

## **WATER MARGINS – THE REDEVELOPMENT OF WATERFRONTS AND WATERWAYS IN ASIAN CITIES**

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**ABSTRACT:** The paper discusses the driving forces and the resulting urban transformation of the urban waterfront spaces of selected Asian cities, within their economic, political, social and cultural milieu. Changes in public-policy governing land-use on the waterfront have allowed for the new spatial configurations, including the changing roles of actors and agencies in the transformations of waterfronts. Another focus would be the nature of public involvement and resultant benefit from these development and changes. The overall changing spatial relationship of the waterfront with the city is the main emphasis of the study. New spatialities generated by the redevelopment of the waterfronts have the potential to create new meanings for the urban spaces of the city.

**KEYWORDS:** waterfront redevelopment, public-private partnerships, urban design, public space, new urban configurations

### **INTRODUCTION**

Local waterfronts have acquired increasing relevance to the economic development of cities, and in turn afforded themselves as key nodes in globalization processes and tourism development. A crucial aspect of the competitive repositioning of Asian cities in the global arena is the capacity of post-industrial waterfronts for urban and environmental regeneration. As these cities shift from industrial to service economies, the quality of their urban spaces become increasingly important. The visibility of waterfront areas and its access to other parts of the city become assets to the redevelopment of these places. As such, waterfront developments have attracted the attention of different bodies interested in varying aspects of such development.

The paper discusses the driving forces and the resulting urban transformation of the urban waterfront spaces of selected Asian cities, within their economic, political, social and cultural milieu. Changes in public-policy governing land-use on the waterfront have allowed for the new spatial configurations, including the changing roles of actors and agencies in the transformations of waterfronts. Another focus would be the nature of public involvement and resultant benefit from these development and changes. The overall changing spatial relationship of the waterfront with the city is the main emphasis of the study. New spatialities generated by the redevelopment of the waterfronts have the potential to create new meanings for the urban spaces of the city. The paper discusses the findings of the research that compares waterfront developments in Yokohama (MM21), Seoul (Han River) and Singapore (Marina Bay and Singapore River) and situates these within the milieu of global urban waterfront transformations.

### **RESEARCH FOCUS**

As many cities in the Asian region are undergoing post-industrial regeneration, in parallel with more awareness of the need for environmentally conscious development of waterfront areas to restore and re-invigorate ecological balance - it is opportune to examine the dynamics of these developments within the region on a comparative time-scale.

An important focus of the research is to find out the driving forces in the transformation of the urban waterfront spaces of selected East Asian coastal cities, within the economic, political, social and cultural milieu. Policy changes governing land-use on the waterfront that allow for the new configurations. The roles

undertaken by the state, institutional, professional and commercial players – in other words, the agencies and actors involved in the redevelopment of the waterfront become increasingly important, such as in establishing public-private partnerships in driving development.

The second critical dimension of the research considers the nature of public involvement and benefit from these development and changes. The question of public access to the waterfront and inclusion of public spaces on the waterfront are considered. The overall changing spatial relationships of the waterfront with the city and the issues of public benefit is analyzed.

The third critical dimension of the research is the generation of urban spatial configurations by the revitalization of the waterfront. Focus is on the kinds of infrastructural development support these changes, including cultural and ecological ones. The new spatialities generated by the redevelopment of waterfronts also create new meanings for the spaces of the city, including the change of historical associations with the waterfront, and issues of the conservation of architecture, artifice and meanings, overlaying intangible, new fluxes and networks over the fabric of the city. The research considers new spatialities and morphological changes, as well as cultural and ecological dimensions and the relationships with the urban space of the city.

### Case Studies

The paper identifies waterfront developments in Asian cities. As many cities in the Asian region are undergoing post-industrial regeneration, in parallel with more awareness of the need for environmentally conscious development of waterfront areas to restore and re-invigorate ecological balance - it is opportune to examine the dynamics of these developments within the region on a comparative time-scale.

For the comparative study to establish the critical issues of Asian waterfront, three case studies have been chosen. They are Japan's Yokohama Waterfront - the Minato Mirai21 (MM21), the Han River redevelopments, Seoul, and the Marina Bay development of Singapore. They provide the framework for the comparison of the critical issues of the research as they share certain similar trends in their development at the same time have their own uniqueness.

The following contains a summary of the sites selected as well as accounts of the suitability of the sites and the issues involved (Table 1):

	Type of development	Timeframe of development
Seoul	Eco-urbanizing the riverfront (Han River)	1990s-2010
Singapore	Marina Bay – reclamation and development of new Singapore waterfront	1980s-2010
Yokohama/Minato to Mirai21	Redevelopment of Yokohama Waterfront (Minato Mirai 21)	1981-2010

**Table 1**

### Japan's Yokohama Waterfront: the Minato Mirai21

Until two decades ago, large shipbuilding docks and port facilities were located in the central part of Yokohama, in the Tokyo Bay. When Yokohama relocated these industries, the opportunity arose to create real estate value in the form of a new waterfront community in the form of Minato Mirai 21. Minato Mirai 21 District (MM21) located at the central part of Yokohama city, within the radius of 30km from the metropolitan center of Tokyo and in between the transport hub of Yokohama and the business hub of the Kannai Area, is strategically located for prime development, including the reclamation of land and the revitalization of the waterfront. Since the inception of the project Masterplan in 1981, the development of MM21 has successfully turned the Yokohama area into a modern mixed-use community, home to 190,000 new workers and 10,000 new residents, with international hotels, conference centers, and new landmark buildings. The entity tasked with the development of MM21 is the Yokohama Minato Mirai 21 Corporation, a powerful public-private partnership.

*Reinventing the post-industrial waterfront for 21<sup>st</sup> century Yokohama:* Yokohama's relationship to its port had always been important. In fact Yokohama's raison d'être was as the treaty port arising from the visit of Commodore Perry to Japan in 1853, eventually giving rise to The US-Japan Treaty of Amity and Commerce

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in 1858.<sup>1</sup> The following year, the Port of Yokohama was opened. In 1945 during World War II, 90 percent of port facilities were taken over by the U.S. Military, and finance and trade shifted to Tokyo.<sup>2</sup> When the War ended, Yokohama port facilities were requisitioned by the US. It was not till 1952 that, through citizens' efforts, Osanbashi Pier, situated right in the centre of old Yokohama's waterfront, was released from U.S. requisition and returned to the Japanese.

In 1964 a 'Yokohama City Centre Plan Concept Proposal' was drawn up, specifically targeting the Shinko Pier area, Mitsubishi Dockyards, and the Takashima Dockyards and Railyards. However, it was actually in February 1965 that the vision of a 'Waterfront City' was announced by the mayor, requiring Mitsubishi heavy industries' relocation. Between 1967 till the 1970s, talks were held between the city and Mitsubishi Industries. Negotiations had begun with Mitsubishi Heavy industries, and by March 1983 the relocation had been completed. The relocation of heavy industries port and railroad yards to deepwater facilities, beginning in the late 1970s, created the potential for the re-use of the 'Inner Harbour' district of Yokohama. Following this, the beginnings of MM21's planning body came in 1981, and 1984 with an official coordinating body was set up to manage the public-private partnership

*Concepts/ideas in Planning:* Different considerations apply to Old and New Yokohama. Planning for the old city was exemplified by the Yokohama River Town Masterplan, where great emphasis was given to greenery along old canals and pedestrian links. Shinko District was treated integrally with Kannai and the old Yoshida New Field area. In planning for the newly-reclaimed and consolidated land parcels in Central District of MM21, three abstract "Development Concepts" were envisioned: (1) It aspired to be an international "Cultural Cosmopolis" operating around the clock; (2) it was to be an "Information City" of the 21<sup>st</sup> century; (3) while anticipated to be a "city with superior environmental and human touches surrounded by water, and greenery," (4) care was take to preserve historic monuments<sup>3</sup>

*Phasing and growth strategy:* Despite its adoption of the public-private partnership (PPP) principle, MM21 was heavily reliant on major investors to make the project work. These major stakeholders then determine the outcome of the discussions over town planning and design. Inevitably, therefore, many of the development decisions were biased towards corporate interests. Social goals were tempered heavily by the necessity of fulfilling capitalist requirements for growth, and the initial premise for MM21 as a beautiful new waterfront and landscaped environment for Yokohama residents became dominated by concerns for investment and physical growth. Provisional Land-use Adjustments was devised in the face of the economic downturn in the early 90s, to allow MM21 to cope with "delays in full-fledged land use" by encouraging the temporary continuation of provisional land uses that enhanced land returns in the transitory phase.

*Urban Design Guidelines and Brief:* In July 1988, negotiations and discussions were led and coordinated by MM21 Corporation as part of its "first major job" in fulfilling its intended role as "the focus in the move to autonomously determine the rules to be applied to town development between landowners". The decisions reached were spelled out in the "Basic Agreement on Town Development" document, "in the interest of advancing harmonious town development through the same essential thinking." The rationale and spirit of the discussion between landowners which eventually led to the "Basic Agreement" is manifested by the landowners remarking on the kind of town they desired: "We can envision a Hong Kong-like city centre with a unique atmosphere that is open 24 hours a day. To build a new city centre for the 21<sup>st</sup> century that we can be proud of on the world stage ... [requires that it be] planned for it to take shape..."

*Skyline, Street Scenery and Vistas:* The desire for grand and clear vistas or views of the sea along visual corridors, related to building height control and setbacks as buildings approach the water's edge were guided by the three key principles called "Vistas", "Street Scenery" and "Skyline" in the MM21 urban design guidelines for the district. Scaling of buildings was a key consideration so as to create a "skyline that decreases in height approaching the sea". All the avenues that span the two major boulevards of the Central District that head out to sea "would form axes on either side of which the walls of buildings were set back to ensure that a vista would open up as one drove toward the sea". The intention was that "a person could feel the sea and port nearby from anywhere in the town", whether driving along these avenues or walking along

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<sup>1</sup> Saito Ren, *The Sotry of Yokohama: a History of a port in Asia*. Trans. Y. Mariko and C.R.Kimel. Tokyo: Libro-Port Publishing CO., 1989, p. 14

<sup>2</sup> *Ibid*, p. 40

<sup>3</sup> Details of the planning intentions of MM21 are derived from direct interviews and also from the list of publications in both English and Japanese form the MM21 Corporation

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the pedestrian walkways that were separate from, but parallel to, these avenues.

*Public Spaces – old and new cultural and physical assets:* Yokohama City officials took an active interest in imbuing the new public spaces in MM21 with a sense of heritage and history, especially with historic objects as focal points. In Aug 1983 the city government took over control over the sailing vessel Nippon Maru and in Oct 1984 the Nippon-Maru Memorial Foundation was established. This became the core attraction around which the Maritime Museum was established as a public cultural anchor for the Queen's Axis, the pioneer development in MM21 Central District. In addition, Mitsubishi was instrumental in heritage preservation via its renovation of Docks No.1 and No.2 – the former was the dock in which the Nippon Maru was permanently moored. In June 1991 control over the Red Brick Warehouses of Shinko District was transferred from the Japanese national government to Yokohama City, and by 1999 Shinko District was opened as a heritage space.

The planners of MM21 attempted to introduce new concepts in outdoor as well as indoor forms of public space. Its outdoor design plans revolved around public circulation as well as public art. Public Art Tours were also organized in 2002-2001, led by art experts. Its promotional publication also showcased the special features of some of its outdoor sculptures – some of these installations respond to the environmental elements of wind and sunlight. The costs of these sculptures were borne by the developers, and their location and design involved discussions in the Town development Council and the cooperation of the artists, building designers and others. Queen's Axis was envisaged as a “vibrant axis stemming from commercial facilities” and was constructed first as an indoor pedestrian street comprising inter-connected atriums and inner malls.

*Ecological Perspectives vs. Economic Considerations:* The MM21 project took away polluting industries from the Inner Harbour area, cleaned up the brownfield sites of the former railyard and toxic sites and introduced parks and trees on the new waterfront. At the same time, the project retained some heritage artifacts from its working port past – railway tracks, bridges, warehouses, old stone docks. There was an endeavour to achieve some balance between the global and the local, a rootedness to specific aspects of site especially related to historic layers. By creating the new waterfront district which was slated to contain the new high-rise, large floor plate developments, one could also postulate that the old town of Yokohama had been spared the pressure of new developments that were potentially space altering.

Environmental clean-up was the initial motivation for the conversion of the Inner Harbour area which constitutes MM21 today. Land profile regularization was thought through carefully with several alternatives explored. Studies were conducted, and various options considered for the water edge profile, and these can be traced through the evolution of the masterplans since the 1960s.

Water edge conditions are of great interest in the Yokohama River Town masterplan as well as the river projects of Tokyo, but this was not the case in MM21. Instead, MM21's plans, inherited from the early 1980s, express the anxieties of Yokohama's position as the leading port of Japan in 1980. Yokohama's continued eminence was threatened by the lack of coordination between urban and harbour functions, particularly manifested in the worsening traffic conditions at the inner harbour. The last three Plan Directions for the Inner Harbour District Redevelopment Plan of 1982 thus went beyond the mere maintenance of its premier port status, and aimed instead at pitching Yokohama as an international city to rival Tokyo.

### **Han River, Seoul**

The *Han River* is the lifeline of the city of Seoul. It is over 1 km wide along the section traversing the center core of the city, dividing older (north) section of the city from the new (south) CBD. The city of *Seoul* is one of the most densely occupied cities in Asia, and the need for corresponding infrastructure had given rise to the ubiquitous highways along both sides of the Han River and some 18 bridges for motor vehicles and trains. As the city encroaches ever nearer to both banks of the River, public accessibility and the condition along these banks are ever compromised. The city has been embarking on a series of recovery programs to return much of the banks and islets on the river to public use and recreation in spite of the retention of these highways and worsening traffic congestion along them. The most recent completion of the *Seonyeudo Island* from the site of a water purification plant to a public park showcasing natural water filtration through plant medium and connection to the burgeoning riverbank park system is just one such highlights.

*The Spatial Transformation of the Han River of Seoul:* At 514-km long and more than 1.0 km wide waterway, the Han River flows through the center of Seoul city. Until the 1970s, the Han River was regarded

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as the southern boundary defining Seoul. But, today, it geometrically bisects the whole city area into approximately two equal parts: northern part (Gangbuk 49.2 %, old) and southern one (Gangnam 50.8 %, new). More than 20 bridges are connecting southern and northern part. In most cities, the waterfront space is a multi layered fabric composed of a variety of functions and is historically an inalienable part of the city. However, without proper development, the riverfront of Han River is not sufficiently weaved into the larger fabric of the city and is disengaged from the everyday life of Seoul citizens. In the 21st century, Seoul faces two challenges: one is to improve its competitiveness in the process of globalization; the other is to achieve progress toward sustainable development. “The [2008] Han River Renaissance Project”<sup>4</sup> aims to regain the friendly relationship between humans and nature and recover the uninterrupted linkage between all sections of the city. It also seeks to create a new brand of a pleasant and attractive waterfront city by uncovering the hidden value of the Han River.

At the start of 1900s, port functions, which have been around for about six centuries, began to decline with the construction of the railways and bridges across the river. By the early 20th century, to cope with the ever-increasing population, the modernization program extended the city limits to the banks of the Han River<sup>5</sup>. For the first time in the history of Seoul, Han River was assimilated as part of the city. The wide waterway boundary was a major obstacle that needs to be bridged across. Urban infrastructures such as foot, vehicular and train bridges were built. The expansion of Seoul slowly ate into the huge and wide boundary set up along the river.

As the city was industrialized and modernized, the river became victim to the side effect of rapid growth. Until the 1980s, contamination from the Han River was severe as a large volume of city sewerage and factory operation water was being discharged to it. Uncontrolled wastes seriously damaged the appearance of the river. Swimming, fishing and other recreational activities prohibited. White sand disappeared and biodiversity lost. As a result, the riverfront became the undesirable places.

Since the 1990s, Seoul has been actively pushing for environmentally conscious and socially responsible urban projects to revitalize the Han River. Echoed by the local governments, action was taken to engage in ecological activities in which two themes of nature and culture are becoming the new trends. Thus, a series of parks rest along the Han River, which incorporate running paths, basketball courts, soccer fields, swimming pools, and other recreation areas. Among the more prominent projects are the (re)development of Seoul Forest, Seongyudo Island and designating Bamseom Island as a nature reserve.

*Hangang (Han River) Renaissance Project:* It could be said that the Han Riverside developments and transformations are driven by different forces in the modern history of Seoul. The major driving forces include: 1) the political-economic forces of the industrialization and modernization in the 1960s, 2) the curbing physical expansion of the rapid decentralizing population and improving environmental quality of residents in the 1970, 3) the big events of the Asian Games and Summer Olympics in the 1980s, 4) the promoting economic competitiveness in response to globalization processes in the 1990s, and 5) the pushing for environmentally conscious and socially responsible since the last two decades. The development approaches include government-oriented, developer-oriented and the cooperation between government and private. However, none of the approaches have successfully engaged the public involving in the waterfront developments. Government initiatives at the master plan level often were done without consulting the end users, leaving the development in the hands of market forces and developers, resulting in less than idea interventions. As a result, one of the failed efforts in the past two decades was that the public access to the waterfront is often impeded.

With the latest 2008 draft master plan and Hangang (River) Renaissance Project, Seoul municipality aims to regain the friendly relationship between humans and nature and to recover the uninterrupted linkage between all sections of the city. It also seeks to create a new brand for the city by continually uncovering the hidden value of Han River.<sup>6</sup> Urban structures will be adjusted to enhance the role of Han River in improving the quality of life for Seoul citizens and in creating sustainable city.

Five specific sites of Han River waterfront (re)development illustrate the approaches adopted in the revitalization projects: 1) Seonydo Island/Park and Bamseom Island, 2) Yeouido Island, 3) Apgujeong-dong/Oksu-dong, 4) Seoul Forest Park, and, 5) Jamsil Olympic Sports Complex and Jamsil

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<sup>4</sup> [http://global.seoul.go.kr/global/view/business/bus05\\_03.jsp](http://global.seoul.go.kr/global/view/business/bus05_03.jsp)

<sup>5</sup> <http://www.britannica.com/EBchecked/topic/534948/Seoul/24012/Physical-and-human-geography>

<sup>6</sup> Source: [http://english.seoul.go.kr/gover/initiatives/p\\_info03.htm](http://english.seoul.go.kr/gover/initiatives/p_info03.htm)

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District Hangang Park. They are the focal points where different types of waterfront (re)development driven by different forces in different periods. Each case has been analyzed with a same framework that includes aspects of geographical characteristics, driving forces, infrastructure support, development approaches and spatial configurations.

In the last two decades, Seoul has been actively pushing for environmentally conscious and socially responsible urban projects as part of its efforts to revitalize the Han River. Among the more prominent projects initiated by the government are the redevelopment of Seoul Forest, Seongyudo Island and designating Bamseom Island as a nature conservation area. Often, these projects were implemented in partnership with private companies and only after tedious consultations with Seoul citizens; a strong contrast to the development forces which guided the transformation of Han River during the period leading up to Olympics '88. As a positive result of this consultative approach, urban transformations along Han River have avoided the same pitfalls and engaged her citizens through family-oriented and meaningful public spaces along the waterfront.

The roles of Seoul Metropolitan Government have evolved over the years along with its political system. From the dictatorial past under the authoritarian powers of the 60s, to the constitutional but non-consultative models in the 70s and 80s, it has finally evolved into the democratic, consultative government in the last two decades. The shift away from Governmental led initiatives was more pronounced after the 70s and could be grouped into two phases – private companies (developers) led initiatives and public led initiatives. The former is best illustrated with the development of Yeouido Island in 1970s while the latter characterizes Seoul Forest and similar developments in the last two decades.

The increase in public participation characterized recent developments. Both Seoul Forest and Seongyudo Island were developed after rounds of public consultation exercises with the final design determined through open competitions. Despite the high opportunity costs, Government and private developers were willing to consider and implement public projects with emphasis on environmentally responsible developments over private developments that were economically more viable. In fact, because of the consultations, these projects were well rated by the public and were in direct response to the needs of Seoul citizens. Being public in nature, these spaces also serve to bridge the inland developments with Han River through appropriate developments along the riverbanks. The programmatic functions were also influenced by the feedback from the public hence securing the critical mass of users to enliven the place and ensure the sustainability of the development.

### **Marina Bay, Singapore**

Marina bay is the area where the Singapore River meets the sea. The developments at the Marina bay area included gradually transforming the area into a world class CBD with several major reclamations changing the profile of the bay. In the 60s and 70s, important decisions were taken to gradually remove the shop houses near the mouth of Singapore River or change their usage to more modern one. At this stage many shop houses were removed to give space for high-rise development. The aim was to create an identity of a world class business centers. Modern high-rises complemented few remaining heritage structures like the Fullerton hotel. In the 1980s, a major conceptual decision was taken named the Clean Rivers project that cleared out the lighter and warehousing activities along the Singapore River and its estuary where Marina Bay is situated. The vision for Marina bay in the 21<sup>st</sup> century is to create a world-class international recreation centre with public recreation and amenities for a vibrant urban environment.

The contemporary vision for Marina Bay is to transform it into an international recreation centre. It will be a high-quality, live-work-play environment, one that encapsulates the essence of the global city, Singapore. The Master Plan for Marina Bay focuses on encouraging a mix of uses (commercial, residential, hotel and entertainment) to ensure that the area remains vibrant around the clock. The concept of 'white' site zoning also gives developers more flexibility to decide on the mix of uses for each site, including housing, offices, shops, hotels, recreational facilities and public spaces.

The notion of a continuous waterfront promenade that encompasses a cultural loop was part of the concept for Marina Bay, including arts and leisure facilities like the Esplanade Theaters, floating stage, Art Park, ArtScience Museum at the Bayfront Promontory site, Marina Bay Sands Integrated Resort, Collyer Quay food and beverage centre, One Fullerton and Merlion Park. Marina Bay is also the hosting venue of international sports events like the F1 Boat Race and Formula One Grand Prix.

In the project for Gardens by the Bay in Marina Bay, as well as the large green roofscape of the Marina

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Barrage, which is an urban reservoir capturing the waters of the Singapore and Kallang Rivers, green public space is the draw for the otherwise commercially or culturally oriented built environments on the Bay. The Gardens project occupies 101 hectares of land and will consist of three parts connected via bridges.

The former mouth of the Singapore River has been transformed from a working waterfront through reclamation and place-making to the present and future leisure and cultural landscape of Marina Bay, with the aim also visibly change the image and significance of Singapore's waterfront. New mega events hosted at Marina Bay draw international crowds and affirm Singapore's status as a global city. The new Marina Bay also boasts new iconic structures and brand-name architecture that visibly change the landscape of Singapore's urban waterfront, with the Singapore Flyer (currently the world's largest observation wheel), Esplanade Theatres, Marina Bay Sands Integrated resort, and the Sail, premium residential apartments that attract many foreign buyers from China, Hong Kong, Indonesia, Taiwan and India. The anticipated high-rise, premium offices and residences as well as high-end leisure oriented facilities and open spaces are pitched to lay claim on the city's aspirations to global business and finance, as well as a world -class leisure and entertainment destination.

## CONCLUSION

Many of the waterfronts in the western hemisphere underwent post-industrial changes in the 70s and 80s or earlier, while Asian waterfronts generally began such a cycle of development in the 90s, although some of the development plans were mooted earlier. With the growing similarities of corporate and planning cultures across the globe, the differences in western and Asian waterfronts may be perceived as one of phasing rather than that of real cultural difference. So while western waterfronts seem to be moving away from commercialization towards public benefits and access, and many Asian waterfronts tend increasingly commercialized in function (e.g. MM21, Marina Bay,), these may be a function of growth phasing rather than fundamental difference.

The new waterfront projects discussed in this paper involved some form of public-private partnership. In the case of MM21, public-private partnership in the form of a development corporation was the driving force as well as regulatory body for its planning and implementation. For Marina Bay, although the development planning and sales of sites were handed by a government agency, developers were given the opportunity to propose viable projects on "white" sites – sites that do not have a prior density or usage assigned. Ideas competitions were also held for sites earmarked for residential development. The Han River developments since the 1990s were developed with public consultations, unlike earlier development that were solely undertaken by government agencies or by private developers. As such, there is a clear trend towards greater participation from non-government actors in these waterfront projects.

MM21 and Marina Bay are new waterfronts created out of land reclamation initiatives, whether state-led or by private enterprises, and are significant in that they present the opportunity of a clean-slate on which aspirations of a city can be mapped. In the case of MM21, the project was envisaged to promote Yokohama's independence from Tokyo as a business and leisure destination rather than a "bedroom suburb" to bustling Tokyo; in other words, its establishment as a waterfront destination for commercial, cultural and leisure activities. It was also envisaged to revive the memory of Yokohama's proud tradition as Japan's historic gateway to the world, encapsulated in the phrase *wakon yosai* or "Japanese spirit to western knowledge".

Marina Bay was envisioned to be a Garden City by the Bay, a destination presenting an exciting array of opportunities for people to explore new living and lifestyle options, and be entertained by rich leisure and cultural experiences in a distinctive environment. This would also raise the international profile of the city. It would be a seamless extension of Singapore's flourishing central business district spanning 360 hectares of prime land for development. The development parcels at Marina Bay were planned based on a grid urban pattern that extends from the existing road network within the CBD. This grid created a flexible framework with a series of land parcels that could be amalgamated or sub-divided to meet different requirements as well as changing demands and allow the phasing of developments.

In many ways, these projects play a critical role in the global competition of cities, due to their high visibility and pliability to different visions. However, it remains to be seen how well these new projects, which often are planned along different scales and urban visions from the existing city fabric become integrated with the old city as well as the its social and cultural life. These developments, with their global

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aspirations and international orientations may often seem disjunctured from the concepts of urban locales. Another problem is their inaccessibility in terms of affordability or their lack of activities that appeal to local populations. A case in point is that when important international events are hosted at Marina Bay, local traffic in the city is often disrupted, and losses are incurred businesses dependent on local consumers.

In terms of morphological changes and new urban configuration, the configuration of old heritage relics and new structures in MM21 were creatively orchestrated. These were planned with regards to public access in creating interesting pedestrian sequence along major walking paths through MM21's Central and Shinko Districts, and in creating public benefit through the provision of cultural venues and public spaces that engage old port heritage. In Marina Bay the opportunity for creative juxtaposition of old and new is rather limited. Marina South and Marina Centre that forms the bulk of the coastline surrounding Marina Bay is completely new reclaimed land with no historic landmarks preceding the 1980s. There is however the coast of the old CBD with Fullerton Hotel, the relocated Merlion, Clifford Pier and the old Clifford Building. These have been included within the attractions of the Cultural Loop around Marina Bay.

Spatially, new waterfront developments, although seemingly stand-alone new developments with their own urban core, a dialogic relationship with the old city core, with good transportation networks connecting both seemed to be a feature of the waterfronts studied here. MM21 is well linked to the old Yokohama city core via subway connections, even if accessibility on foot is less convenient. So too is the Marina Bay development, benefiting from transportation links and proximity to the older city core. The new developments tend to be morphologically distinct from the old urban cores, but play complementary roles in the cultural identities of the city – MM21 represented the new commercial and corporate identity of Yokohama city, while Marina Bay would fill in on the leisure and recreational aspects of the Singapore city center.

The Cultural Loop around Marina Bay successfully integrates the waterfront promenade with the new city's attractions to a degree not achieved in MM21. The planning authorities of Singapore had safe-guarded public access to the water's edge through careful urban design guidelines and conditions of sale attached to the waterfront sites tendered in the Marina Bay development. Public spaces and accessibility of waterfront to public has seen significant overall improvement in these projects to varying degrees. An area that remains to be evaluated in time would be the degree of integration of these new spaces with existing social and cultural spaces in the city. The current observation is that these new waterfront spaces then to be self-contained destinations that are distinct from the existing spatial networks of the city.

On the environmental front, these new waterfront projects are often preceded by the clean-up and shipping out of polluting industries, as in the case of MM21, or in the case of Marina Bay, a clean-up of the rivers feeding into the Bay. These are crucial in place-making and marketing, and in promoting the image of the new waterfronts. In the 21st century, Seoul faces two challenges: one is to improve its competitiveness in the process of globalization; the other is to achieve progress toward sustainable development. The 2008 Han River Renaissance Project aimed to regain the friendly relationship between humans and nature and recover the uninterrupted linkage between all sections of the city. It also seeks to create a new brand of a pleasant and attractive waterfront city by uncovering the hidden value of the Han River. New ecological approaches were also adopted, especially in the conservation of nature in some of the Han River renaissance projects.

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