what is needed to move the needle.

So yes, there is still a need for journalism that tackles this bigger agenda. Print, in particular, offers the space to delve into deeper arguments and present broader stories, and it attracts a readership willing to engage with content at a slower, more thoughtful pace. But to survive and thrive, print needs to make friends with digital and social platforms, using them strategically—for example, by presenting bite-sized excerpts or pull-outs online to drive readers to the full stories. Print must also adapt. Through animation and coding, static images and text in print can be made dynamic. Videos can also be included as visual aids using QR codes. The focus should be on telling fuller, richer stories—the kinds of stories that digital and social media often cannot or will not tell.

## **The challenge to print?**

The challenge is, of course, funding. If advertising provides your primary revenue, it is not rocket science that manufacturers and creators do not want you questioning them or their practices. So, number one, find better advertising partners; ones who align with your values—so that you are able to follow your agenda with editorial integrity. And number two, start moving to subscription models.

The two points are actually interlinked. Only if a magazine has a reasonable and engaged readership will an advertiser want to invest into it. And the only way to attract readers to pay in this day and age is to offer them something new, different and genuinely meaningful.

Contrary to popular belief, our experience working with advertisers and readers shows that there is no dearth of interest or money on either side, as long as the consumer thinks the product that they are buying into has value.

## **The Atlantic is doubling down on print by becoming a monthly (again) in January 2025, going against the grain in today's media landscape. What are your thoughts regarding such examples?**

One of the biggest challenges facing print today is inertia and a self-imposed sense of doom. Everyone we speak to in print knows that change is needed, but no one wants to take the risk of venturing into uncharted territory for fear of failure. In that context, I think what *The Atlantic* is doing is incredible. It offers an alternative case study, a sense of optimism and opportunity, which hopefully sparks action from others.





# IMELDA AKMAL

Editor-in-Chief, *ARCHINESIA Bookgazine*

An architect, writer and publisher, **Imelda Akmal** holds a Master's degree in Architectural History, Theory, and Criticism from the Architectural Association (AA) School of Architecture, London, a Master of Business Management from Swinburne University, and an Interior Decorator qualification from the Royal Melbourne Institute of Technology (RMIT). She is also pursuing a Doctorate in Architecture at Universitas Parahyangan, Bandung. Together with her team at Imelda Akmal Architectural Writer (IAAW) Studio, she has authored and published over 30 architectural books alongside the award-winning *ARCHINESIA Bookgazine* that focuses on Southeast Asian architecture.

**The landscape of print media has significantly shifted. Print and digital media must therefore remain ready to adapt and evolve.**



#### **What is the role of architecture journals today?**

It is a medium for disseminating works, whether in the form of conceptual ideas or architectural designs.

#### **Are they still a vital learning medium? Why so?**

Yes, particularly journals with an official editorial board and formal standing, where there is a curation process to select high-quality works worthy of dissemination. This gives accountability for the dissemination of ideas and projects.

#### **Do students and professionals read and refer to them? Why?**

Yes, that is how it should be. Students must gain the latest knowledge from reliable sources, while professionals need to stay updated with current ideas and design projects. This continuous exposure fosters critical thinking and keeps them connected to their profession and industry.

#### **Is there a need for print media today? What are the pros and cons?**

This now heavily depends on individual readers, as each medium has its own audience. It also comes back to the media itself. If feasible, the media should ideally cater to both formats: print and digital.

#### ***The Atlantic* is doubling down on print by becoming a monthly (again) in January 2025, going against the grain in today's media landscape. What are your thoughts regarding such examples?**

This is welcoming news. As seen in past cases with many media outlets that were predicted to vanish with the rise of newer media, such assumptions were often proved inaccurate, though not entirely without merit. However, even with a return to print, the landscape of print media has significantly shifted. Print and digital media must therefore remain ready to adapt and evolve. Combining print and digital is the best way forward.

#### **Are there any pointed observations that you'd like to add?**

Stay relevant.



# DEDDY WAHJUDI, PHD

Principal, LABO.

**Deddy Wahjudi, PhD** graduated from the Department of Architecture at Institut Teknologi Bandung (ITB) in 1996. He earned a Master's degree in Urban Design from Nihon University and a Doctoral degree in Design and Culture from Chiba University, Japan. In 2005, he received a grant from the Obayashi Foundation in Urban and Culture for post-doctoral studies. He has worked at BIRANO Bandung, Cesar Pelli and Associates Japan, and Takenaka Corporation Tokyo, Japan, before founding LABO. in April 2006. Deddy also works as a lecturer in the Product Design study programme at ITB.

## Architecture journals also serve as a tool for monitoring or reviewing contemporary architecture, documenting and describing its position within the broader development of the discipline.

### What is the role of architecture journals today?

An architecture journal not only serves as a source for references or citations, but it is also a compass for the development of architectural research and design in the future. Comprehensive reviews on e.g. the histories and philosophies of design, research and design methodologies, social and psychological aspects, culture, economics, the construction industry, environmental systems, materials, and building technologies, are key facets in the advancement and progress of the architectural discipline.

### Are they still a vital learning medium? Why so?

Yes, architecture journals also serve as a tool for monitoring or reviewing contemporary architecture, documenting and describing its position within the broader development of the discipline. This role is crucial for shaping the future progress of architecture.

### Do students and professionals read and refer to them? Why?

It is crucial for both students and professionals. Maintaining a critical stance in responding to changes in the natural environment, social dynamics and economic conditions is essential to our role as architects. From being students to becoming professional architects, the principles of capacity development and continuous learning remain fundamental.

### Is there a need for print media today? What are the pros and cons?

The need for print media remains relevant. When we refer to architectural journals, it is not just about reading in a single moment, but it involves an ongoing process of synthesising and analysing various architectural phenomena for the future. Access to printed magazines or journals continues to be significant in supporting this process. Although print media requires physical storage space, it allows for more 'spontaneous' access and reference in the sense that when discussing a specific context, printed material enables us to open and review multiple books and pages simultaneously.

### *The Atlantic* is doubling down on print by becoming a monthly (again) in January 2025, going against the grain in today's media landscape. What are your thoughts regarding such examples?

It is fortunate and I am supportive of the idea that we could gain access annually to printed journals that provide high-quality insights on timely issues.

### Are there any pointed observations that you'd like to add?

Compared to frequency of printing, a journal's quality is a more important aspect to be considered.





# DR JOHANNES WIDODO

Professor, National University of Singapore,  
MA Architectural Conservation Programme

**Dr Johannes Widodo** is a Professor at the National University of Singapore's Master of Arts (MA) in Architectural Conservation Programme. He is the founder and executive of modern Asian Architecture Network (mAAN), executive committee of Asian Academy for Heritage Management (AAHM), jury of UNESCO Asia Pacific Awards for Cultural Heritage Conservation, member of ICOMOS International Scientific Committee (ISC), founder of ICOMOS National Committee (Indonesia and Singapore), founder of DoCoMoMo (Macau and Singapore), founder and executive of International Network of Tropical Architecture (INTA), member of The Circle for Human Sustainability (TCHS) member, and founder and advisory board member of South-East Asian Cultural Heritage Alliance (SEACHA).

**Printed matter can last for hundreds of years. It faces challenges like limited audience reach compared to digital platforms, higher production and distribution costs ... but digital or online storage can disappear any time.**

#### **What is the role of architecture journals today?**

The role of both academic and design journals remains the same. Architectural journals have historically served as key platforms for disseminating architectural knowledge and ideas, fostering educated discussions and sharing innovative designs. Today, they continue to influence public discourse on design and construction, covering topics like sustainability and technological advancements while expanding their reach through digital platforms. Looking to the future, these journals are expected to embrace new technologies such as virtual and augmented reality, furthering global collaboration and addressing critical issues related to architecture and the built environment like climate change, urbanisation, social justice, economic circularity, etc.

#### **Are they still a vital learning medium?**

Yes, architectural journals remain a vital learning medium, offering in-depth analysis, critical discourse, and exposure to innovative designs and theories. However, they face challenges such as the rapid pace of digital transformation and the need to adapt to new technologies. The accessibility of information online has shifted some focus away from traditional journals, requiring them to innovate continually to stay relevant.

#### **Do students and professionals read and refer to them?**

Yes, especially the digital and online journals, since they are easy to access. Also, there is a trend that popular architectural magazines are thriving by focusing on accessible and engaging content that appeals to a broad audience, including both professionals and enthusiasts. These magazines often highlight sustainable design, innovative projects and emerging trends in architecture, making complex topics more approachable. They also leverage digital platforms to reach a wider readership, offering interactive content and multimedia features. This trend reflects a growing interest in architecture's impact on society and the environment, making these publications valuable resources for staying informed and inspired.

#### **Is there a need for print media today? What are the pros and cons?**

Print media still holds value today, offering unique advantages such as a tangible presence that creates a lasting impression, credibility due to rigorous fact-checking, targeted reach through niche publications, and longevity for future reference. Printed matter can last for hundreds of years. However, it faces challenges like limited audience reach compared to digital platforms, higher production and distribution costs, environmental impact, and inflexibility in updating content. But digital or online storage can disappear any time.

#### **The Atlantic is doubling down on print by becoming a monthly (again) in January 2025, going against the grain in today's media landscape. What are your thoughts regarding such examples?**

*The Atlantic's* decision is a bold move that goes against the prevailing trend of digital-first strategies in the media industry. It underscores the enduring value of print media, particularly for a publication with a strong legacy and dedicated readership. By increasing its print frequency, it also reflects confidence in their editorial quality and the unique experience that print can offer, which digital formats sometimes lack. However, it also presents challenges, such as higher production costs and the need to attract and retain subscribers in a predominantly digital age, but on the positive side, it provides more choices to a diverse range of readers.



## MILESTONES

### Global

#### Countries' first climate transparency reports submitted to the United Nations

On the last week of January 2025, United Nations (UN) Climate Change News reported that 90 countries under the Paris Agreement have submitted their first Biennial Transparency Reports (BTRs) outlining their progress and commitments to reach climate targets by 2030. These reports are countries' primary reporting mechanism under the Paris Agreement's Enhanced Transparency Framework (ETF), specifying efforts in limiting and adapting to climate change.

"Transparency is crucial, not only because it highlights progress in climate action but because it spurs more action: enabling data-driven responses that build resilience and protect vulnerable populations by identifying risks and vulnerabilities, and leading to better resource allocation," said UN Climate Change Executive Secretary Simon Stiell at the 29<sup>th</sup> Conference of the Parties (COP29). "Every submission, every lesson learned, brings us closer to the goals of the Paris Agreement."

Here are some countries' specific policies or actions that are related to the built environment that have been included in the reports.

#### China

Since 2017, China has carried out sponge city pilots in 30 cities and demonstrations in 60 cities, aimed at enhancing climate adaptability in urban and residential environments. Through this system, they were able to identify existing challenges against extreme weather, such as rainstorms, and implemented targeted redevelopments to enhance urban safety and

resilience. Furthermore, networks of climate change monitoring stations in the critical plateau areas—which play a significant role in Earth's overall climate system—have also been established or strengthened. This includes the Lhasa River Basin in the upper reaches of the Yajiang River; a carbon flux monitoring network for high-altitude ecosystems in the Qinghai-Tibet Plateau; and a gradient-connected meteorological observation station at Mount Everest, to improve ecological risk reporting and warning mechanisms.

#### Indonesia

The country's National Inventory Document shows that the construction sector (grouped together with manufacturing) emitted the second highest total greenhouse gases due to energy consumption at 204,612.78 kilotonnes of CO<sub>2</sub>. To reduce emissions in line with Nationally Determined Contributions (NDC) targets, the Ministry of Environment and Forestry has released the Roadmap of NDC Means of Implementation 2023–2030 to function as an operational guide and strategy for technology transfer and development. Some of the technologies being implemented include remote monitoring of solar photovoltaics to ensure efficient renewable energy utilisation and a web-based spatial data portal to improve and update the national mangrove map for coastal resilience.

#### Malaysia

The report identified factors that contribute to a decrease in emissions from the manufacturing and construction industries, such as a significant drop of natural gas consumption in 2008 and a sharp decline in 2020 due to the impact of travel restrictions during the COVID-19 pandemic. However, the residential sector saw an increase in emissions in 2020, which was likely due to the surge in work-from-home arrangements. Malaysia has also developed their Low Carbon Aspiration 2040, including targets such as a higher level of urban public transport modal share, electric vehicle (EV) penetration, share of alternative lower-carbon fuels in heavy vehicles and marine transport, and enhanced energy efficiency in industrial, commercial and residential sectors. In addition, the aspiration plan entails a higher level of renewable energy penetration in the installed capacity and total primary energy supply (TPES).



Minghu Wetland Park by Turenscape; the firm's work has influenced the guidelines for China's sponge cities (read more in *FuturArc* 4Q 2019)

#### Singapore

Observations by Meteorological Service Singapore (MSS) showed that the warming trend experienced in Singapore over the past decades continued in 2023. As a highly urbanised island state, a key part of Singapore's climate change mitigation strategy is the Greening of buildings, including through certification and rating systems such as Green Mark. The latest edition of the Singapore Green Building Masterplan (SGBMP) was co-created with over 5,000 individuals across the built environment sector and the wider community, pursuing more ambitious sustainability standards. In addition to greening 80 per cent of buildings by gross floor area (GFA) by 2030, two new goals have been introduced: for 80 per cent of new developments to meet Super Low Energy (SLE) standards from 2030; and for best-in-class buildings to achieve 80 per cent improvement in energy efficiency from 2005 levels by 2030.

#### Thailand

The Office of Natural Resources and Environmental Policy and Planning (ONEP) has issued operational guidelines to drive the sustainable management of green spaces, with the second phase spanning till 2027. The goal is to ensure that municipalities or local administrative organisations across Thailand provide at least 10 square metres of public



SJ Campus is an example of a Super Low Energy (SLE) building in Singapore (read more in *FuturArc* 4Q 2024)

green space per person and that green space constitutes no less than 10 per cent of urban areas. The country also aims to expedite the integration of a climate-resilient building approach into the standards and regulations of building designs to be consistent with changing climatic conditions and degrees of the severity of natural disasters in each area. In support of this, in 2023, the Department of Public Works announced and enforced a ministerial regulation on the design of building structures and the characteristics and specifications of materials.

#### Next steps

BTR submissions undergo independent technical expert reviews, which has begun in 2024. These reviews involve a thorough assessment of each report, identifying progress towards NDC targets and capacity-building needs, and supporting the countries to improve future reporting. Following the review of BTRs, the ETF's multilateral phase—known as Facilitative Multilateral Consideration of Progress (FMCP)—will encourage countries to share experiences, successes, challenges and insights in implementing the Paris Agreement, driving global cooperation to deliver climate action and support. Lessons learned from these processes are aimed to enhance countries' long-term capacity to collect and analyse data, inform policy decisions, and implement effective climate action.



Photo by Yugar Isadov/UN Climate Change

Closing plenary of COP29, presenting the 2025 UN Climate Change Conference (COP30) that will be held in Belém, Brazil



Photo by Lucia Vasquez-Tumil/UN Climate Change

DEPUTY EXECUTIVE SECRETARY IMEDIA Simon Stiell addresses the closing plenary of COP29 and waves a copy of the Paris Agreement

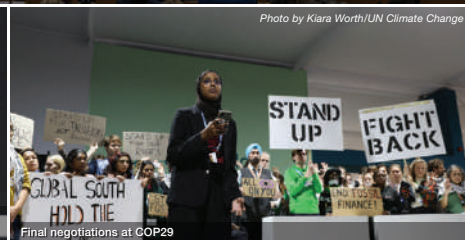


Photo by Kiara Worth/UN Climate Change

Final negotiations at COP29

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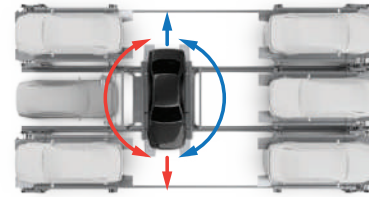
The design of United in Diversity Campus by Willis Kusuma Architects facilitates collaborative learning through formal and informal gathering spaces that are permeable to suit its seaside tropical climate.



Photo by Mario Wibowo Photography  
Read more on page 32.

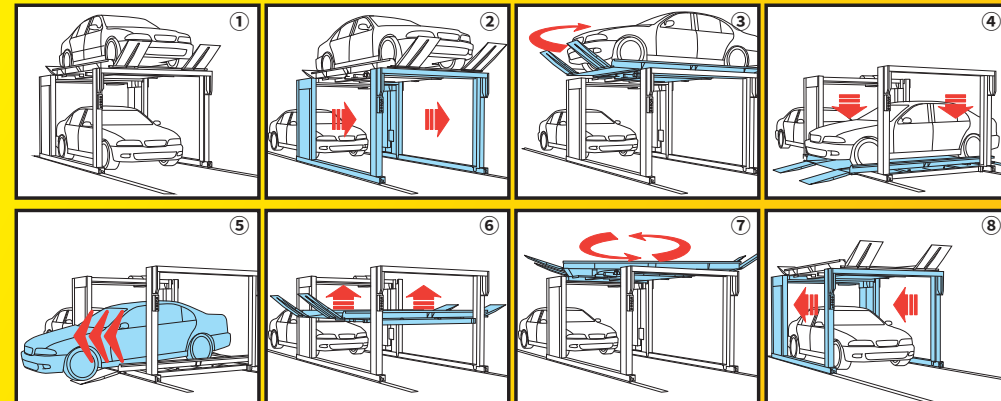


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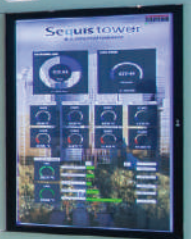
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