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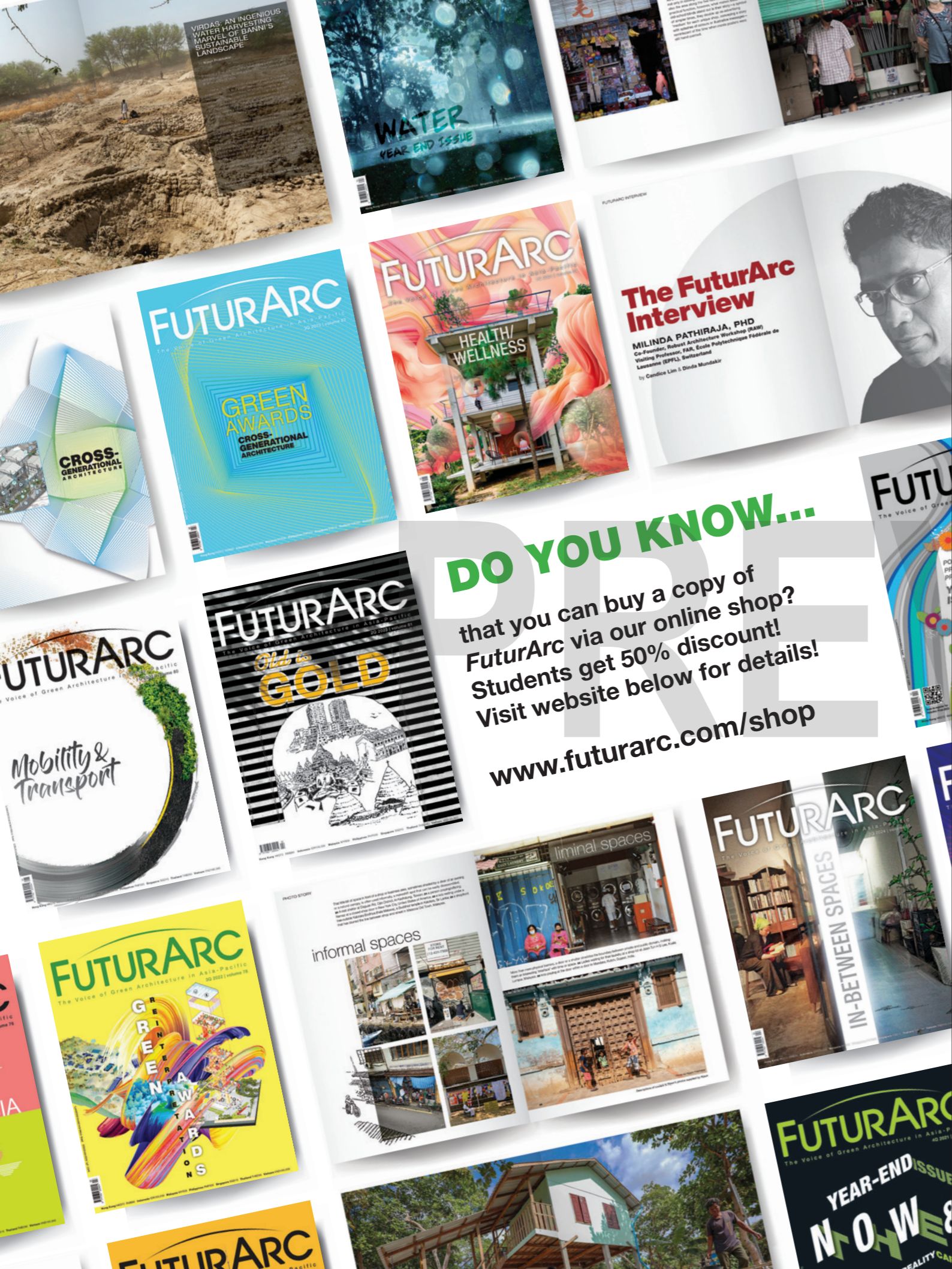
ARCHITECTURE FOR LIFE AFTER

REVIEW

GREEN
AWARDS

MCI (P) 044/01/2024 PPS 1786/04/2013 (022947)





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Dear *FuturArc* readers,

Ouroboros is an ancient emblem symbolising the cycle of Life. Everything in the natural world is born, lives and dies. While most humans spend the majority of their lives wrapped up with birth and living, they are less inclined to delve into the topic of death or dying. Yet we all know that this cycle is inevitable—there is no birth without death, no death without birth.

When setting the theme for *FuturArc* Prize 2024, we wanted to look deeper into this topic and its implications on the future of architectural solutions along with the environmental, social and urban impacts.

In present times, there is nowhere that has not been affected by the severity of changes in Earth's climate—we have been dealt with the hottest day ever recorded in history;¹ people are dying of extreme heat;² and the fate of small island nations³ are hanging by a thread.

Thus, the premise called forth by the 2024 competition cycle based on the scenarios of Climate Destruction and Endings have been revealed to be most apt, as agreed by the jury panel too. The *FuturArc* Interview features excerpts from the jury meeting held earlier this year, highlighting the jurors' in-depth perspectives on the topics and awarded entries.

The following pages also showcase articles from the fraternity that advocate matters closely related to these topics: Marek Kozlowski and his colleagues have written a paper on the Sri Aman Master Plan, first of its kind in Malaysia, that seeks to create climate-resilient environments by developing blue-green networks; teamSTAR from Japan gave a new interpretation to an ossuary hall; and Nipun Prabhakar collected photos and stories in India to make his case for a circular system of reusing C&D waste informally (see Projects and Commentary).

Going back to where I have started, Ouroboros is also the title of *FuturArc* Prize 2024's First Place entry. It has been an intense process putting together this edition's Main Feature dedicated to presenting a summary of the winning and merit entries.

We hope this issue gives you pause to reflect on the themes that underlie the awarded entries and the stories. After all, destruction and endings are everyday events that happen more commonly than our minds are wont to believe.



¹ <https://apnews.com/article/hottest-day-ever-climate-change-weather-heat-extreme-global-warming-8e2b0b71a0360ecb931ca333a832c694>

² <https://www.bloomberg.com/news/features/2024-07-08/how-many-people-have-died-from-extreme-heat-officials-struggle-to-track>

³ <https://earth.org/tuvalu-sinking-reality-how-climate-change-is-threatening-a-small-island-nation/>

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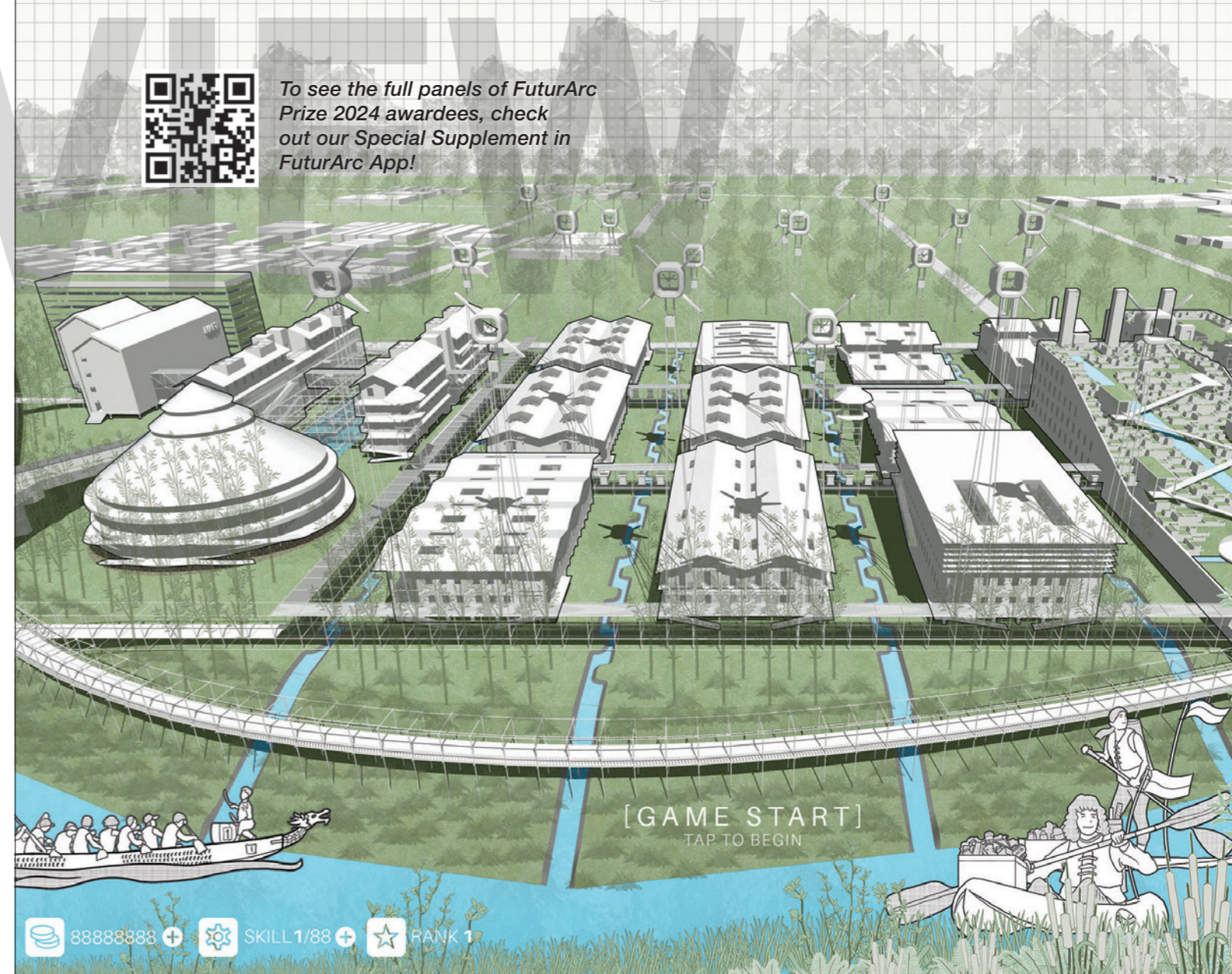
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To see the full panels of *FuturArc* Prize 2024 awardees, check out our *Special Supplement* in *FuturArc* App!



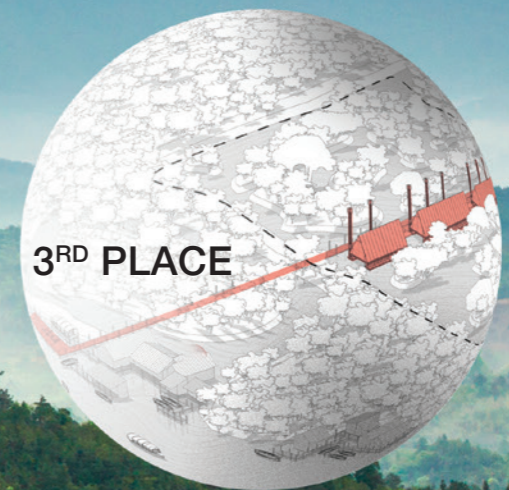
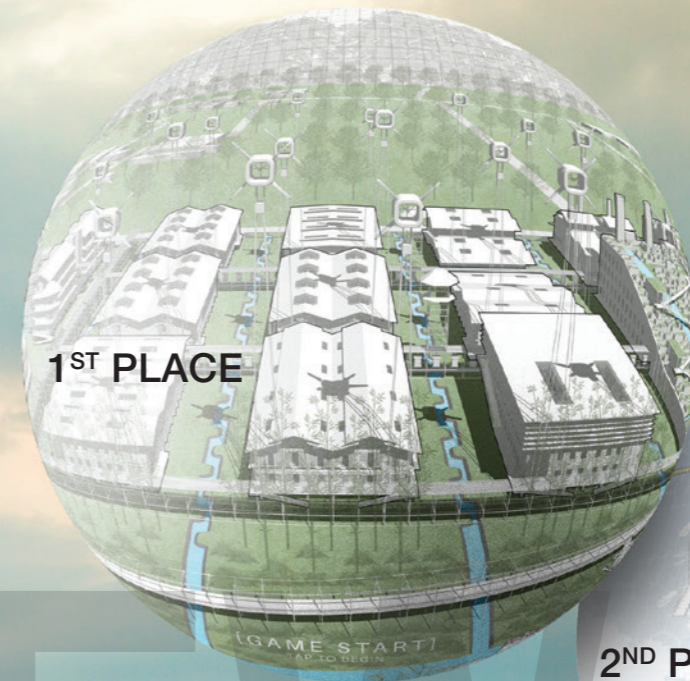
FUTURARC PRIZE 2024

The following pages of Main Feature presents FuturArc Prize (FAP) 2024 winning and merit entries, as well as the awardees. The 2024 cycle's theme Architecture for Life After required entrants to propose architectural solutions within Asia for the continuation of life after either one or both of the following scenarios: Climate Destruction and/or Endings.

Climate Destruction scenarios entail any significant climate-related disasters triggered by hydrometeorological or climatological causes, including floods, storms, heat waves, droughts, wildfires, etc. Endings scenarios refer to the end of lifespans—be it of humans, non-human species or ecosystems, such as forests, coral reefs, drylands, etc.

ARCHITECTURE FOR LIFE AFTER

PREVIEW



Scenario
Endings
Location
Rawa Kucing Landfill
Country
Indonesia
City
Tangerang
Site Area
49,000 square metres

OUROBOROS: GAMIFICATION TO TRANSFORM A 'TRASH-SCAPE'

Ouroboros is an ancient circular symbol of a snake/serpent or dragon eating its own tail, signifying variously infinity and the cycle of birth and death. It is one of the oldest mythical emblems in the world that represents fundamental concepts of life.

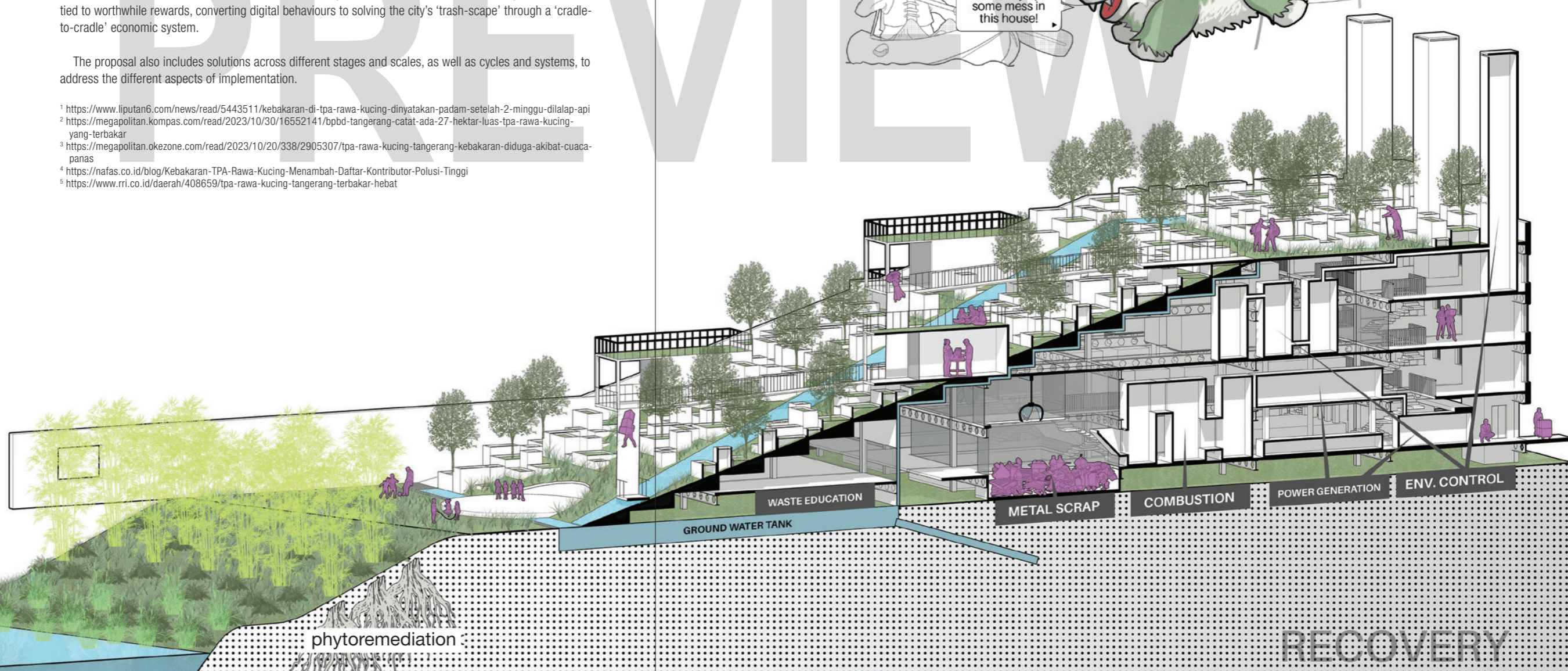
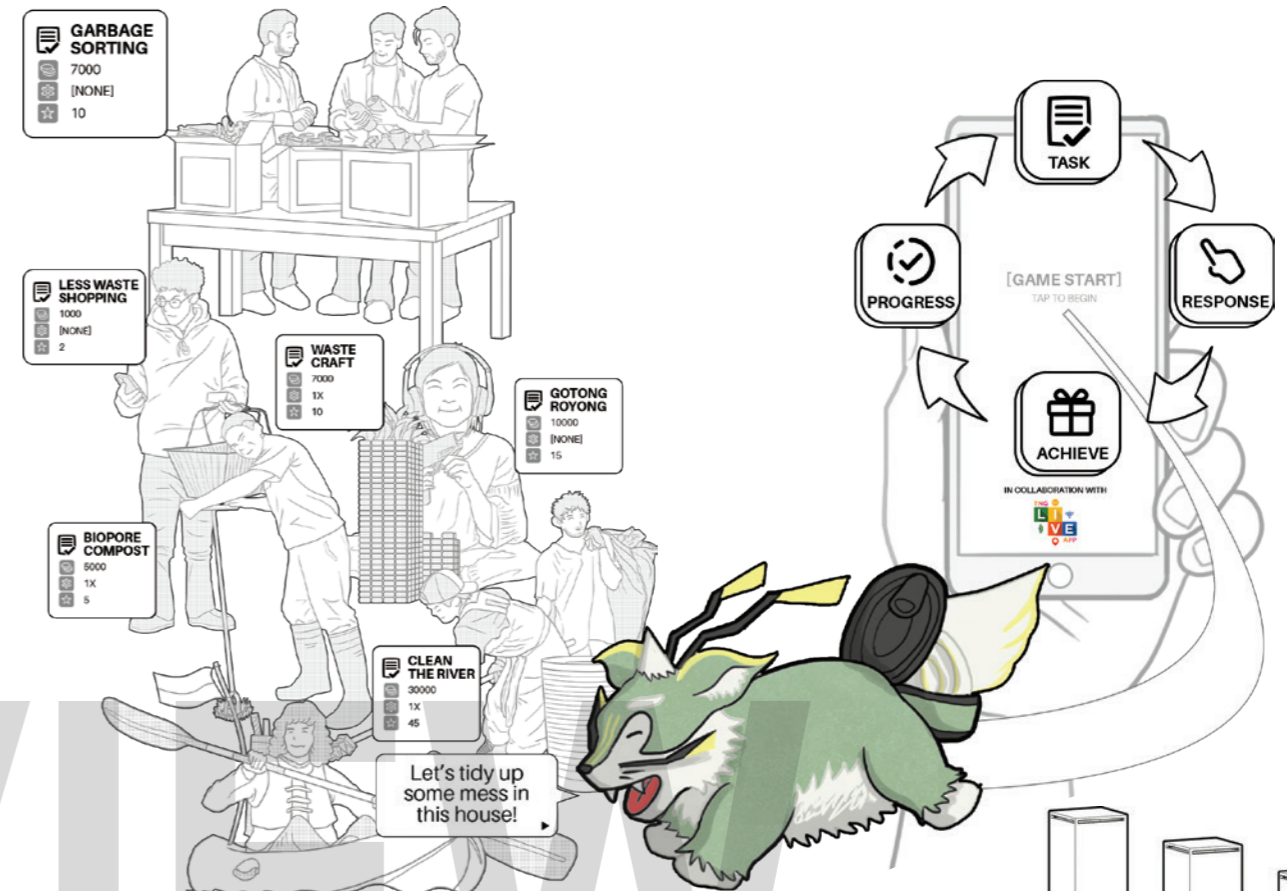
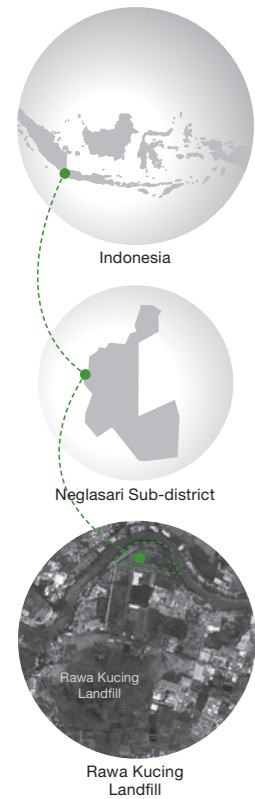
Of this age-old never-ending 'loop', this entry seeks to present a modern interpretation and approach to 'renewal' based on a landfill setting and its contents, transposing 'endings' into 'beginnings' through an intricate system of architectural gamification and multi-layered interventions.

The selected site, an open-dumping landfill in Tangerang, made national headlines in October 2023 as its methane-heavy mounds went ablaze for nearly two weeks—destroying 80 per cent of the facilities^{1,2} and expelling hazardous fumes to kilometres beyond the 35-hectare landfill.^{3,4} The fire was hardly the first of its kind to occur, but it was the largest and longest disaster thus far, most likely due to the prolonged dry season and increasing air temperatures in Indonesia.⁵

The entrant believes that the only sustainable way to address endings due to human consumption and waste and their mostly detrimental impacts on the environment and ecosystems is through a 'cultural renewal' of mindsets, behaviours and habits. He attempts to bridge the gap between citizens' behaviour and their trash by proposing a game-based waste management mechanism for this modern age. The idea is to delay the 'life cycle' of one's trash to landfill by modifying users' behaviour with waste management activities tied to worthwhile rewards, converting digital behaviours to solving the city's 'trash-cape' through a 'cradle-to-cradle' economic system.

The proposal also includes solutions across different stages and scales, as well as cycles and systems, to address the different aspects of implementation.

¹ <https://www.liputan6.com/news/read/5443511/kebakaran-di-tpa-rawa-kucing-dinyatakan-padam-setelah-2-minggu-dilalap-api>
² <https://megapolitan.kompas.com/read/2023/10/30/16552141/bpbd-tangerang-catat-ada-27-hektar-luas-tpa-rawa-kucing-yang-terbakar>
³ <https://megapolitan.okezone.com/read/2023/10/20/338/2905307/tpa-rawa-kucing-tangerang-kebakaran-diduga-akibat-cuaca-panas>
⁴ <https://nafas.co.id/blog/Kebakaran-TPA-Rawa-Kucing-Menambah-Daftar-Kontributor-Polusi-Tinggi>
⁵ <https://www.rri.co.id/daerah/408659/tpa-rawa-kucing-tangerang-terbakar-hebat>



The FuturArc Interview

by Candice Lim & Dinda Mundakir



Dzung Do Nguyen
Co-Founder and CEO of
enCity and enfarm Agritech

Farizan d’Avezac de Moran
Senior Partner and leader at
GreenA Consultants

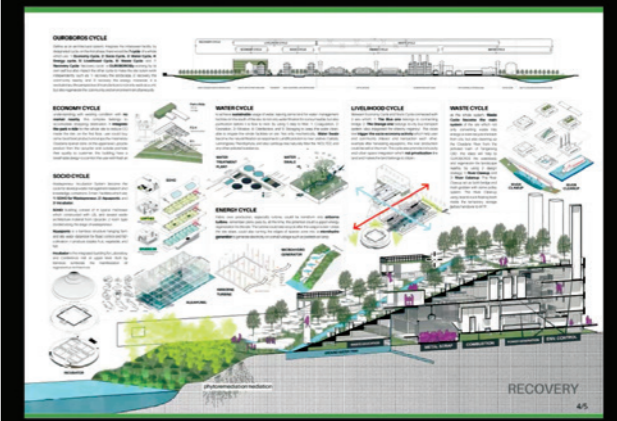
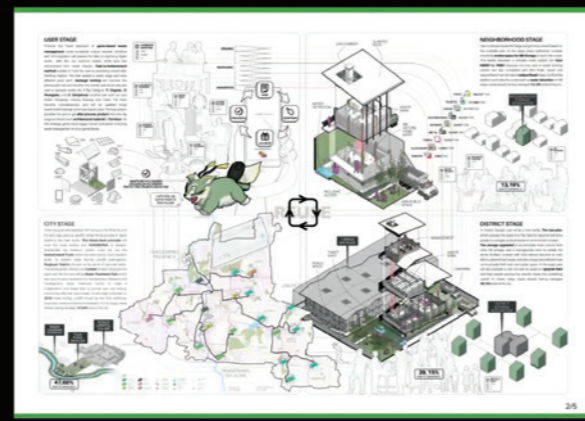
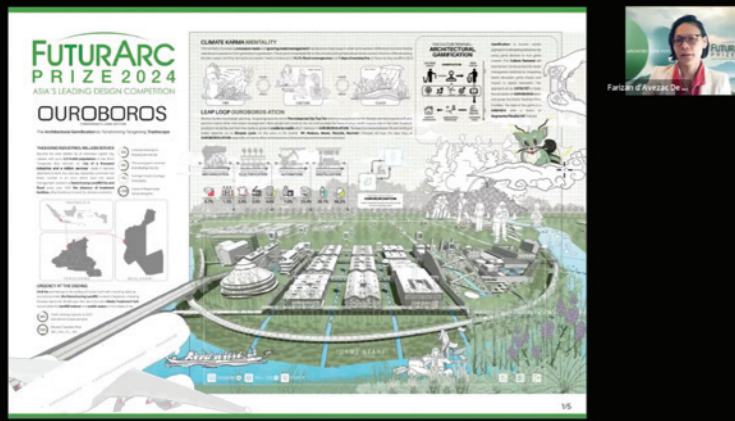
Dr Tony Ip
Founder of Tony Ip Green
Architects (TIP)

FUTURARC PRIZE 2024 JURY MEETING SPECIAL

Deciding on the winners and runners-up of a competition that has brought in hundreds of submissions from around the globe is no small task. We recognise that each entry has been thoughtfully crafted by entrants to express their ideas in various site contexts. Hence, this year’s jurors, **Dzung Do Nguyen, Farizan d’Avezac de Moran** and **Dr Tony Ip** have been selected to represent different ‘spheres’ of practice within the built environment, from architecture/engineering, city planning and conceptual design to strategic partnerships, policy advocacy and bio-engineering.

Throughout the years of organising FuturArc Prize, we have received questions from hopeful entrants such as: what sort of entries are preferred—the practical or the conceptual? What presentation technique is best? Which criterion or issue matters more during the judging? There is no truly singular answer to these questions, as jurors for each cycle will evaluate the entries against the year’s specific theme and their own judgement.

Here, we offer a peek behind the doors of the jury meeting, where the jurors reached a consensus on the awards. This meeting concluded months of preparation and consideration of the entries, which served to discern and award the best proposals. We hope they can inspire students and practitioners to envision and create a more sustainable world.



“ Some of the works have ideas that seem like they are impactful, but the proposal itself does not give us the confidence that they understand how to get it done.

“ When we talk about climate resilience, about the ending of ecosystems, how do we perceive the candidates’ impressions to understand what are the changing situations? So, visualisation is important.

WHAT ARE THE JURORS’ GUIDING PHILOSOPHIES IN JUDGING THE ENTRIES?

DDN: First, I really like the topic. It’s broad enough to cover many different areas of design, but also has a good meaning behind it. When I’m looking for a high-quality entry, I’m looking for both the meaningfulness and the practicality of that solution. Some of the works have ideas that seem like they are impactful, but the proposal itself does not give us the confidence that they understand how to get it done.

Of course, no one knows all the solutions, but at least some are closer to reality.

TI: The judging process is very challenging because there are quite a lot of good proposals here, and actually my judging criteria are similar to what Dzung mentioned.

Practicality is one of the key things because when we look at climate resilience, to really tackle what we want to propose, the entries have to have a certain practicality, so that they can be applicable and adoptable, where people can learn the concepts, and put into effect in real-world cases.

I also look for innovativeness, because we are looking for future solutions, so it should have some innovative ideas. One thing I would like to point out is that I see a lot of sites covering quite a large district in terms of district planning or city planning. Because of the competition’s requirements of filling up a certain number of presentation boards, they have to present all the things together. So, they may not be able to go in depth into certain ideas or cannot single out what are the key innovations, and they seem like just a planning exercise for certain areas. For those, I may not rank them very highly.

One other thing is for the visualisation to be really convincing. Because when we talk about climate resilience, about the ending of ecosystems, how do we perceive the candidates’ impressions to understand what are the changing situations? So, visualisation is important. I also gave good marks if they present the different scenarios in their proposal.

FAM: I hope I am not the odd one out, being an engineer.

I do like the topic that FuturArc proposed, which is Endings. Because it is not common and it’s not something that we think about, apart from when doing crematoriums, etc. (read more in sidebar for an example of an alternative burial typology).

For the entries, I look at cultural integration a lot more, especially when it comes to residential projects, and the external impacts an entry has, apart from the development of the context that they are submitting—and what are the outside ripple effects that are coming in. What are the impacts not just on humans, but also on everything?

A few of the entries have a lot to do with industrial sites, which I’m super keen on. So, my approach is a little bit different from what Dzung and Tony have just mentioned. I also have to say and qualify that some of them I’ve seen and judged before.

CL: Very good perspectives that each of you has given. Obviously, when we select jurors, we wanted to bring in a broad range of expertise, applications, knowledge and skill set from the three of you, so that we don’t always look at one side of the story. This brings a good bearing on where the three of you could contribute to the results in a way.

PRABHA

Prabha in Sanskrit, the ancient language of Hindu philosophy and classical Indian scriptures, means light or brilliance. It is interesting that this quaint ossuary hall, located on the grounds of Myorenji Temple in the city of Oita, Japan, is named using the oldest language in the world. Perhaps it is because the 'purest' meaning of the word comes through most clearly in this most ancient language.

What is clear is the 'lightness' of the project's overall presence amidst the 'gravitas' of the 400-year-old traditional building on the temple grounds—its design a modern interpretation that complements the historical architecture. Lighting is also emphasised in its minimalist composition, while having the corridor set up with the approach to the temple in mind.

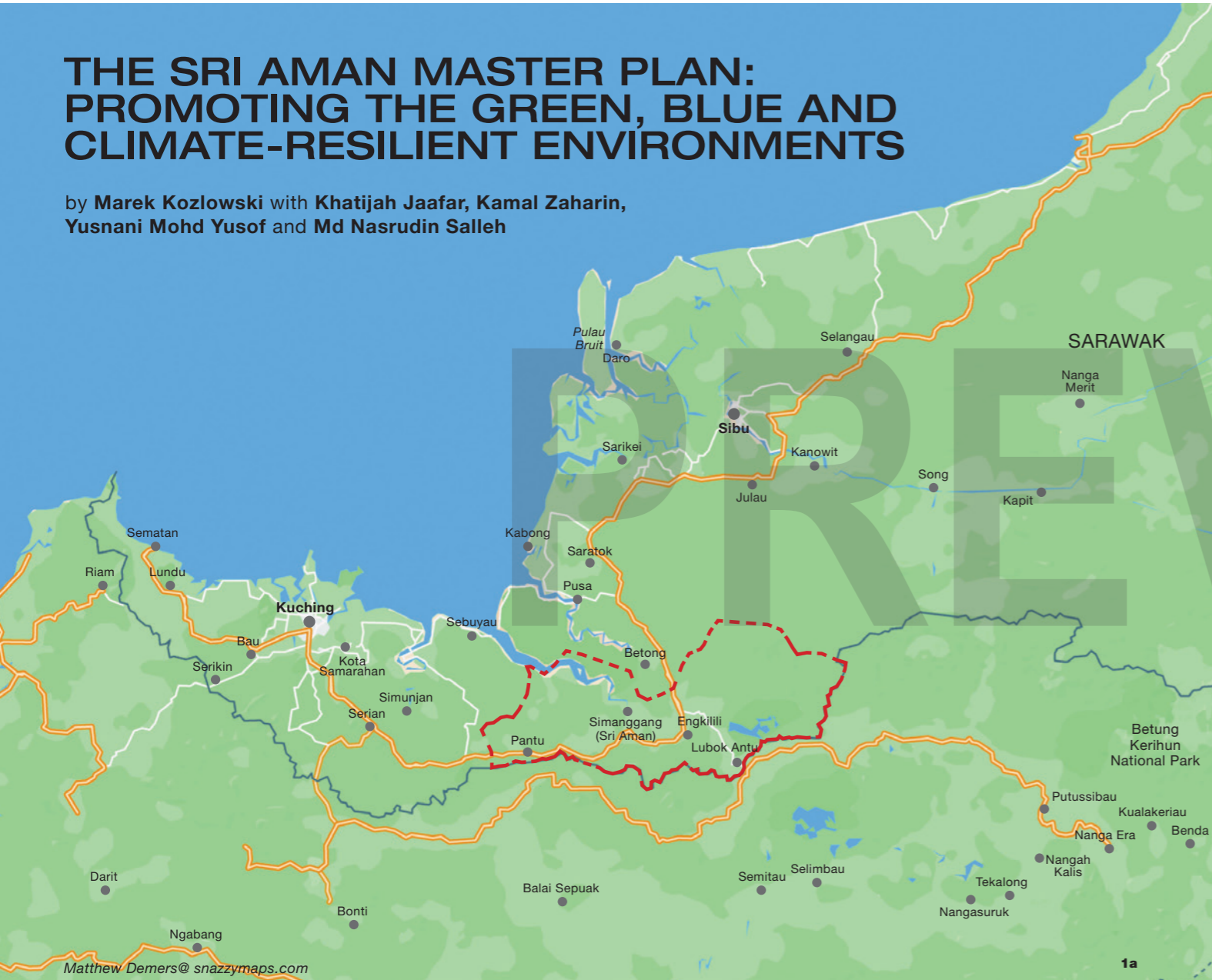
The architects shared, "The design was based on the concept of harmony with the temple grounds and [having] minimal impact. The building was planned to function as a backdrop or a fence so as not to give the impression of a private house in the surrounding area."

"An ossuary is generally thought of as a storage room for graves. We think of an ossuary as a room for the deceased. We want the deceased to feel at home, just as we want the living to feel at home."

1 Bird's eye view of Prabha on the grounds of Myorenji Temple

THE SRI AMAN MASTER PLAN: PROMOTING THE GREEN, BLUE AND CLIMATE-RESILIENT ENVIRONMENTS

by Marek Kozlowski with Khatijah Jaafar, Kamal Zaharin,
Yusnani Mohd Yusof and Md Nasrudin Salleh



The Sri Aman Master Plan (SAMP) is a first-of-its-kind sustainable regional plan in Malaysia based on a network of greenways and blueways, green infrastructure, sustainable management, and the promotion of agrarian residential communities. It fully responds to Malaysia's commitment to reducing carbon dioxide emissions.

The SAMP is the first step in initiating future sustainable development and growth in this isolated region. According to *Malay Mail* (June 11, 2024), a recent commitment of 10 billion RM by the Government of Sarawak to develop 10,000 hectares of land in the Sri Aman District for paddy rice cultivation is a significant boost to the region's economy. This move, aimed at competing with Kedah as Malaysia's major rice bowl, is expected to elevate Sri Aman to the status of Malaysia's leading agriculture hub.

The long-term vision for the Sri Aman Division, as part of the sustainable SAMP, envisions the creation of new urban green and blue environments. These environments, characterised by urban farming, an ample fishing industry and riparian areas, aim to enhance the Division's sustainability and resilience. This article addresses the SAMP's Spatial Development Conceptual Plans, with special emphasis on the interconnecting green and blue environments.

CONTEXT

The Sri Aman Division

The Sri Aman Division contains two administrative districts: Sri Aman and Lubok Antu (image 1a). The total population is 93,379, and is generally culturally mixed, with Iban as the predominant ethnic group, followed by Malay and Chinese. Sri Aman is located in the southwestern part of Sarawak, bordered by the Indonesian state of Kalimantan. The economy of the division is primarily agricultural, and it is the largest farming area in the state. It was traditionally an isolated and remote region; however, with the opening of the Pan Borneo Highway, it has become more accessible from Kuching and other parts of Sarawak.

The Sri Aman Master Plan (SAMP)

The SAMP, a multi-discipline document, was commissioned by the Economic Planning Unit of the Sarawak Chief Minister's Department. It was prepared as a joint venture between the University Malaysia Sarawak (UNIMAS) Holdings, professional consultants including Daya Rancang and Frost & Sullivan, and representatives from universities such as the Universiti Sains Malaysia (Science University of Malaysia) and Universiti Putra Malaysia (University of Putra Malaysia). Endorsed by the Government of Sarawak

in 2022, the SAMP calls for innovative development, a balanced social environment and economic activities to achieve desired regional changes. The main aim of the Master Plan is to create a regional centre featuring a well-established agrarian industry, a pristine tropical forest with unique flora and fauna, all supported by small- to medium-sized urban centres developed on the principles of sustainable development and environmental management.

Tropical climate-responsive design: Achieving climate resilience

In Sarawak, the urgency of considering climate change, especially in the planning and design of new housing estates, cannot be overstated. The challenges of climate change, such as increased air temperatures, extreme weather conditions, flooding and rising tidal waves, have already made their presence felt.

The Sri Aman Division, with its highly valued tropical character, calls for a different approach. Universal building design, driven by neoliberalism and property-led development, is not suitable for this part of Sarawak. Instead, there is a need to adapt and provide better opportunities for embracing the local tropical way of life. Incorporating tropical design principles into future

1a Location of the Sri Aman Division 1b Google Earth image of the Sri Aman Division





THE GONG: REVIVING THE SOUND OF CAMBODIA



A gong is a metallic percussion instrument that is played to maintain rhythm throughout a composition. The deeply resonant sound of a gong—often played at ceremonies or officiations—is also used to symbolically mark new beginnings.

This is what The Gong, the largest music hall and cultural centre in Cambodia, is setting out to do: marking a new chapter in the country's cultural education and maintaining it for posterity.

THE (NEAR) END AND REBIRTH OF THE ARTS

Unlike other countries in Southeast Asia, Cambodia has not fully recovered from decades of civil war that culminated in genocide in the late 1970s.¹ At that time, the Khmer Rouge regime targeted the artistic and intellectual classes² and almost completely banned all forms of cultural knowledge, including music and dance. This led to a dearth of information for the next generation about their heritage and tradition.³

In the years since, the preservation of Cambodian traditional music became a form of resistance by survivors, such as the late master musician Kong Nay who had travelled around the country to teach folk music to the next generation.⁴ Today, the contemporary music scene is flourishing among Cambodia's youth, despite facing challenges such as an underdeveloped arts education in schools.⁵

A CULTURAL EPICENTRE

Located one hour north of Phnom Penh in the Sameakki Mean Chey district, The Gong is part of the Smiling Gecko Educational Campus, which aims to provide young Cambodians with education that is in line with international standards. Music, dance and theatre are taught at the campus, which is particularly important for children and young adults who could not learn such knowledge elsewhere.

1 Entrance 2, 4 & 5 Recording studio 3 The circular shape of the building not only represents the ancient Khmer gong instrument, but also helps the structure regulate its microclimate naturally 6 Set amidst natural surroundings

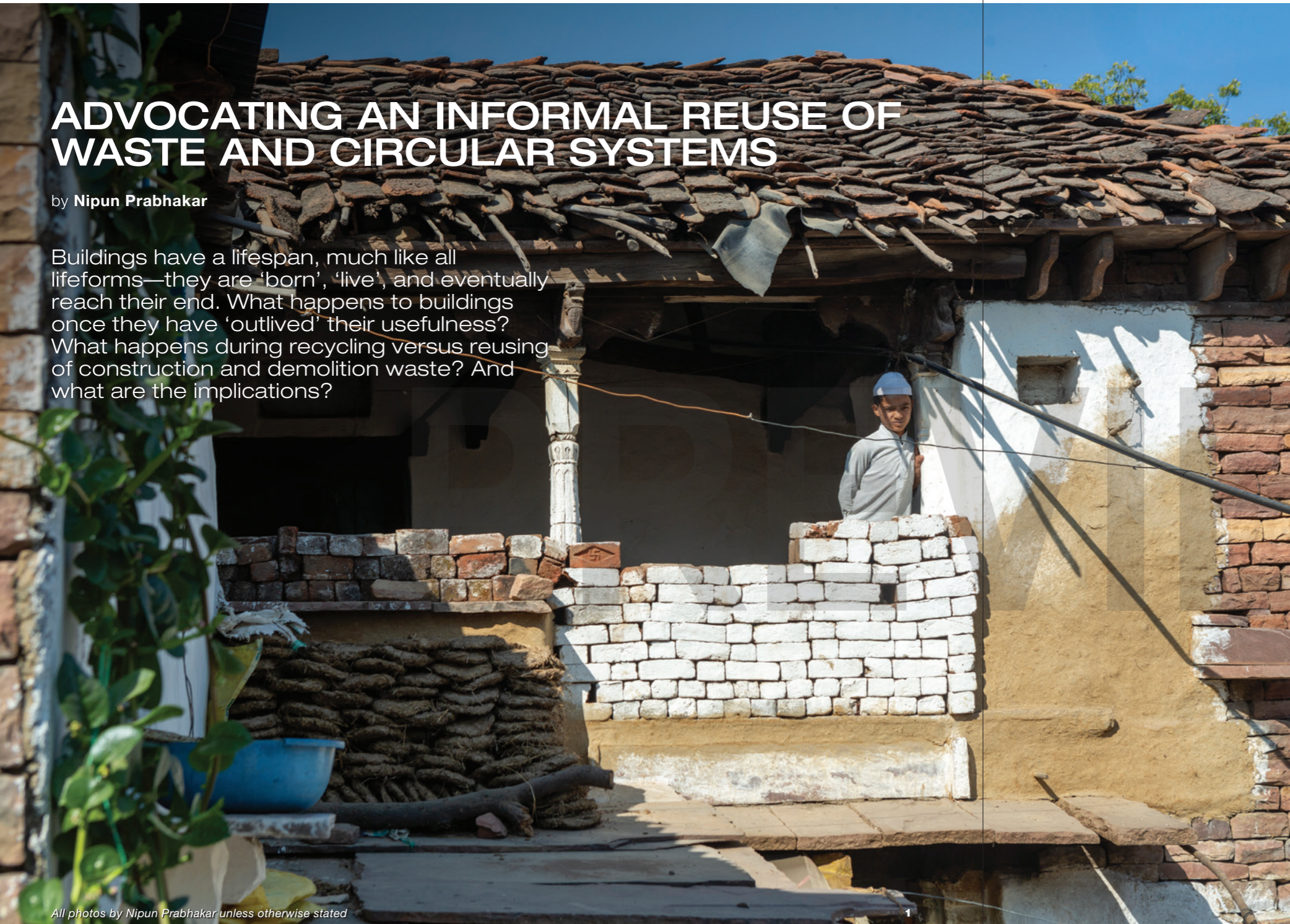


ADVOCATING AN INFORMAL REUSE OF WASTE AND CIRCULAR SYSTEMS

by Nipun Prabhakar

Buildings have a lifespan, much like all lifeforms—they are ‘born’, ‘live’, and eventually reach their end. What happens to buildings once they have ‘outlived’ their usefulness? What happens during recycling versus reusing of construction and demolition waste? And what are the implications?

All photos by Nipun Prabhakar unless otherwise stated



1 Vernacular houses showcase remarkable reuse practices; notice how the bricks and roof tiles are neatly stacked **2** The demolition of Nikhil Mittal's house: the doors and windows have already been removed and sold by the demolition contractor; reinforcement bars and brick bats are organised and prepared for eventual sale



Photo by Nikhil Mittal

DEMOLITION AND VALUE

Nikhil Mittal, an architect from Delhi, recently demolished his house to build a new one. He shared an intriguing incident where the demolition contractor paid him for the opportunity to demolish the house because of the valuable materials that could be salvaged and sold. He elaborated: “I contacted several demolition contractors to find the best deal. Essentially, they offered to ‘buy’ my building as-is, providing me with money for its scrap value. They would then demolish the building and salvage whatever they could to cover their costs, offering me a few hundred thousand rupees in return.”

An interesting incident happened when he wanted it to be demolished quickly, “The contractor initially planned to demolish the house in two months. However, when I asked him to expedite the process, he offered me less money. He explained that using an excavator for a quicker demolition would damage more materials, reducing the salvageable amount,” Nikhil recounted.

His experience highlighted an example of the informal reuse of construction waste in developing nations, which could serve as a sustainable alternative to formal recycling processes. “The entire economy around demolition and salvaging is interconnected,” Nikhil observed. “Contractors and subcontractors work together, each specialising in different materials. For instance, some deal specifically with bricks, hiring manual labour to clean and stack them before selling to buyers.”

Linear life cycle vs circular systems

To understand waste production in a city or country, I used a simple method: I visited flea markets or venues where products in their last usable leg are sold. My excursions to markets, such as those behind Sim Lim Tower in Singapore, upstate New York, Delhi's Chor Bazaar, Bhopal's Kabadi Bazaar, and a similar market in Amman, provided insights into how quickly people in

general discard products. In Singapore and New York, such markets are filled with new and usable items. In contrast, markets in Bhopal and Amman mostly have items that are not entirely usable but can be salvaged for parts.

Our economy relies heavily on consumerism, with companies traditionally encouraging product replacement rather than repair. However, we have reached a critical point where this approach is unsustainable. A significant portion of the global population is migrating to urban areas, which is expected to surge from 3.5 billion to 6.2 billion by 2050, predominantly in Africa and Asia.¹ To accommodate this urban influx, cities are expanding rapidly, and concrete is being used at an unprecedented rate, leading to a crisis of construction debris.² The construction industry is a major source of waste, with concrete making up a large portion of landfill material. The Ellen MacArthur Foundation reports that the construction sector generates around 40 per cent of global waste while 30 per cent of global greenhouse gas emissions are attributable to buildings.³ The environmental impact is immense, with over 10 billion tons of concrete produced annually. This situation highlights the urgent need for a paradigm shift towards adopting circular economy principles to address climate change and reduce waste.

The process Nikhil described aligns with the principles of circular systems in architecture. Circular systems represent an innovative approach to design and construction, where materials and resources are continuously cycled through reuse, refurbishment and/or recycling. This approach shifts away from the traditional linear model of “take, make, dispose” to a regenerative process that mimics natural ecosystems.⁴

In circular architecture, buildings are thoughtfully designed with their entire life cycle in mind, enabling components and materials to be easily disassembled and repurposed. This