

PropertyGuru
**PROPERTY
REPORT**

INNOVATIVE REAL ESTATE, ARCHITECTURE AND DESIGN IN ASIA PACIFIC

89 ASIA'S URBAN ISSUES ADDRESSED

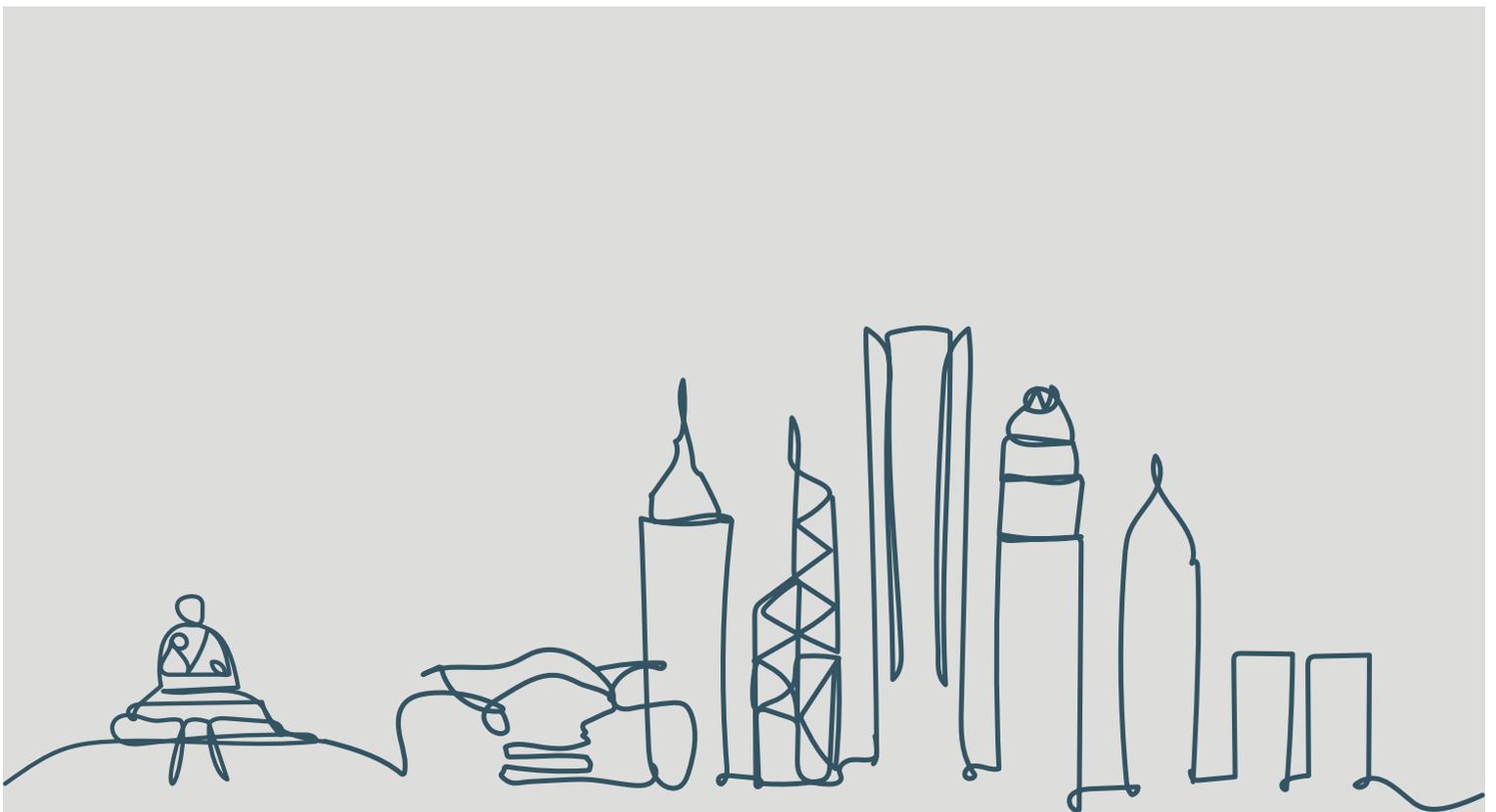
68 THAILAND'S TASTE FOR THE HIGH LIFE

82 GLUT PUTS MYANMAR IN A RUT

KOREA MOVE HELPS DANDONG 102

NORTH-EAST SINGAPORE SWINGS 80

DESIGNER SAVOURS SIMPLICITY IN CEBU 60



The cities issue



City solutions

As megacities in Asia grow, so too do the pains that come with rapid urbanisation. Fortunately innovators are attempting to address the burning issues that blight some of the region's most important hubs

BY LAURA CHUBB

We are living in the metropolitan century. The world is in the midst of an urbanisation process, according to UN research, as the percentage of the world living in cities will have doubled between 1950 and 2050, from 30 percent to a projected 66 percent. And growth shows no signs of stopping: the UN expects between 80 and 90 percent of humanity will be city-dwelling by the time the 22nd century comes around.

Nowhere is this brave new world coming into sharper focus than the Asia-Pacific. Between 1980 and 2010, its cities added more than one billion people; by 2050, an estimated two-thirds of its population will be urban. What's more, over half of the world's megacities — those housing 10 million or more — are found here. "There is no historical precedent for an urban transition on such a massive scale," notes the UN.

While this presents massive opportunity, the challenges of rapid urbanisation are many, and in Asia-Pacific already apparent: pollution, over-burdened resources, spiralling living costs, overcrowding.

"The city has become a machine that is harming us," says Daan Roosegaarde, a Dutch innovator known for his work on future urbanism. "But a lot of the global challenges we're facing — rising sea levels, air pollution — are a result of bad design. We've created it. So we can design our way out of it."

Roosegaarde isn't alone in that belief. Increasingly, architects, interior designers, and city planners are turning to real estate and the built environment to solve these problems — even though, oftentimes, it is precisely those things that caused them. "There should be new ways of assessing the merits of a developer, outside of the highest bidder," suggests William Lim, of Hong Kong architects CL3.

"We don't lack money or technology — we only lack imagination," Roosegaarde adds. "What we need is creative thinking around a city that is good for you and takes care of you, not one that tries to beat you up every day. We need proposals."

CASE STUDY 1

SINK OR SWIM: KEEPING JAKARTA AND BANGKOK AFLOAT

There's no lack of imagination in the design for Wetropolis, a new vision of Bangkok proposed by Thai architect Ponlawat Buasri. Thailand's capital was built on highly compressible marshland; today, added pressures of unchecked urban development, excessive groundwater pumping, and concrete that cannot absorb flood water add up to a dire prognosis.

Considering rising sea levels and swelling monsoons, the city could be completely submerged in less than 15 years, Thailand's National Reform Council warns. Buasri's sci-fi-esque solution urges elevating the city over restored mangrove forests, which would absorb carbon dioxide, naturally filter water, and add acres of green space.

Locating the budget for such an enterprise, however, is pure fantasy, according to Dr. Supachai Tantikom. A former adviser to Bangkok's governor and now working with 100 Resilient Cities — a Rockefeller Foundation-funded project that helps at-risk cities form resilience strategies — he says Bangkok would be better off taking a more immediately realisable approach. "We're sinking at an average of one to two centimetres per year," he says. "What we need is better land and water management, using existing infrastructure and resources."

The key, Dr. Supachai says, is to work with water instead of against it. He envisions diverting excess water to surrounding rice farms, for example, where it could be stored; the government would compensate farmers for their trouble. The idea recalls the Netherlands' successful "Room for the River" project, which protects swathes of land at the expense of others: in some cases, allowing farmers' fields to flood.

The Netherlands is a leading example of welcoming, rather than resisting, water. With one-third of the country below sea level, its cities are increasingly being landscaped to take water in, rather than keep it out. Take Rotterdam's Benthemplein water plaza: an inviting recreational space when dry, with room for basketball, skateboarding, and an amphitheatre. When it rains, however, the plaza can capture and hold up to 1.7 million litres. This is later released into an underground filtration device, helping maintain groundwater balance during drier weather.

Designing cities around these principles is also catching on in China, which in 2015 launched its "Sponge City" initiative. It has





“Bangkok is sinking at an average of one to two centimetres per year. What we need is better land and water management, using existing infrastructure and resources”

RISING SEA LEVELS AND TORRENTIAL MONSOON SHOWERS MEAN THAT LOW-LYING CITIES SUCH AS JAKARTA AND BANGKOK ARE SINKING FAST AND COULD BE SUBMERGED WITHIN THE NEXT 20 YEARS

since ramped up initial testing in 16 cities to a total of 30, including Shanghai.

Elsewhere, more flamboyant solutions still gain traction. Jakarta might be among the world's fastest-growing economies, but it is also sinking faster than any other large city on Earth: an estimated 25 centimetres per year. The reasons mirror those of Bangkok's — particularly illegal well-digging, given just one-third of its 10 million-strong population has access to piped water.

Officials are now banking on a USD40 billion project to construct a colossal dike — stretching 25 miles across Jakarta Bay — to save them. This giant sea wall would sire a lagoon, around which an all-new mega-city, gleaming with luxury skyscrapers and shopping malls, is to be built on reclaimed land. Recalling the brass of Dubai's palm- and world-shaped man-made islands, this new metropolis has been anointed the “Great Garuda”, and is designed in the shape of the mythical bird.

Not everyone is thrilled at the idea. Criticisms range from potential environmental damage (scientists fear the lagoon's trapped freshwater would turn septic), to human rights violations (traditional fishing communities are being evicted to make way for the development, while their livelihood — the bay's fishing grounds — is destroyed by the construction).

Perhaps Jakarta's problems would be better resolved by Dr. Supachai's recommended approach for Bangkok. “The problem isn't just the city's; we need to study the whole catchment area,” he says. “You have to look at the bigger picture.”

CASE STUDY 2

SMOG CITY: BEIJING'S BATTLE FOR CLEAN AIR

PHOTO BY STUDIO ROOSEGAARDE

DAAN ROOSEGAARDE'S 'SMOG-FREE' TOWER IS, ADMITS THE DESIGNER, A SMALL-SCALE SOLUTION TO BEIJING'S POLLUTION CRISIS. BUT SUCH INNOVATIONS CAN ACT AS PROTOTYPES OF BIGGER THINGS TO COME

Beijing smog is the poster child for urbanisation gone wrong: an acrid yellow fog invading its streets, shutting down schools, robbing days of light. But it doesn't just look bad: China's polluted air is so toxic, it kills 4,400 people a day, according to Berkeley Earth, a California-based climate science analyst. And though there have been a handful of inventive responses to the problem — see Chinese fashion designer Masha Ma's Swarovski-studded pollution masks, as modelled at Paris Fashion Week — suffering in style isn't quite the proactive solution an economic powerhouse like Beijing so desperately needs.

Enter Daan Roosegaarde's "Smog-Free Project". Along with his design lab, Studio Roosegaarde, the self-styled visionary is rolling out a series of "urban innovations" in the Chinese capital to tackle its poisonous atmosphere on various, localised scales. Exhibit A: the "smog-free tower". Intended for placement in the city's parks, the tower sucks in pollution particles by sending out positive ions; these particles are then grounded to a negatively charged surface, and clean air is expelled back outside through vents. Critics have been quick, though, to laser in on its limitations: that it runs on electricity; that the air it expels is only 75 percent cleaner; and that the tower can only create a bubble of smog-free air around it.

"Of course one small tower won't solve the problem of a whole city," Roosegaarde says now. "But showing that you can make a place 75 percent cleaner — it's like a rock in a river that creates ripples. If it can be done locally, then what can be done to make a whole city smog-free?"





“Of course one small tower won’t solve the problem of a whole city. But showing that you can make a place 75 percent cleaner – it’s like a rock in a river that creates ripples. If it can be done locally, then what can be done to make a whole city smog-free”

His studio is also proposing a “smog-free bicycle” that sucks in polluted air as it’s pedalled, cleans it, and then blows out better air for the cyclist to breathe as they continue to ride. Roosegaarde is working with Ofo, the Beijing-based, dock-free bicycle sharing company, to distribute these smog-free wheels all over town. “Five years ago, when I would cycle, my Chinese friends would say, ‘Are you poor? Can you not pay for a taxi?’” the Dutchman laughs. “Now, within the last year, these Ofo bikes are everywhere. A change in values can happen fast – and that’s incredibly hopeful. Look at China taking the lead in sustainable investment now. Once, that would have been unimaginable,” he points out.

Certainly, the Chinese government is starting to take the predicament seriously. The country’s noxious air is broadly the fault of large-scale coal burning in industrial zones; ergo, what Roosegaarde says is true: China is now rolling out the world’s biggest investment in wind and solar. It’s also introducing new car emissions standards and closing coal-fired power plants.

But when it comes to so vast a problem, every little helps. Which is why Roosegaarde is still tinkering. The latest iteration of his smog-free tower has evolved to run on solar power, and he insists the tech is scalable, to the size of a building. Perhaps someday, it will be intended for more than a park. “But I’m not saying I have all the answers,” Roosegaarde says. “These are small-scale solutions to step by step improve the world today. They’re prototypes of the city of tomorrow.”

PRETTY GREEN: SINGAPORE REAPS WHAT IT SOWS

PHOTO BY ROBERT SUCH

If Beijing is battling for cleaner air to safeguard its economic future, the city likely learned a lot from Singapore. As Jason Pomeroy, of Singapore-based architects Pomeroy Studio, points out: “Singapore has no natural resources, so it’s always had to develop quickly and embrace new ideas to sustain itself. Today, it’s a global powerhouse that’s committed to the green agenda — not to be trendy, but for its own survival.” The same ought to be true of every other city in the world.

Singapore is indeed a leader in greening the built environment: beginning with modern Singapore’s founding father, Lee Kuan Yew, and his vision for a “Garden City”. In Lee’s memoir, *From Third World to First: 1965-2000*, he wrote: “After independence, I searched for some dramatic way to distinguish ourselves from the other Third World countries. I settled for a clean and green Singapore.” His hunch paid off. Today, the government offers generous incentives for green design — and not just because it lends a competitive edge in terms of liveability (the Lion City was named Asia’s most liveable in the Economist Intelligence Unit rankings last year). Clean energy and environmental technologies are also nascent engines of economic growth.

In the CBD, Oasia Hotel stands like an emblem of a better future. Between great obelisks of steel and glass, its crimson, aluminium mesh facade is tangled with 60 storeys of tropical plants, green walls stretching jungle-like into the air. Far from a sealed-in box, there are sky gardens dotted throughout the structure, creating an open building where natural breezes, rather than air-conditioning, provide ventilation. Oasia was named the Council of Tall Buildings and Urban Habitat’s tall building of the year in 2017, though the practice behind it has grander ambitions. Hongwei Phua, director at WOHA Architects, explains: “Oasia is our proposal for a sustainable high-rise model for the hot and humid tropical climate. The design strategies are replicable and scalable in urban planning and buildings.”

Another pitch for greener dwellings: Pomeroy Studio’s carbon-negative house. The bungalow, in residential Bukit Timah, generates more energy than it uses, and the design is modular, so it can be manufactured off-site (reducing wasteful off-cuts). More than anything, though, Pomeroy says, he wants to “dispel the notion that sustainable design is expensive”.

“The essence of sustainable design is going back to basics,” the architect explains. “It’s optimising natural light, natural ventilation, using materials that are local and available — not tokenistic greenwashing gestures, which simply add cost to what is effectively a conventional building.”



“The essence of sustainable design is going back to basics. It’s optimising natural light, natural ventilation, using materials that are local and available – not tokenistic greenwashing gestures”

THE OASIA HOTEL, A LANDMARK IN THE CENTRE OF SINGAPORE, AND THE CARBON-NEGATIVE HOUSE DESIGNED BY POMEROY STUDIO (BELOW RIGHT) ARE BOTH EXAMPLES OF HOW THE CITY STATE HAS ESTABLISHED ITSELF AS A WORLD LEADER WHEN IT COMES TO SHOWCASING SUSTAINABLE ARCHITECTURE

The carbon-negative house instead takes inspiration from colonial-era design: large verandas and courtyards for outdoor living; variable shutters and strategically-positioned windows that keep the sun out, but allow airflow in. It costs the same to build as a conventional home, Pomeroy states: “And who wouldn’t want to buy a home where their capital expenditure is the same, but their future operating costs are greatly reduced?”

Low-tech green design includes the greenery itself: capturing excess water, removing pollutants from the atmosphere, absorbing noise levels, and lowering temperatures through transpiration (the United States Department of Agriculture, for example, estimates properly placed plants could decrease air temperature in an office by 10 degrees).

For this reason, together with Singapore’s big-ticket developments — like the lush terraces at luxury hotel Parkroyal on Pickering; or the solar-power-generating, vertical gardens of Marina Bay’s Supertree Grove — public housing is just as verdant. See The Pinnacle@Duxton, with its high-level green spaces and gardens. Attractive communal spaces, too, are an integral part of Singapore’s public housing, a concerted effort to create happy, healthy, connected communities.





SMALL TALK: THE RISE OF HONG KONG'S NANO HOMES

Hong Kong's housing crisis is perhaps best epitomised by its infamous "coffin homes". In a city struggling to find room for its residents, this is what passes for "affordable housing": a plywood compartment, measuring around three by six feet, with no natural light, no ventilation, and only just enough room to sit up.

Hong Kong is a prime example of perhaps the most pressing challenge facing Asian cities: lack of space, and prices far beyond the means of the average investor. This is, after all, the world's most expensive housing market, with the world's smallest apartments. A city in which a 200 square foot flat — around the size of two parking spaces — costs HK\$23,000 a month.

But if that makes Hong Kong the apotheosis of bad urban planning, the city also has a chance to lead on making it right. "Nano apartments" are increasingly being hailed the answer to the city's lack of space — not airless tombs, but smartly-designed, miniature homes. "If you think in 3D, you can be more creative and efficient," CL3's William Lim says. "The floorplan needn't be large to create the volume of a home."

Last year, Lim unveiled his design for the world's smallest, fully-equipped apartment: only 194 square feet, but with enough capacity for a living area, bathroom and kitchen, with two bedrooms layered on top of the latter rooms. He argues the quality, rather than quantity, of space is what counts: "If it's bright and airy — which is all about the height and the windows — a small place feels more spacious."

Other creative ideas for aspirational, small-scale living include local architect James Law's OPod Tube House — stackable, converted concrete water pipes, each offering 100 square feet, with storage, bathroom, mini-fridge, and a bench that converts to a bed. Law proposes they could be slotted into the narrow spaces between existing buildings. Some, though, have questioned whether living in a drainpipe is a humane solution.



“If you think in 3D, you can be more creative and efficient. The floorplan needn’t be large to create the volume of a home”

For Lim, the answer rests not just with interior designers, but the architecture itself. “New buildings need to be envisioned from the inside-out,” he says, pointing out balconies and windows can complement the use of indoor space; his nano apartment design includes a terrace with a weather-proof sofa. He also suggests that a focus on communal living might elevate the experience, tackling mental health risks associated with small living spaces, and making more room by sharing facilities, like bathrooms and kitchens.

“Like co-working spaces, co-living could be a way to solve the problem for young people who are just starting out,” Lim explains. His vision includes outdoor spaces, which could be developed into greener, recreational areas for living outside of the housing unit — he points to Singapore for precedent. “The reason our real estate costs are being driven upwards is that land is being sold to the highest bidder,” he adds. “We need new ways to assess the merits of developers, like the mixed-use of land.”

Ultimately, Lim says, the status quo is not an option: Hong Kong’s high expense and low living standards are watering down competitiveness.

It’s a lesson all of Asia’s booming cities might learn from. A better place to live doesn’t just make a more attractive city: it makes a more productive one. ■

HONG KONG’S LACK OF SPACE AND HIGH PRICES WERE THE INSPIRATION BEHIND SMALL-SCALE ‘NANO’ APARTMENTS DESIGNED BY WILLIAM LIM’S LEADING HONG KONG PRACTICE CL3

