

The 21st Century Garden City?

Testing Landscape Urbanism in Singapore.

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Introduction



Figure 1 – Singapore, Making the 21st Century Garden City to attract bees & boeings

Once described by the Indonesian President BJ Habibie as just a “little red dot”ⁱ as an on the Asian map. Singapore is a city-state of four million people on an island of 650 square kilometers. In the latter half of the twentieth century Singapore has been transformed from a fishing village (kampong) to high-rise urbanism. For some, Singapore’s utopian transformation: its modernist housing, neat gardens, disciplined society and successful economy are highly admirable. For others, it’s a repressive, paternalistic, mechanistic and sanitized environment – little more than an efficient air and sea port attached to a shopping centre. Rem Koolhaas, for example, infamously described Singapore as “a city without qualities” and “an orgy of Eurasian vulgarity”.ⁱⁱ

Since Koolhaas made these comments Singapore has, from the top down, made an orchestrated effort to convert its image from that of a cultural desert to a creative destination.ⁱⁱⁱ In 2000 a government report, entitled 'Renaissance City' set out Singapore's new agenda: "In the knowledge age our success will depend on our ability to absorb, process and synthesize knowledge through constant innovation. Creativity will move into the centre of our economic life..."^{iv} From the top-down this official attitude is now resonating through Singapore's institutions: through its education system, its media *and* its built environment. Indeed, perhaps it is some measure of Singapore's transformation that Koolhaas, the very architect who criticized it so vehemently, has only recently been offered work there. In so far as culture can ever be officiated over, Singapore is now officially, hip.

This paper is primarily concerned with the creativity being applied to aspects of the contemporary built environment, in particular, how the long-standing idea of Singapore as a Garden City is currently evolving and what it could become. Through an analysis and critique of a range of recent Singaporean design projects this essay explores the ways in which the idea of the garden operates both superficially and structurally in contemporary Singaporean urbanism. This leads to reflections on the role of landscape architecture in the contemporary metropolis and the relevance of the emerging global movement of Landscape urbanism to Singapore and Asia,

The Garden City?

Irrespective of what westerners might identify as cultural paternalism, it is widely acknowledged that Singapore is a remarkable instance of post-colonial survival and wealth creation, one made all the more remarkable because it has no natural resources to speak of. Singapore's wealth derives from its geographic location as a fulcrum around which global air and sea routes must pivot not its actual landscape. Since colonization by the British in 1819 Singapore has erased In excess of 98% of

the original rainforest and mangroves^v. In extreme heat, at one degree north of the equator, Singapore has hacked itself out of one of the world's most impenetrable tangles of vegetation and its not about to reinstate it in anything but a very controlled manner.^{vi}

Singapore imports nearly all its food and much of its water. It is also infamous as the “air-conditioned nation” and shopping centers— set permanently at a comfortable 23 degrees—are its primary public spaces. Consuming everything the world has to offer is a national pastime.^{vii} Consequently, Singapore's ecological footprint is one of the largest in the world.^{viii} Not only has it no natural resources, it has almost no cultural landscape, or at least such a history has not yet been written and such a landscape based *sense of place* is yet to emerge. For a nation of relatively recent immigrants (who in any case always lived in dense quarters), the landscape is not and has never been the main register of national identity.^x It is something of a paradox then that Singapore has, since its Patriarch, Lee Kuan Yew planted the first tree in 1963, branded itself as a Garden City.^x

Ebenezer Howard's original idea of the Garden City was a structural, not superficial idea. The concept was to reorganize urbanism as a synthesis of the city and the country. Howard believed that the civic virtues of the city would improve the quality of rural life and reciprocally that rural virtues would improve the quality of city life. Not only that, the Garden City was conceived as an embodiment of social justice and equity. Howard's Garden City, to be precise, comprised 32,000 people, each 1,000 acres (404 hectares) with an inviolable surrounding rural estate of 5,000 acres (2020 hectares). These 'cities' were to have central parks of 145 acres (58 hectares) from which 6 large boulevards subdivided the city into 6 districts and linked the city centre to the all-encompassing rural landscape. Land was held in common ownership and nourished by recycled human waste. Everyone was guaranteed sunshine, fresh air and “the beauty of nature”.^{xi}

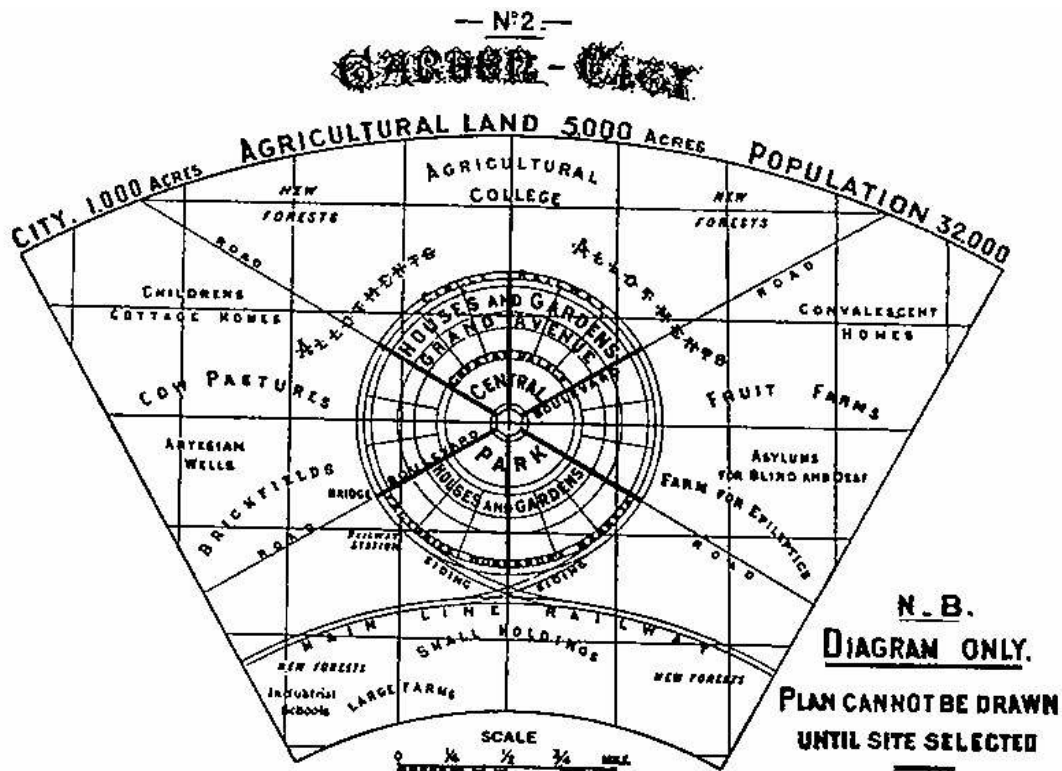


Figure 2 – Howard's Garden City Diagram

Although within a cut throat capitalist environment, Singapore's government controlled housing projects recall Howard's passion for equity in urban form. But this is where the similarities between Howard's Garden City and contemporary Singapore stop. To accommodate its current population of 4 million, Singapore would have to build 125 of Howard's Garden cities and it would have to annex southern Malaysia to do so. Alternatively, Singapore has therefore risen vertically to a generic residential height of 22 storeys across 285km² of its landmass. This has enabled 37% of land to remain undeveloped but it is not land frequented or valued by the community.^{xi} The vast majority of that land is set aside for military training or for future state developments where public access is forbidden.

The primary idea of the garden in Singapore is—as one quickly learns from the meticulously landscaped route from the airport into the city— that Singapore is orderly. As Lee Kuan Yew said in 1963 when he first set the nation on its gardenesque route:

"The grass has got to be mown every other day, the trees have to be tended, the flowers in the gardens have to be looked after so they know this place gives attention to detail."^{xiii} "They" are not only tourists but also the global captains of industry and the Singapore Government has been busily touting a landscape-enriched cityscape as a means to make itself more attractive for business ever since.^{xiv}

Despite the prevalent interpretation of the idea of the garden as merely something orderly and pretty, Singapore's appropriation of the garden metaphor was and remains a brilliant choice. The word 'Garden' automatically improves almost anything it is attached to. Even to say "The Garden of Evil", seems to bring something good to the worst. Generally speaking, the word 'garden' flashes up good and desirable things in people's minds and one only has to read real estate advertisements to see its magic at work.

Somewhat more profoundly, Ebenezer Howard described the landscape as nothing less than the "symbol of God's love and care for man... and all that we are and all that we have comes from it. Our bodies are formed of it; to it they return. We are fed by it clothed by it and by it we are warmed and sheltered."^{xv} In Singapore, where the population has virtually no organic or historical relationship with the land, this reverence for the land landscape is virtually non-existent. Of course, Ebenezer Howard was speaking of England, a culture profoundly interwoven with its landscape for millennia. On the contrary, Singapore not only has no agricultural base, neither is its landscape of a scale or majesty to inspire sublime reverie. For a citizenry notoriously preoccupied with media and materialism, landscape is something one goes to visit on a foreign holiday.^{xvi}

Singapore is now officially known not as a Garden City but "A City in a Garden".^{xvii} This metaphor is official policy and contrary to Koolhaas's superficial interpretation of Singapore, a nation based on metaphor *is* interesting. The dimensions of that 'garden' will— if the projected population of 6,500,000 people eventuates—be reduced to almost nothing except the public open space at the base of residential towers.^{xviii} Simultaneously, Singapore's ecological footprint is likely to increase as the nation

draws more resources from more sources beyond its actual landmass. Technically, Singapore is radically unsustainable. Singapore is therefore not a Garden City in the Howardian sense of nature and culture reaching equilibrium and spiritual union; rather, it is a gardenesque city.

Insofar as gardens are crafted by design and express an artful synthesis on nature and culture, the garden metaphor nonetheless holds out the prospect that Singapore will become not only a gardenesque city but a 21st century Green city. Singapore also brands itself as a “Tropical City of Excellence” but if this is to be true, Singapore will have to not only make its small garden into a vital 21st century ecological system, it will also have to consider the ecological ramifications of all that imports and exports. As Robert Freestone explains, Ebenezer Howard’s Garden City is by contemporary standards a *“spatial fiction as ecological footprints extend far beyond any neat notions of a discrete hinterland....Genuine green cities demand multifaceted processes of environmental management (eg; low energy usage, waste water treatment, pollution controls, recycling, nature conservation, endangered species legislation, public transportation ridership etc).^{xix}*

Part of Singapore’s rationalization of its ecological footprint will require ingenious landscape architecture and urbanism, that is, landscape urbanism. If landscape urbanism in Singapore can not do that, then indeed, the idea of the garden in Singapore will remain essentially decorative.

Despite what appears to be a certain lack of popular environmental consciousness in Singapore, its essentially authoritarian, pragmatic and avidly futuristic culture could make Singapore a primary test bed for an Asian brand of landscape urbanism.^{xx} Landscape urbanism’s emerging emphasis on systematic restructuring of urbanism with respect to landscape based values make landscape urbanism a theoretical and practical design “ethos” well suited to the ecological challenges this nation faces.^{xxi} As James Corner, the movement’s most erudite spokesman explains, the *modus operandi* of landscape urbanism is one in which:

“... the structuring of the horizontal surface becomes a predominant concern...for the surface is the organisational substrate that collects , distributes and condenses all the forces operating upon it. Land division, allocation, demarcation and the construction of surfaces constitute the first act in staking out ground; the second is to establish services and pathways across the surface to support future programmes and the third is ensuring sufficient permeability to allow for future permutation, affiliation and adaptation.”^{xxii}

Such thinking is a long way from the image of the garden as a merely decorative nicety sandwiched between orthodox urban development, it is rather about the organization of the field conditions in which cities take place. But is it appropriate in Singapore?

Landscape urbanism in Singapore

To date Landscape Urbanism has primarily concentrated on the creation of landscape infrastructures where development is sprawling. This is the case in Europe, America and Australia, places where landscape urbanism discourse has now taken root. Unlike Australia, the USA and Europe however, there is very little space for horizontally oriented development in Asia. Landscape urbanism in Asia then needs to operate vertically as much as horizontally.

Asia is facing the reality of building cities for up to 1,500,000,000 new urban dwellers in the next 40 years^{xxiii}. In China and India alone it has been estimated that 900,000,000 people will move from countryside to city in that period. Although its population is expected to almost double and therefore place intense pressure on its diminutive land base, Singapore is not faced with these truly daunting figures. Nonetheless, Singapore's evolution as a 650 square kilometer laboratory of high-density landscape urbanism is potentially important as a model for the Asian region and beyond. Developing countries, from Mauritius to Dubai to many Asian provinces, often look to Singapore as a model of socio-economic success of which its urban

organization is a major component. Indeed, as it does with everything, Singapore is increasingly importing and exporting urban design expertise.^{xxiv}

Landscape architecture is underdeveloped both academically and professionally in Singapore and there isn't a body of significant projects to support discourse. However, the designed landscape *has* played a significant role in Singapore's Modernist Housing revolution for some time now. Particularly once Singapore overcame its most pressing re-housing needs the Singaporean Public Housing & Development Authorities came to realize that landscapes play a key part in livability (and therefore attractiveness for business).

The Planning and Development of Tampines New Town (a satellite Town Center within the eastern part of the City-State) is one example that foreshadows a more structural application of the idea of the garden in relation to urbanism. Tampines is contains around 56,000 homes & 280,000 residents. Completed in the early 1990's Tampines was lauded internationally and earned the World Habitat Award by the Building and Social Housing Foundation (BSHF) of the United Nations in 1992. The award was given in recognition of "an outstanding contribution towards human settlement and development"^{xxv}. In granting the award the BSHF noted that:

"One of the major innovations in the Tampines Town was that of bringing the green areas right into the centre of the town through a series of green fingers, rather than have simply an encircling area of green. This green connector concept weaving the precincts and interlinking them to the park and neighborhood centre with green areas has proved successful in further fostering a sense of community and belonging"

Although hardly a new idea in the history of urbanism, the Tampines greenway system set a benchmark for the instrumental use of landscape in Singapore's urbanism and since then there have been several projects which explicitly seek to weave landscape and architectural systems into a more sophisticated functional (and aesthetic) synthesis.

Even though landscape urbanism is not at present a working term in Singaporean design discourse or practice the recent urban developments we review in this paper can be connected to it. A critical review of these projects can then work both ways: on the one hand, it can introduce landscape urbanism as a theoretical lens to Singapore and on the other, landscape urbanism as a theoretical corpus can begin to find its Asian grounding.

The Duxton Plains Public Housing Competition – *Kampong of the sky*

In 2001 the Singapore Housing and Development Board launched an International Design Competition that sought to reinvent the idea of high rise, tropical public housing. The competition was won by Arc Studio (a local practice) and the runner-up was a scheme by WoHa Design. As is often the case in competitions it was the scheme by WoHa that has been more widely debated and discussed in Singapore and the region than the winning design. The WoHa scheme is an intriguing vision of how Landscape might be vertically integrated with architecture in Asian cities.

At first glance, landscape seems to play little or no part in the scheme. It appears like a series of 50 storey glass curtain-wall towers emerging from a podium of buildings around the periphery of the site. But as in Ebenezer Howard's Garden Cities, what is more significant is the underlying structure rather than the appearance.



Figure 3 – Rendering of WoHa’s Scheme from Cantonment Road

At Duxton Plains WoHa started the design process with an analysis of the adjoining urban areas around the site. Their observation (which most other teams seemed to miss) was that the intact traditional Singapore “shophouse” developments of 2-4 storey Colonial-era attached shop/dwellings around the site were a highly valued model in the local psyche. WoHa took the scale and proportion of the shophouse areas and used this as their basic building block for the scheme. They assumed that this urban landscape had a scale of about 15 meters height and was tied together by the public realm of the street. The streetscape is the last vestige of the even earlier communal areas of the ‘Kampong’ (village) that Singaporeans still view with nostalgia today.

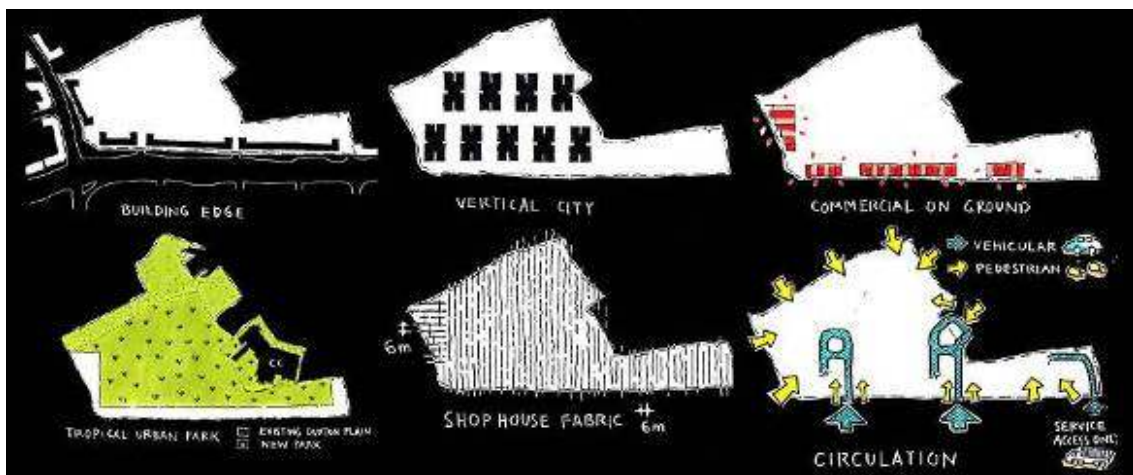
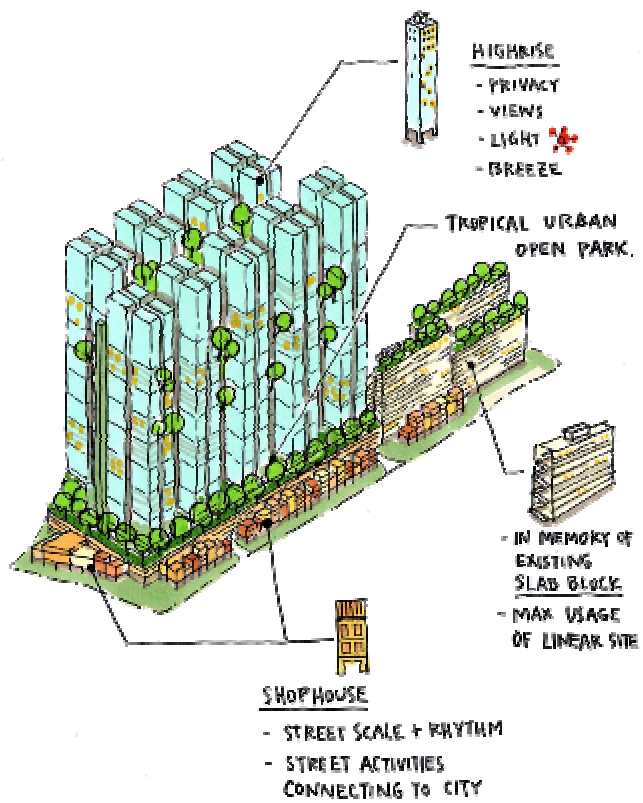


Figure 4 – Diagrams outlining the genesis of the Shophouse Streetscape proportions



Figure 5 – Section showing the vertical stacking of Shophouse scale Streetscapes

The 50- storey mass is functionally divided into a stacked series of 15 meter high shophouse scale developments with the ground level used as an extensive tropical urban park under the pilotis of the towers. The entire scheme extracted elements of the traditional ‘kampong’ and reinterpreted them as ‘sky streets’, ‘sky parks’ and ‘sky villages’ which continue up to the 50th storey. The surface continuities of a street setting are elevated and dispersed vertically throughout the building creating a “staging of surfaces”^{xxvi}. In doing so, WoHa have transformed the idea of the streetscape as a liminal public realm in a manner that renders it useful again in a high-density Asian setting.^{xxvii}



Figure 6 – Plan showing typical Sky Street Layout



Figure 7 – Rendering of typical view from Sky Street



Figure 8 – Rendering of Sky Village at the 45th Storey



Figure 9 – Rendering of Sky Park at the 50th Storey



Figure 10 – Rendering of view from Sky Park Unit at 30th Storey

WoHa has continued to develop the idea of landscape as an instrument of urbanism in their more recent projects. In 2005 WoHa was also involved in the development of a proposal for a multi-billion dollar downtown casino-resort proposal in Singapore. They argued for the Integrated Resort to be envisioned as an extensive *landscape* of artificial topography extending well beyond the designated site. Here the project literally became a constructed landscape that linked the bifurcated areas on either side of a highway that divides the new downtown. The proposal also brought the landscape up through a twisting tower in the form of a vertical park.^{xxviii}



Figure 11 – Existing New Downtown Masterplan structure showing scale of ½ of Central Park



Figure 12 – Site diagrams showing the creation of artificial topography linking bifurcated areas



Figure 13 – Proposed New Downtown Masterplan incorporating WoHa's proposed Integrated Resort



Figure 14 – Rendering of WoHa's Scheme for the Integrated Resort of 'Artificial Topography'

One North Masterplan, Zaha Hadid – Urban Landscape MegaForm

After an invited design competition in 2001 Zaha Hadid Architects were appointed to prepare a masterplan for a 200 ha Biomedical Hub in central Singapore now known as One-North. Hadid's masterplan for One-North is organized around a central spine of conventional parkland but further to this *"the concept of artificial landscape formation [has been applied] to the articulation of the whole urban quarter"*^{xxix}. The masterplan attempts to integrate all the building envelopes into a singular landscape formation. As opposed to conventional figure ground relationships where landscape is one thing and architecture is another, Hadid speaks of a *"complex urban ecology"* of streets, cross streets, squares and alleys and formally manipulates the whole ensemble into one artificial landscape.

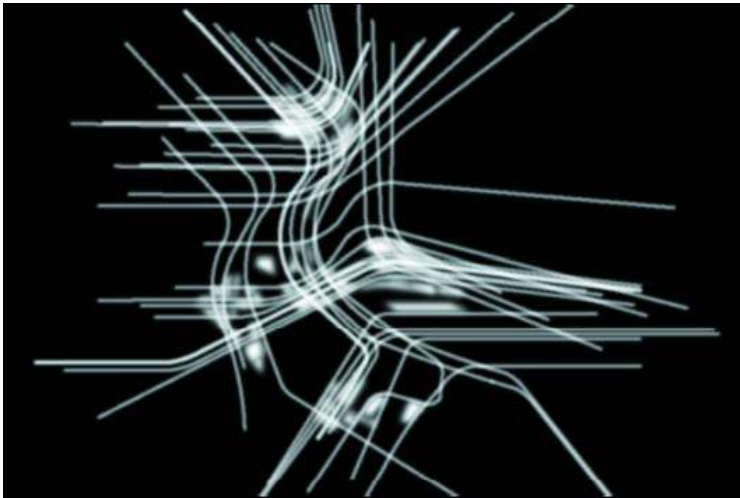


Figure 15 – Conceptual Diagram showing lines & hubs derived from urban surroundings

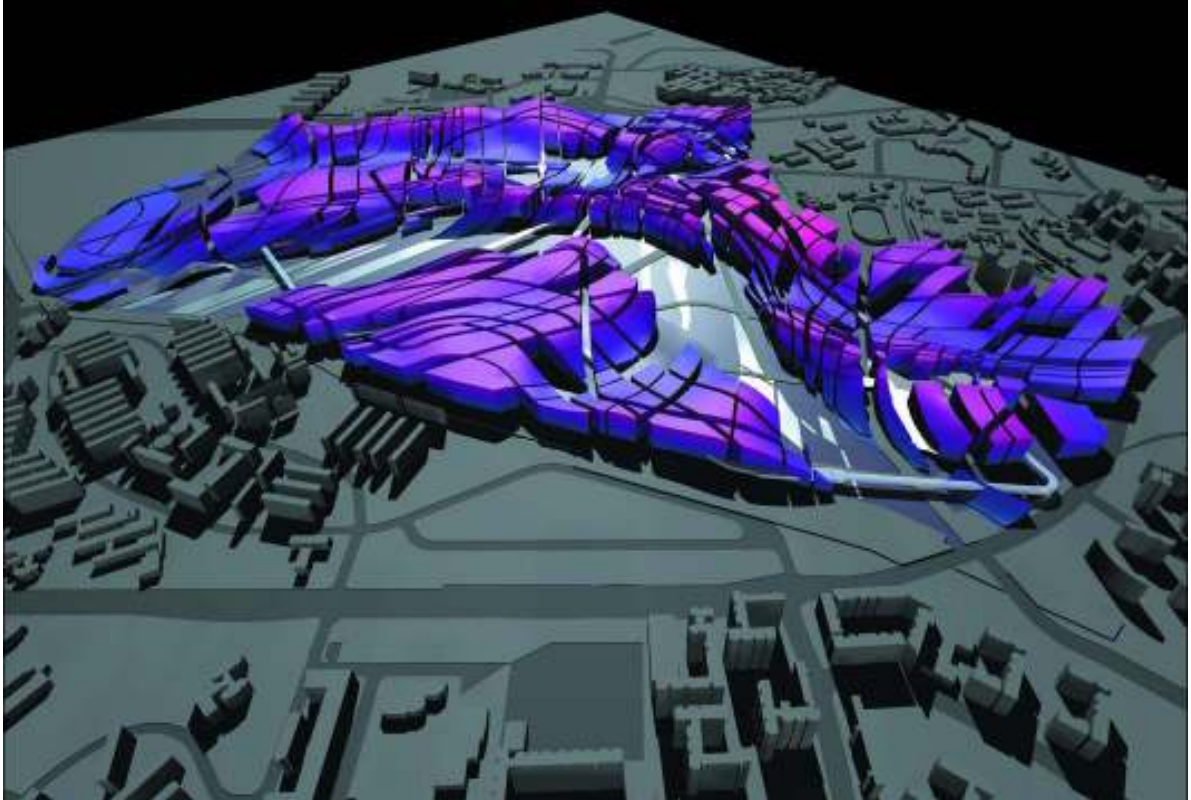


Figure 16 – Conceptual Mass and Form of the Artificial Landscape Formation with Central Spine

The urban plan for One-North is based on the image of gently swaying dune-like Landscape. The squares in particular are conceived as raised platforms “*articulated through terraces and gentle slopes*” to “*sculpt public space and impregnate it with public programme*”^{xxx}. Hadid creates a more dynamic synthesis of built and open spaces and also applies a landscape analogy to the whole urban but in doing so the existing landscape was overruled. The masterplan removes the existing secondary forest ecologies on much of the site and cuts across the topography in a manner that forces pedestrians to walk across steep undulations. In contrast to Howard’s ideal equilibrium between urbanism and its landscape situation, Hadid’s sculptural landscape emerges not from but rather, at the expense of the existing landscape. Nonetheless, the open space spine (now known as One-North Park) is a key circulation and structuring element for the development providing a circulation corridor and opportunities for programme. Its integration with the canyon-like streets and squares carved out of the larger formation helps to create a thermally responsive

urban ecology. Whilst it works to link the entire urban quarter, the sinuous spine of the One North Park responds only to Hadid's "artificial landscape formation" of buildings rather than the existing landform.^{xxxii} Despite this problem, the project represents a watershed in Singaporean urbanism because for the first time a large urban design project was formally conceived as a whole landscape, not just buildings placed in a landscape.



Figure 17 – Images of Existing Development at One North

UNSW Asia Campus – Creating Identity & Structure through Landscape

In her discussion of the differences between ‘shape’ and ‘structure’ Ann Whiston-Spim rightly points out that while *‘shape may change, structure remains constant’*^{xxxii}. If Hadid’s One-North Masterplan is the creation of shape as mimesis of landscape then the design for the University of New South Wales Campus in Singapore by Kerry Hill Architects and Tierra Design is the sculpting of a landscape as structure.

The masterplan is derived by manipulating the existing topography to create a series of stream gullies which both structure the organization of buildings and also provide a grey water treatment system. The interstitial gardens and conservatories woven into the building massing are designed as environmental filters and passive cooling systems. While romantic in its visual expression, the masterplan is based on the creation of a ‘landscape matrix’ that subsumes architectural expression. In his description of the project, the architect, Kerry Hill refers to “... *a campus where landscape becomes the object and buildings are placed within it....*” and a place where the “*signature is inscribed not by individual buildings so much as by a sense of the collective campus landscape....*”^{xxxiii}.



Figure 18 – Diagrams showing the manipulation of site topography which creates the stream gullies that structure the entire masterplan and provide grey water treatment

Although it is not a model of high density vertical urbanism the UNSW Asia masterplan is important because it utilizes landscape as structure, identity and environmental machine promising a kind of emergent ecology latent in the idea of landscape urbanism.



Figure 19 – Site Masterplan & Masterplan Model



Figure 20 – Rendering of the external spaces of the campus

The ABC Waterways Project.

Not only did Lee Kwan Yew plant the first tree in Singapore's bid to become a Garden City he also famously declared that the heavily polluted Singapore River would once again run clean. Some 40 years later that statement could become reality for all waterways in Singapore.

For the past 40 years one of Singapore's key struggles has been with the ferocity of its tropical climate. In the years following independence almost every one of Singapore's

natural rivers were re-engineered as concrete canals. Whilst successful in terms of flood mitigation, the system of engineered waterways had no ecological or aesthetic merit. Consequently, urban development turns its back to these landscapes. The Active, Beautiful, Clean Waterways programme (ABC) launched by the Public Utilities Board (PUB) in 2006 is a nationwide attempt to now convert a mechanistically engineered system into a bio-diverse and social amenity.

The ABC programme aims to deal with Singapore's 14 reservoirs and 32 rivers as primary components of the drainage and water supply network. The specific intentions for the programme are to: bring people closer to the water, provide a beautiful environment for all to enjoy, create new community spaces and offer recreational activities.^{xxxiv}



Figure 21 – Before and after images showing changes to existing Drainage Infrastructure

In addition to increasing public amenity Singapore has another reason to reinstate the ecological integrity of its drainage systems. Currently Singapore imports water from Malaysia and in a bid to become independent in this regard the Singapore River (and many others in future) is being damned at the threshold where it currently enters the ocean and the accumulated fresh water will be rendered potable.

The superstructure of this project is a comprehensive mapping of Singapore's drainage lines. The representation of this is important because it shows the public a fully integrated system as if it were the circulation system of a body. This mapping of the waterways as continuous ecological corridors linking reservoirs & remaining pockets of ecological value, also suggests a matrix of public open space reinstated across the entire landmass of Singapore.

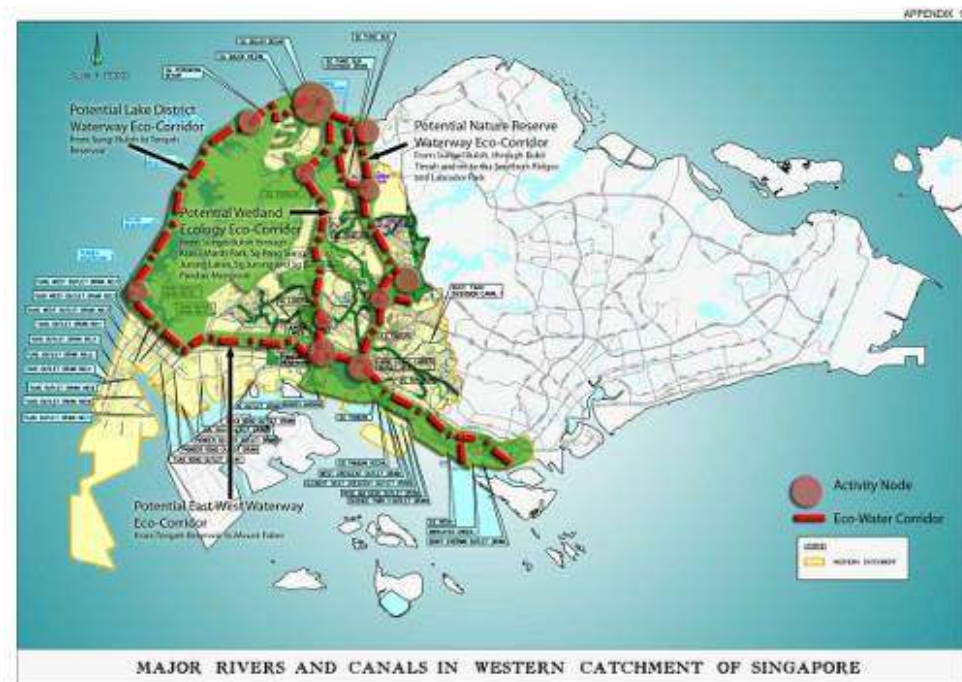


Figure 22 – Working Diagram showing the Conceptual Eco-Waterways links in the Western Catchment

As a part of the total ABC Waterways masterplan the government has committed to realizing 150 individual projects within the next 15 years. Specific project sites within the network are also been used to resolve complex urban problems. One example is the Jurong Lake Masterplan. Jurong Lake is a decorative lake & reservoir surrounded by a park containing thematic Chinese and Japanese gardens.

400,000 cubic meters of silt containing some elevated levels of heavy metals are to be dredged from the lake. Sites in Singapore for dumping of such material are limited. The challenge was to find ways to dispose of the material on-site, make it suitable for use as a soil medium, reduce the heavy metals and create a wetland system to filter

water before it gets into the lake. All this had to be done without reducing the potential of the land surrounding the lake from being developed in future.

Conceptually the preliminary proposal incorporates a series of phases where the dredged material is dried and conditioned. It will then be formed into a system of ridges and furrows to create a treatment wetland before being capped and turned into a wetland park to complement the park programme. Areas have been set aside to ensure that the long term development potential is maintained.

In dealing with urban, ecological and hydrological issues at a national and site specific level the ABC Waterways project is a powerful demonstration of Singapore's potential to conceive of its "garden" both instrumentally and aesthetically. Most importantly the programme deals with the entire landmass of Singapore holistically and returns landscape as the primary medium of the urban environment. The implementation of this project will surely become an exemplar of landscape urbanism.

The Gardens by the Bay International Design Competition

The 2006 Gardens by the Bay Competition international design competition site in Singapore was the largest landscape architectural event ever to occur in Singapore and possibly the largest international competition since Downsview Park in Toronto in 2000. The competition for the Gardens by the Bay included 3 sites totaling 101ha of prime land in the heart of the 'New Downtown', a massive extension of Singapore's CBD. The three sites are all flat, reclaimed land.



Figure 23 – Site Plan showing 3 sites in relation to the Existing CBD

The shortlisted teams for the Garden by the Bay included Gustafson Porter, Field Operations/Foster & Partners, Sasaki Associates/MVRDV, Alsop Designs/Martha Schwartz, EDAW, Grant Associates/Wilkinson Eyre, Ahbe/George Yu Architects and OMA/Inside Outside. In September 2006 winners were selected for two of the sites; Grant Associates with Wilkinson Eyre for the Marina South site adjacent to the New Downtown and Gustafson Porter for the Marina East site. A third site, Marina Central, was not awarded. For reasons unknown both MVRDV and OMA withdrew from the competition. With an estimated value of \$18 billion USD just in land value the Gardens by the Bay are expected to become the crown jewels of the ‘City in a Garden’ metaphor^{xxxv}.

Whilst it is not our interest in this paper to break down and compare each design some general conclusions can be drawn from the entries as a collection of contemporary park designs. On a flat, featureless site all the designs rely heavily on pattern to brand and organize the site and facilitate a complex range of programs. For example,

recalling OMA's La Villette scheme, Martha Schwartz uses stripes. AhBe landscape architects use a combination of the grid and topography referred to as "bumps". Field Operations superimposed geometry related to oceanic navigation and also extruded a repetitive topography. Gustafson Porter formed long sinuous ribbons of earth works overlaid with axes derived from sight lines and circulation axes to define the edges of surfaces and spaces. Electing for a more conventional strategy of deriving the organization of spaces from the surrounding urban structure, EDAW relied somewhat less on systematic patternation. All of the designs then overlaid these various structuring devices with an intense array of themed gardens and activities related to leisure and education. All of the designs express a somewhat exasperated attempt to cover the site area in a vibrant manner, suggesting perhaps an underlying anxiety about what a park could be in this location, in the 21st century.

According to the texts accompanying their designs the Gardens by the Bay would be contemporary, stunning, unique, exotic, iconic, global, sensual, delightful, enriching, spectacular, spiritual and of course, sustainable.^{xxxvi} Gardens can be all these things, but they are never as simple or innocent as they might seem. In line with Lee Kwan Yew's original vision of a manicured Singapore, the Gardens by the Bay are about Singapore's global image creation as a 'nice' place to set up base camp for businesses in Asia. Additionally, as airplanes become bigger and can fly over Singapore without refueling, Singapore needs to draw the tourists to the ground like bees to pollen and keep them in their hotels for as many nights as possible.

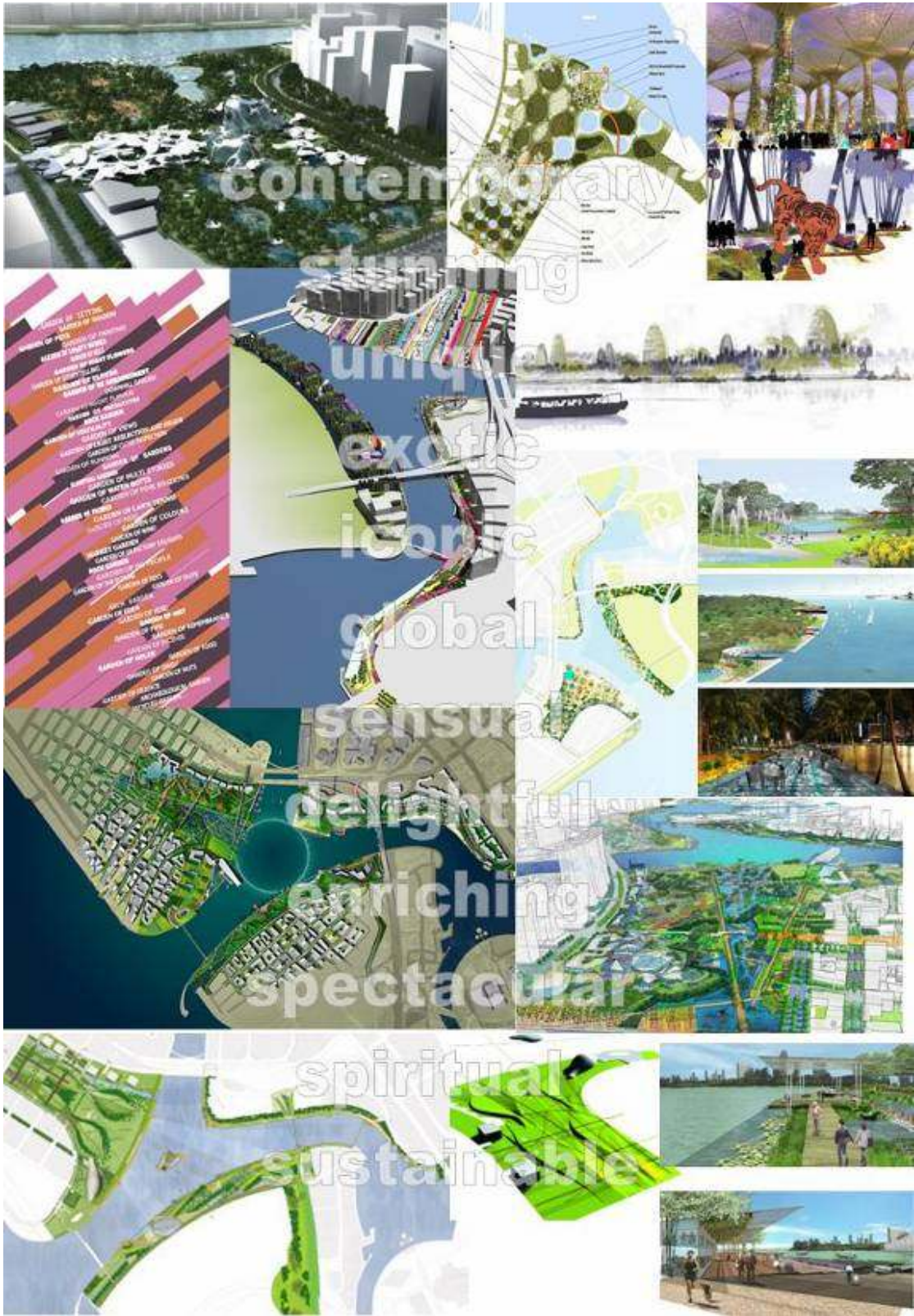


Figure 24 – Montage extracting elements of the competition schemes

According to the brief, the Gardens by the Bay are also about expressing Singaporean identity through the designed landscape. Landscape architects are often expected to manifest cultural identity through their medium but in a place where landscape is not culturally important and on land that is flat landfill drawn up from the seabed, in an urban setting not yet built, this is perhaps too much to expect. Indeed, National identity is something much more complex than most attempts to capture it. One of the prerequisites for national identity being “captured” is its reduction - a fact perhaps best demonstrated by Grant Associate’s winning design which was explicitly based on the Singaporean Orchid, the national emblem.



Figure 25 – Grant Associates Masterplan showing the Orchid circulation network

The competition brief implied a new kind of urban landscape, a curious admixture of known types. Designers were expected to interweave aspects of a botanic garden, a garden show, a civic park, a theme park, and a research centre into an ecologically instructive *and* spectacular landscape. Generally, iconic pieces of architecture signify a city's presence on the world stage and landscape tends to play a background role, but in this case the landscape is the show.

Accepting the brief the submitted designs struggled to demonstrate that 'nature' can be both a blockbuster and a paragon of ecological virtue. All of the designs are spectacular in one way or another, and none more so than the Grant Associates "Super-Trees". As if to suggest that spectacle on its own is somewhat unbecoming of a park, the designs are almost invariably couched heavily in terms of the western bourgeois values of environmentalism, multiculturalism, education, health and biodiversity, all of which will help wrap a wreath of nature's virtues around the casino currently under construction on one side of the competition site.^{xxxvi}



Figure 26 – Renderings of Grant Associates 'Super Trees' and Tropical Coolhouses

The Gardens by the Bay exercise is about packaging the horticultural world as entertainment. Particularly in premier projects such as this landscape architects have become what Walt Disney referred to as 'imagineers': designing commercial programming as much as genuinely ecological and social spaces. This is an interesting development in international corporate practice and one not without exciting opportunities - and risks. The opportunity is to create new forms of intelligent, interactive public space with big budgets and big audiences. The risk, as is so often

the case with edutainment environments, is that a designer just perpetuates more patronizing messages about the natural world in absentia, creating places that barely conceal their stultifying socio-political and economic agendas. Edu-tainment has a habit of trivializing that which it purports to inform you about and involve you in.

The well-spring of the idea was Disney's Experimental Prototypical Community of Tomorrow EPCOT in Orlando, Florida a development based on Disney's utopian ideal of a mixing the fun park with the university – a mixture of pleasure and knowledge to the detriment of both. In the end its not much fun and you don't really learn anything. The icon of EPCOT is the 'Orbisphere' - a geodesic dome, whereas in the Gardens by the Bay it will be a gigantic glass house for temperate plants, the botanic equivalent of polar bears in the Singapore zoo.

From a landscape architectural perspective projects such as this are also of interest because they bring out design experiments. Often in history the experiments first conducted in gardens and parks then later get applied to much broader landscapes. For example, this is what happened with OMA's seminal design for Parc de la Villette. The design was just a flexible system for a park in Paris, but it has become a model for understanding the broader contemporary landscape—now a logo of landscape urbanism.

Apart from vain attempts to reconcile spectacle and educative information it is doubtful that any of the designs for the Gardens by the Bay notably advance the discipline of landscape architecture. Additionally, because they do not move beyond the allocated boundary of the park as designated by the brief and engage substantively with the surrounding urbanism none of the schemes would qualify exactly as works of landscape urbanism. Apart from the EDAW + WoHa scheme (which suggested some formal correlation between the park and the city) all the designs accepted the brief's predetermined dualism between landscape and urbanism. In the tradition of Central park, the Gardens by the Bay designs extend the 19th tradition of the park as a moral and aesthetic counterpart to urbanism.



Figure 27 – EDAW site Masterplan

A landscape urbanist approach to this project would be about the whole landfill site of Marina South - the whole city, not just the park. Then important ecological and aesthetic issues could have been applied to the whole urban fabric on a significant scale. Here was an opportunity to make the new Singapore not just a city in a garden but a city interwoven with a garden. Alas, Singapore has simply transposed a copy of 19th century western urbanism as a 21st century Asian model.

This stands in stark contrast to a scheme we proposed for this site in 1987.^{xxxviii} The proposal was for a 5 storey high 'landscape biostructure', a matrix of services and structure into which the city grows and evolves. The landscape biostructure blends and blurs the boundary between city and garden and merges ecological and infrastructural functions at an urban scale. Admittedly within the problematic tradition of the mega-structure, this proposal at least suggested a new urbanism, one potentially appropriate to the context of an Asian tabula rasa.

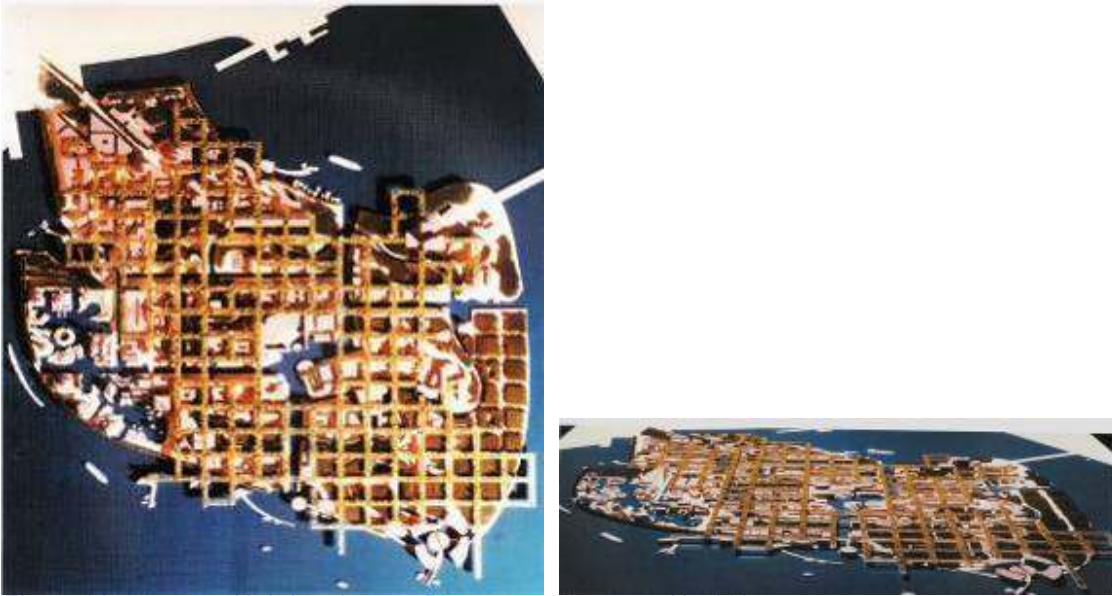


Figure 28 – 5 storey high Landscape Biostructure proposed in 1987

A City in a Garden?

So is Singapore becoming a 'City in a Garden'? The range of projects presented here suggests both promise and lost opportunities.

WoHa's scheme was pregnant with the promise of a form of landscape urbanism that suits high density housing in Asia. WoHa has used the project as a laboratory for its subsequent housing projects and have several projects under construction that draw inspiration from the ideas in their Duxton Plains scheme. At One-North Zaha Hadid's masterplan demonstrates the potential of landscape analogy to generate compelling urban form and dissolve the duality of built and open spaces. Where Hadid's scheme makes compelling formal gains but ignores site conditions the UNSW Asia campus is gives prescience to the site, so that architecture follows its inherent logic. The way in which the ABC Waterways project links detail design and large scale planning not only indicates that Singapore's understanding of its garden is now far more than decorative but so too it satisfies many of the aims of landscape urbanism. Finally, whilst the Gardens by the Bay might lead to spectacular gardens, it is a lost opportunity for the idea of the garden to have played a structural and innovative role in contemporary urban development.

Whilst Lee Kwan Yew's idea of the garden city might have been different to Ebenezer Howard's, all these projects in their various ways demonstrate that the idea of the garden in Singapore will continue as a powerful and productive metaphor.

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- i In "Singapore Strains/ Habibie – 2: Complains of Timing of Note", Dow Jones International News, Aug. 3 1998. President Habibie was comparing Singapore to Indonesia and commented "*It's OK with me, but there are 211 million people (in Indonesia). Look at that map. All the green (area) is Indonesia. And that red dot is Singapore. Look at that.*" The term "the little red dot" has subsequently become proudly embraced by Singaporeans as a reflection of the fact that Singapore's influence is far greater than its geographical size would suggest. This pride was reinforced in a recent speech by Mr Teo Chee Hean, Minister for Defence and Minister in-charge of the Civil Service on 19 April 2007, 8.15am, at the Raffles Hotel where it was announced that Singapore's new global motto would be "**World•Singapore**" (the interstitial red dot being intentional).
- ii See Koolhaas, R. in "Singapore Songlines: Portrait of a Potemkin Metropolis.....or 30 years of tabula rasa" published in "S, M, L, XL", Monacelli Press, 1995. p 1077
- iii Landry, C. (2006) *The Art of City Making*, Earthscan, London p 352.
- iv *Ibid* p 353.
- v Ng, PK and Sivasothi, N (eds) (2001) "Guide to the Mangroves of Singapore". Volume 1: The Ecosystem and Plant Diversity, Singapore Science Center Series.
- vi The only thing that seems common amongst Singaporeans in this regard is a *fear* (or at very least a suspicion) of landscape. This is due partly to the perception of what a 'first world' country should look like and partly cultural influences. In Mandarin Chinese the character for the word 'Brave' is a compound of the characters for 'man' and 'forest' – the implication being that a man in the forest (or Landscape) is brave or has something to fear.
- vii This term was popularized in the eponymous book entitled "Singapore: The Air-Conditioned Nation", Cherian George. Landmark Books. 2000. The Far Eastern Economic Review has added to this by commenting: "*To the evocative epithets applied to Singapore--nanny state, Disneyland with the death penalty--add another: Singapore: The Air-Conditioned Nation. The title of a collection of essays on "the politics of comfort and control" by Singaporean journalist Cherian George, it was inspired, appropriately enough, by Lee Kuan Yew, who chose the air-conditioner as the invention of the millennium. Just as the air-conditioner allows central control of temperature for optimum comfort, George writes, so the long-ruling People's Action Party maintains "total systems control" for the material comfort of citizens'.*"
- viii The "Living Planet Report 2000" published in October, 2000 by the World Wide Fund For Nature with information provided by the United Nations Environment Project suggests that Singapore's footprint is 12.35 ha per person (second only to the UAE with 15.99ha) with the global average being 2.85ha. After the release of this report Singapore refused to provide any further data to UNEP for the purposes of calculating Environmental Footprint. It is most likely that Singapore's footprint has risen since 2000 and MVRDV has recently proposed that the Ecological Footprint of Singapore is now actually 20 (in "KM3: Excursions on Capacities", (2006) Actar, p 26)

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- ix Singapore's cultural heritage dates back to as far as the 14th Century when it was established as a trade entrepot within the Majahpit Empire. After a brief but colorful period that settlement disappeared & the island of Singapura remained relatively unpopulated for 400 years. In 1819 the modern city-state of Singapore was founded as part of the Commonwealth trade routes. With colonialism came an influx of Chinese, Indian & European immigrants. To this day Singapore remains predominantly Chinese with a relatively small proportion of ethnic Indians, Malays and 'others'. Singaporeans don't identify with their colonial forebears nor do they consider themselves entirely Chinese, Indian or Malay. In short, they a clear sense of cultural identity.
- x Tan Wee Kiat, "*Keeping Botanical Gardens Relevant - The Singapore Botanic Gardens Experience*", Botanic Gardens Journal, Volume 3 Number 3, December 1999. Published on line at <http://www.bgci.org/worldwide/article/0121/>
- xi Freestone, R (2002) Greenbelts in City and Regional Planning, in parsons KC and Schuyler D, (Eds) From Garden City to Green City: The Legacy of Ebenezer Howard. The John Hopkins University Press, Baltimore. p 72.
- xii Land Use in Singapore has been reported as 17% Commercial/Industrial, 15% Infrastructural, 12% Residential, 19% Recreation & Catchment Area and 37% 'Other Uses' including military camps & training areas and vacant state land. From Sumiko, T. (1999) "Home Work Play", Urban Redevelopment Authority. Singapore, p 24.
- xiii Han FK et al (Eds), "Introduction to Lee Kuan Yew: The Man and His Ideas "(1998) The Straits Times Press
- xiv The Gardens by the Bay Expression of Interest document and associated press releases from the Ministry of National Development document this line of thinking. See <http://www.gardensbythebay.org.sg/> This international design competition and the use of landscape design as a global sign of sophistication seems to have followed on from Singapore's analysis of the need for the city state to become more creative so as to ensure its entrepreneurial edge. See www.mica.gov.sg/reniassance/FinalRen.pdf
- Efforts to stimulate Singapore as a 'Creative City' are clearly influenced by Richard Florida's discussions regarding the existence and importance of a creative class. See: Florida, R (2002) "The Rise of the Creative Class – And How its Transforming Leisure, Community and Everyday Life". Basic Books, New York.
- xv Young, RF, (2002) Green Cities and the Urban Future in Parsons KC and Schuyler D, (Eds) From Garden City to Green City: The Legacy of Ebenezer Howard. The John Hopkins University Press, Baltimore. p202.
- xvi International field trips with Singaporeans students consistently reveal a certain incomprehension and awkwardness with regard to wild landscapes. Even in innocuous agricultural landscapes students will react with great surprise upon seeing cattle and sheep etc.
- xvii See http://www.nparks.gov.sg/gardencity_d.asp from the Singapore National Parks Board for their discussion of the evolution to a 'City in a Garden'. (last accessed 5/11/2007).
- xviii In 1999 the existing population was 3.16 million and the projected population was 4 million (surpassed in 2005). The 2003 Land Use Masterplan by the Urban Redevelopment Authority projected a population of 5.5 million. In January 2007 the Singapore Government announced a further upward revision to 6.5 million. The change in projected population was reported in "Singapore Gearing up for 6.5 Million Population", The Singapore Straits Times Newspaper, on Saturday, February 10 2007. This constant revision of population targets is largely unquestioned in Singapore and further increases are likely to ensure continuing economic growth.

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- xix Freestone, R (2002) Greenbelts in City and Regional Planning, in parsons KC and Schuyler D, (Eds) From Garden City to Green City: The Legacy of Ebenezer Howard. The John Hopkins University Press, Baltimore. p 98.
- xx This is the subject of an ongoing Postgraduate research project at the University of Western Australia being authored by Steven Velegrinis and supervised by Professor Richard Weller.
- xxi James Corner has referred to landscape urbanism as an “ethos”. See Corner, J. 2003. Landscape Urbanism. In Mostafavi Mohsen & Ciro Najle (Eds) Landscape Urbanism.: A Manual for the Machinic Landscape. London, AA Publications p 58
- xxii Ibid, p 60
- xxiii According to the UN-HABITAT 2006 Annual Report “93% of all urban growth will occur in Asia and Africa, and to a lesser extent in Latin America and the Caribbean.” It goes on to project that by 2050 66% of people will live in urban conditions. According to World Bank population projections China and India will have over 500 million new citizens by 2050. The rest of Asia is also likely to contribute at least another 100 million in population growth. These new residents are combined with up to 900,000,000 moving from the countryside to city in both China and India. (assuming that urbanization rates in China and India change from the current 39% and 28% respectively to 66% by 2050 as projected by the UN).
- xxiv Singaporean Government agencies like the Urban Redevelopment Authority, Public Works Department and the Jurong Town Corporation have been corporatised and are increasingly being deployed on new city-building projects all over developing Asia (particularly in China and India).
- xxv See further details of the award at www.bshf.org and for the detailed grounds for the award.
- xxvi The idea of Landscape Urbanism as a “Staging of Surfaces’ is discussed by Corner, J. (2006) in “Terra Fluxus” in Waldheim, C. (Ed) The Landscape Urbanism Reader, Princeton Architectural Press, New York. p 28.
- xxvii Since completing the competition for Duxton Plains, the landscape has been fore-grounded as a medium of urbanism in several of WoHa’s urban scale projects. In a number of subsequent hi-rise residential developments (currently under construction in Bangkok), WoHa is realizing the idea of landscape spines as structuring elements of architectural projects. See: <http://www.wohadesigns.com/> (last accessed 5/11/2007)
- xxviii Unfortunately the Proposal was never realized as the client withdrew from the tender for the site.
- xxix Zaha Hadid press release and project description issued by the office of Zaha Hadid.
- xxx Ibid
- xxxi A design for the One North Park was prepared by West 8 following an International Design Competition. Whilst crafting their park design West 8 commented that Hadid’s bold unilateral application of the architectural language operates not with but in spite of the site. West 8’s position on the Hadid design was conveyed by Jerry van Eyck in a discussion with the authors. Further detail on their position can be found in the article “A Park Spine for Singapore” Velegrinis, S. (2006) Topos 55.
- xxxii See Ann Whiston Spirm’s “The Language of Landscape”, pp103-104.

xxxiii UNSW Asia Masterplan Report, unpublished.

xxxiv As set out in the project description at <http://www.pub-abc.com.sg/>

xxxv The figure of \$18 Billion USD is derived by converting recent sales of adjacent downtown sites into a per hectare amount and multiplying by the 101 ha size of the Gardens sites. Information on Land Sale prices are available from the Urban Redevelopment Authority online at <http://www.ura.gov.sg/sales/residential/vacantsites.xls> (Last Accessed on 5/17/2007)

xxxvi These superlatives are variously taken from the competition submissions which the authors have had access to. Apart from the two winning schemes these submissions have not been made public. The authors are grateful to the entrants who provided us with their work in the spirit of open discourse and critical review.

xxxvii The casino is being designed by Moshe Safdie. The landscape architect is Peter Walker, who also served as a judge for the Gardens by the Bay competition.

xxxviii This project was designed by Vladimir Sitta and Richard Weller in association with and on behalf of Creative Design and Technology (CDT) pty ltd and presented to the Singaporean Government in 1987 as an unsolicited speculation.

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