

WHY SHOULD ASIA BUILD UNIQUE CITIES?

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Source: <http://blog.gdi.manchester.ac.uk/east-asia-developmental-state-globalisation/>

INTRODUCTION

A uniform way of building cities has accelerated from the mid-20th century onwards. But the question of visual identity in cities, as well as its implications on the overall urban quality of life, liveability and economic competitiveness, has not been investigated by the international development community, national and local decision-makers, urban practitioners, private sector, or the civil society. This paper aims to explore this topic by sharing work-in-progress arguments on why visual identity is critically important today, particularly for Asian cities that are at the forefront of global urbanisation.

BANGKOK



HO CHI MINH



MUMBAI



Anonymous skylines of Asian cities. Sources: Bangkok - Travel and leisure; Ho Chi Minh - TripSavvy; Mumbai - Skyscraper City.

ASIAN CITIES ARE RAPIDLY BECOMING UNIFORM

Asian cities face an unprecedented urbanization pressure. They hosted 0.3 billion urban dwellers in late 1950s; 2.1 billion in 2015; and are projected to host 3.3 billion by 2050. This trend came at the cost of significant vulnerabilities. As per UN-HABITAT, Asia is home to nearly 70% of the world's urban poor. Over 40% of the South Asian urban population lives in slums. Over 50% of Asian urban dwellers have no direct access to water supply and over 25% have no access to improved sanitation.

This means that the pressure to rapidly develop new infrastructure in Asian cities is tremendous. The Asian Development Bank estimates that between 2016 and 2030 over USD 26 trillion will need to be invested into infrastructure in Asia-Pacific (ADB, 2017), a significant part of which is required for cities.

Rapid urbanisation has been nurtured by a continuing migration of agricultural workers seeking urban jobs in manufacturing; information asymmetries contributing to agglomeration economies; technological developments in transport and building sectors; and, the substitution of capital for land (Kundu, 2009). Buildings to accommodate this rapid growth feature standardised construction styles, materials and a global design identity. On the ground, this reflects in little "thought-through" construction (Zukin, 2009) in Asian cities are creating more inequalities, more vulnerabilities to climate change and a loss of visual identities. It is becoming increasingly difficult to identify distinctive features of an Asian city and to differentiate it from other cities.

FACTORS CONTRIBUTING TO THE LOSS OF VISUAL IDENTITY IN ASIAN CITIES

RAPID URBANISATION AND HIGH-RISE DEVELOPMENTS



In this context of rapid urbanisation, several Asian cities are becoming megacities that see no alternative to high rise buildings. In 2010, only 9 of the world's megacities were in Asia. By 2025, 21 of the projected 39 megacities will be in Asia, with the biggest population growth expected to take place in new, or small to medium scale, cities in East and South Asia (Collingridge, 2014). Half of the world's 100 tallest buildings are already located in Asia-Pacific (Allen, 2014).

High rise buildings however mean limitations in terms of choice of construction materials and building forms. Indeed, due to structural considerations, buildings above 5-8 stories are essentially dependent on concrete, steel, aluminium and glass. These very materials leave a limited scope for façade variations compared to lower buildings

Source: The Possible

which may use materials such as stone, wood or mud blocks. The race to build led to little variations in architectural styles and nearly uniform glass, steel and concrete buildings across Asian cities, and cities of the Global South in general. Aside from a few landmark structures standing out in a city skyline, such as the Petronas Twin Towers in Kuala Lumpur or the Maha Nakhon tower in Bangkok, most contemporary skylines look similar in any part of the world.

WESTERN CITIES SEEN AS MODELS OF PROGRESS

In many Asian cities, new building and infrastructure designs have been inspired by models of modern Western cities dating back to 1950s and 1960s. Such tweaked perceptions of modernity led developing Asian countries to emulate the West at a hyper scale, yet in a misguided and misinformed ways. This was partly due to colonial influences and partly to media and communication channels, essentially led by Western countries until the widespread advent of digital technologies. The idea of tall buildings and car ownership was perceived as prestigious and hence aspirational for Asian urban dwellers. This resulted in modernist buildings taking over vernacular ones, grid iron layouts taking over an organic urban fabric growth with car-oriented city patterns as well as concrete and asphalt dominating the ground surfaces. Asian cities became suburbanised, motorised, westernised and globalised, especially in East and South-East Asia (Yeung, 2011).



Collage by Author.
Sources Wikipedia and
videoblocks.com

GLOBALISED REAL ESTATE DEVELOPMENT

Globalisation and liberal economies have created international real estate markets. Asia-Pacific accounted for 33% of the global public investable real estate and 24% of the combined global public and private institutional real estate (CBRE, 2017). Cross border investments and the race to become global cities have led real estate developers to aim at international standards and outlooks, leading to uniform identities across cities. In the early 1960s, American-Canadian urbanist Jane Jacobs criticised the 20th century modernizers who planned to rebuild all cities with right angles and straight lines. She called these homogenized superblocks and high-rise towers ‘the great blight of dullness’. In pursuit of profit and competitiveness, international real estate players borrowed the latest international design and building techniques, which minimize creativity and local context tailored solutions.



Source: Shutterstock

Globalised real estate market forces the prioritization of large-scale uniform developments over a city's visual identity and the quality of its public spaces. Even historical Asian cities such as Jaipur, Hanoi or Bangkok, once famous for their unique architecture and landscape, are replacing their built environments with increasingly standardised design and materials.

GLOBALISED BUILDING CODES

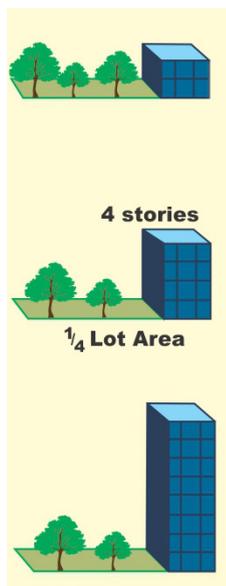


Image by Squareyards

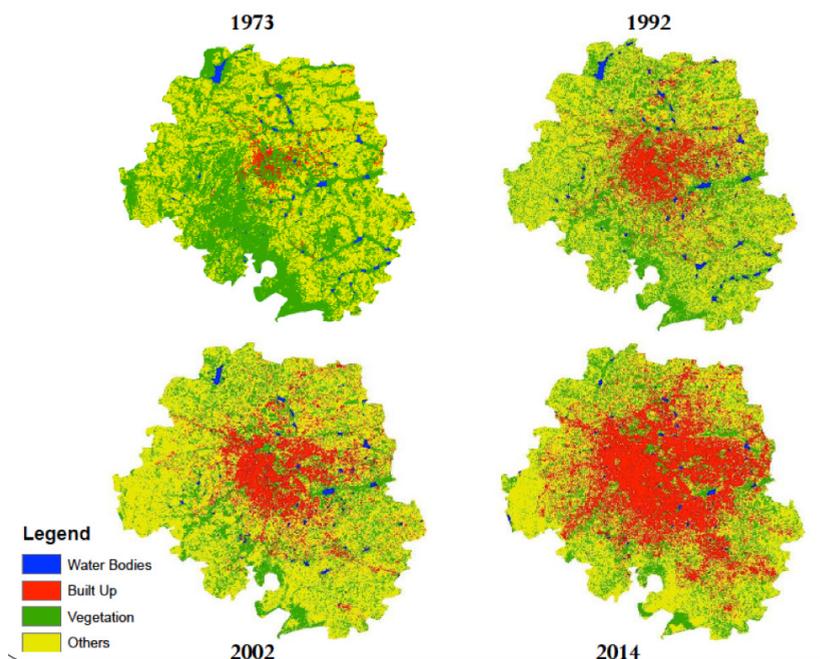
Globalised building codes have also contributed to a homogenization of cityscapes and skylines. In an article by Cutter (2018), Vishaan Chakrabarti, a prominent architect and urban planner, commented that cities are being robbed of their individuality. He stated that “Developers, confronted with the cost of installing multiple elevators and a complicated internal infrastructure, need to spread the expenses over more apartments – leading to bigger buildings.”

Indeed, real estate firms find it easier and more cost effective to enter markets with standardized building code requirements. The desire for consistency and performance optimisation, particularly in the building sector, has pushed authorities to endorse or adopt universal codes and standards whenever available (Knox & Pain, 2010). For example, an array of codes has been published by the International Code Council (ICC), a non-for-profit organization dedicated to developing a single set of national and international model construction codes (including standardized zoning). Such internationalization of

codes provides an attractive blueprint to authorities lacking requisite technical and financial resources to develop their own codes. Markets, in their turn, prioritise maximizing sellable areas and floor area ratio (FAR). Altogether, this leads to the characterless multi-storey concrete structures, become common across Asian cities, a major cause of the absence of distinct visual features.

HEAVY NEGATIVE CONSEQUENCES OF BUILDING UNIFORM

Negative consequences related to this gradual loss of visual identity go far beyond a cultural loss. They compromise urban sustainability, economic prosperity and quality of life. Indeed, urban natural ecosystems are heavily affected by the current rapid urbanisation process. Standardised materials and construction styles often are unsuitable for specific local contexts and generate high carbon footprints. This type of development leads to climate vulnerabilities; to cities losing their economic competitiveness; and, to citizens' physical and emotional discomfort with their built environment, which severely affects their physical and mental health.



Land use and land cover change in Bangalore, India; Source: Hungry Cities Partnership, Bangalore; Available at <http://hungrycities.net/city/bangalore-india/> [Accessed on 29 June, 2019]

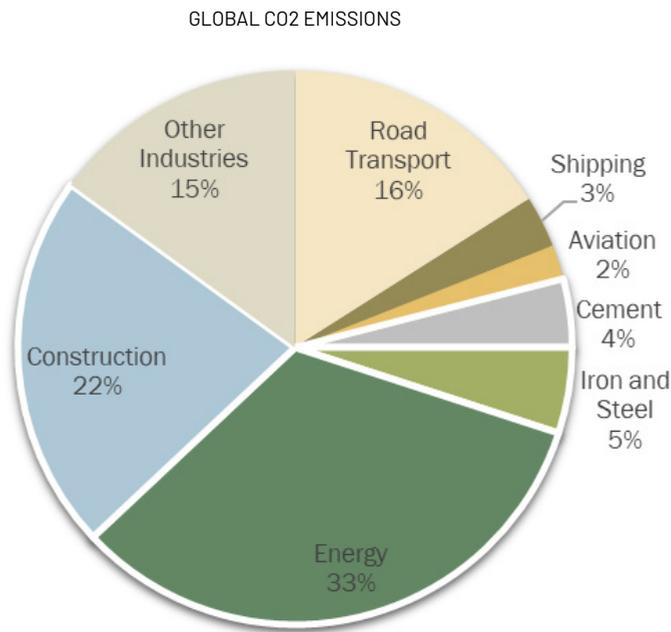
COMPROMISED SUSTAINABILITY AND CLIMATE RESILIENCE

(A) LOSS OF NATURAL ECOSYSTEMS

Most Asian cities in developing countries are losing their unique natural ecosystems both in their urban and peri-urban areas as a result of rapid urbanisation. This standardized way of designing regularly spaced high rise towers, car-oriented patterns requiring large spans of land for parking and roads, land use divided into rigid functional zones coupled with unplanned city expansions has led to massive encroachments over water bodies and green areas, water pollution, and even the flattening of hillsides. To mention few examples, Songdo in South Korea, Gurgaon in India, Beijing in China, or Kuala Lumpur in Malaysia possess many of these characteristics (Burdett, 2018).

Little attention is paid to preserving the natural landscape or to adapting buildings to the local climate. Loss of natural ecosystems makes cities simultaneously prone to floods, heat waves, droughts and scarcity of natural resources. Recent flooding incidents in numerous Asian cities have demonstrated the extent of damages such an approach has produced. For example, Bangalore and Chennai respectively lost 80% and 90% of their water bodies in the last four decades (Anon., 2016). Bangalore regularly has faced severe floods since 2000 and the massive 2015 flood in Chennai caused an estimated damage of USD 2.2 billion.

Apart from their environmental benefits, natural ecosystems make an important part of the public realm. Singapore’s Bishan-Ang Mo Kio Park is a concrete drain channel converted into a long natural river that meanders through the park to increase its flood water carrying capacity. The park integrates three playgrounds, restaurants and open green spaces making it a popular nearby residents’ choice for recreational activities (National Parks Board, n.d.). Bishan Park is only one of Singapore’s series of green spaces that contribute to its identity as a ‘City in a Garden’. Blue and green urban elements offer a platform for human interaction and place-making, which we cannot afford to lose.



Global CO2 emissions by industry (Image by Author)

(B) HIGH CARBON FOOTPRINTS

Today’s conventional materials and construction techniques have significantly higher carbon footprints compared to vernacular architectural approaches which, by definition, were deeply anchored into the local context. Standardised materials and construction techniques are, on the contrary, often unsuitable to the local geographic context, which leads to a higher embodied and operational energy consumption, and hence higher greenhouse gas (GHG) emissions.

As per the International Energy Agency (IEA) (2019), buildings account for over a third of the global final energy demand. Conventional building materials such

as concrete, steel or aluminium have highest embodied energy¹. The manufacturing of materials such as crude steel, aluminium, copper, cement or glass alone represents 25% of the current global final energy demand and 20% of global CO₂ emissions (UN Environment & International Energy Agency, 2017). Building with uniform materials hence actively contributes to the buildings' share of 40% of the world energy consumption and nearly a third of GHG emissions (Holland, 2018). The Paris Agreement can hardly be met without bringing these figures down.

Similar problems apply to the operational energy of buildings made with standardized materials. For example, glass skylines, seen as symbols of progress, have been designed with little thought of the climate in which they are located or the environmental impact they might generate. According to the 2003 Commercial Building Energy Consumption Survey (CBECS), 70% of energy used in commercial buildings derives from the lighting and HVAC systems (Payette, 2015). Performance of both these systems is directly related to the design and performance of the building envelope. Glazed facades lead to higher heating and cooling loads as well as glare and thermal comfort challenges.

Despite these environmental concerns, real estate and construction materials market trends point towards a continuously increasing consumption of these construction materials across Asia. China, for example, used more cement between 2011 and 2013 than the United States over the entire 20th century (Swanson, 2015). Together, Indonesia, Vietnam and Thailand account for about 75% of the total cement consumption in South-East Asia. These countries also have the highest urbanisation rates in the region (World Cement, 2012). Asia-Pacific equally holds the largest share in the global construction glass market: 61% in terms of value in 2015. In developing countries such as China, India, Malaysia or Thailand, consumption of construction glass is steadily increasing. Indeed, Asia-Pacific is expected to witness the highest glass consumption growth in the construction sector between 2016 and 2022 (P&S Market Research, 2016).

Finally, buildings made with conventional construction materials have proved to have a short life span. According to a recent colloquium at the Getty Center, the average life span of a traditionally built building (masonry and wood) is at least twice the lifespan of a modernist buildings (reinforced concrete and glass curtain wall): 120 years versus 60 years (Donnelly, 2015).

Instead of adding a valuable layer to a city's legacy, new constructions essentially create deteriorating environments that are expensive to maintain and quickly run out of 'fashion'. The international architecture and urban development community needs to rapidly question the current approach to avoid a severe compromise on world's sustainability and climate resilience.

LOSS OF ECONOMIC COMPETITIVENESS

The loss of economic competitiveness comes from a decrease of tourism opportunities and a decrease of quality of life, an essential element of a location's choice for talented and qualified individuals and business investors.

(A) COMPROMISED TOURISM OPPORTUNITIES

In a globalised world, city branding has become an emerging agent of urban socio-economic development. Such branding usually is founded on the visual image that integrates historical and cultural icons with new landmark buildings (Rehan, 2014) and offers unique urban realm and skyline. A branding strategy aims at conferring to a city an image and a cultural significance that generate an economic value (Seiseddos & Vagionne, 2005). Several now famous cities have successfully used their cultural assets to bring in numerous visitors (Masjutina, 2016). Often, these assets are observed to be vernacular architecture and heritage buildings for a simple reason: such buildings combine beauty, uniqueness and human scale. These are more praiseworthy when combined in a harmonious urban fabric versus standalone buildings.

Verona, Italy, receives 750,000 visitors per year. Architectural monuments ranging from Roman and Middle Age to Austro-Hungarian Empire are major components of its unique cultural heritage and are a major element in the brand of the city (Masjutina, 2016). Verona is a visually stunning city that offers an immersive experience well beyond landmark monuments. Italy's visionary National Policy on Heritage Conservation, developed in the 1960s, contributed to this success. Law number 765 of 1967 – The Conservation of the Cultural Heritage of Monuments and Sites through Town Planning Act – requires every municipality to draw up an urban land use master plan that divides the city into historical and non-historical areas with separate planning bylaws for the two categories. This helped Verona protect its original urban structure and nurture its heritage architecture despite significant damages during World War II.



Piazza delle Erbe (Market square), Verona, Italy. (Source: Traveller, Available at <http://www.traveller.com.au/italy-verona-the-northern-italian-town-that-captivated-shakespeare-hlzk8> [Accessed 29 June 2019])

Cities all over the world are promoting themselves as desirable destinations to investors, tourists, and prospective residents. In cities such as Paris, Rome, Barcelona or Singapore, one can see that the success of these cities is not a product of a sole skilful marketing strategy. These cities are already clearly identifiable by their socio-cultural and physical character. The uniqueness of these elements is crucial to providing a sustainable competitive advantage over other cities and in creating city brand equity (Muratovski, n.d.).

(B) COMPROMISED ECONOMIC COMPETITIVENESS

Cities have been driving productivity and growth throughout history and will continue to play an essential role in their respective provinces' and country's economic competitiveness. However, with the advent of the digital revolution and globalised economies, remote work opportunities may soon lead cities to compete over retaining business investors and intellectual capital (JLL & the Business of Cities, 2015). People are now able to attend schools and universities virtually, manage banking and shopping services online and even consult doctors remotely. This clearly means that qualified individuals are more and more likely to settle in cities that offer quality of life, which makes it essential for a city to offer such an environment if it wants to remain economically competitive and prosperous.

ALTERED PHYSICAL AND MENTAL HEALTH

Urban natural ecosystems are an essential element of a city's visual identity and help to preserve citizens' physical and mental health. The World Health Organization (n.d.) recommends cities offer a minimum of 9 sq. meters of green space per capita to facilitate good mental and physical health for its citizens. Most Asian cities lag far behind this quota.

Preserved ecosystems also provide open green spaces for recreation and enhance a city's visual identity and image. Singapore's vast network of green and blue spaces, with over 700 community gardens, led the city to be internationally recognised as a City in a Garden (Song, 2015). Its Gardens by the Bay and Singapore Botanic Gardens are an important part of its vibrant and engaging cityscape (National Parks Board, 2019).

Visual identity and urban design of a city also affect people's mental health, even though they might not always be conscious of it. Professor Colin Ellard researched the psychological impact of urban design at the University of Waterloo, Canada. To demonstrate the impact of building facades on people's psychological state, he conducted experiments by walking people in front of different types of facades and measuring their cortisol levels. The study found out that a complex and inter-



Singapore Botanical Garden (Top) and Bishan-Ang Mo Kio Park (Bottom)
Source: Photo by Author and Ramboll Studio Dreiseitl, Available at <https://www.asla.org/2016awards/169669.html>

esting building façade affects people in a positive way. Conversely, it affects them negatively if the façade is monotonous. When the surveyed group walked past a long, smoked-glass frontage store in Lower Manhattan, their arousal and mood states took a dive, according to the wristband readings and on-the-spot emotion surveys. The same group reported feeling lively and engaged when they passed along active facades higher in visual complexity (Bond, 2017).

In his essay titled, “Streets with no game,” Ellard (2015) cites Jan Gehl, a renowned Danish urbanist, who believes that an engaging and connecting city street must be designed so that the average walker, moving at a rate of about 5km per hour, sees an interesting new site about once every five seconds. This is simply not possible in a car oriented, uniformly built city. Even when pedestrian paths are provided along roads, they may not be used because the speed of adjacent cars is too high and/or because facades are uniform, closed and not interactive.

“At a psychological level, these constructions fail us because we are biologically disposed to favour locations defined by complexity, interest, and the passing of messages of one kind or another.” (Ellard, 2015).

To retain its wellbeing quotient, the city needs to offer human scale and connecting architecture to its citizens.

ALTERED LIVEABILITY

Cities today compete with each other on liveability indexes, which takes into account a number of factors such as urban quality of life, safety, walkability, public transport, cultural and natural environments. Tan Szue Hann, architect, urban planner and head of sustainability at the leading industrial consulting firm Surbana Jurong, said: 'A liveable city requires good, sustainable infrastructure, architecture and engineering; a stable economy; opportunities to thrive in various fields; and robust policies for sustainable and resilient living. It would also preserve and promote health and wellness for its inhabitants.' The Economist Intelligence Unit's ranking of the world's most liveable cities does not feature a single Asian city in the top 10. Four Asian cities – Tokyo, Osaka, Singapore and Hong Kong - feature in the top 50 (Ang, 2018).



The world's most liveable cities (Top 50) as per the EIU, Image by Author

For a citizen, a liveable city needs to provide a sense of belonging and have a distinct identity the citizen connects to and shares with their fellow citizens (Dubbeling, 2011). Improving liveability means enhancing a city's identity and making it attractive to its inhabitants, visitors, businesses, developers and investors. Enhancing urban liveability is about making the most of a city's inherent advantages and, often, the key lies in natural and cultural heritage.

Some Asian cities have recognised this link between liveability and visual identity and are taking necessary legislative and planning measures to make improvements. Other Asian cities might wish to draw conclusions from their neighbours' efforts and leapfrog the uniform urban development phase.



Seoul, Korea, Cheonggye Stream: once covered by an elevated highway [Image by: Kimmo Räisänen], [Accessed 2nd July 2019]. Available at <http://www.cityclock.org/removing-urban-highways/#.XRtRQegzbDc>

Cities in selected Gulf countries such as Bahrain, Qatar or the United Arab Emirates are actively exploring new urbanism strategies to build unique visual identities in order to diversify their economic activities and maintain business attractiveness in an up-coming post-oil economy. These countries are increasingly investing in urban regeneration projects through heritage core revivals, waterfront developments and new architecture inspired by local culture and traditions. Increased political support to such interventions indicates that the Gulf region is gradually shifting from uniform steel, concrete and glass high rises to building unique cities (Ricca, 2018). Architecture is becoming a major factor of liveability and branding in Gulf cities. Recent interventions such as Souq Waqif in Doha, Al Bastakia in Dubai or Royal Opera House in Muscat are directly inspired from features of Islamic heritage (Wiedmann & Salama, 2013). Msheireb Downtown Doha is a regeneration project that revives the old commercial district with a new architectural language that is modern yet builds on traditional Qatari architecture. As a result, its design, spaces and proportions respond to the local climate. The strategic objective of the Msheireb project is to transform Doha's urban development pattern from a car dependent, energy intensive high rise model to a sustainable, human scale and context tailored approach (Scharfenort, 2013). In Dubai, the conservation and reconstruction of historic neighbourhoods is giving residents an urban historic depth previously unrecognised, favouring the integration of different ethnic communities while contributing to the tourism development of the city (Ricca, 2018).



Souq Waqif, Doha, Qatar,
Source Travel Bunny

Analysing such examples, one may argue that urban planning, design and architecture in the Gulf have reached a turning point in which West-inspired master plans and high rises are gradually getting replaced by context tailored city visions based on economic diversification, unique identities and improved liveability strategies (United Nations, Department of Economic and Social Affairs, Population Division, 2014).

‘While until recently the Gulf urban development process was dominated by a conceptual framework based on engineer-driven plans modifying the natural landscape to adapt it to human needs, and by major land reclamations and out-of-scale infrastructure projects (highways, artificial islands and deep-water harbours), recent examples prove that a radical evolution is now taking place and that heritage and culture are indeed contributing to the creation of a new vision for the Gulf cities of the 21st century.’ (Ricca, 2018)



The local history and morphological imprints of
Qatari traditions



The Msheireb masterplan grid draws references
from the historic street pattern that connects well
with the wider existing city fabric



Chengdu, China; Bangkok market; Bangkok riverfront (Left to right)

CONCLUSION

There is a clear need for new models of urbanism as the world's population is on the verge of increasing by two billion inhabitants in the next three decades. The fundamental goal of city design must be to improve the lives of people. This means creating fulfilling, enriching, and sustainable ways for residents to live, work and thrive. Building unique is a pathway to achieving this goal in the long run. The success of addressing the challenge of disappearing visual identities will define how well cities will be able to cope with environmental, economic and social challenges of tomorrow.

The cities of the future need to develop and incorporate an indigenous local design language, one which takes advantage of local materials and traditional design elements. These new cities should take advantage of energy efficient materials and new technologies. They should provide blue and green infrastructure to enhance the liability of city residents.

The window of opportunity to act upon the challenge is closing. The World Bank estimates that over 60% of the infrastructure the world will see in 2030 is yet to be built, and a large part of it will be built in Asia. Once in place, this infrastructure will lock Asian cities into a living pattern for decades. The coming ten years are hence critical and will determine how sustainable, climate resilient, economically prosperous, socially inclusive and vibrant Asian cities will be in the 21st century.

Bibliography

- Wiedmann, F. & Salama, A. F., 2013. *Demystifying Doha: On Architecture and Urbanism in an Emerging City*. Surrey: Ashgate Publishing.
- Zukin, S., 2009. Destination Culture: How Globalization makes all Cities Look the Same. *Inaugural Working Paper Series*, 1(1), pp. 3-26.
- Collingridge, V., 2014. The rise and rise of the Asian megacity (and why 'metacities' are the next big thing). *Post Magazine*, 15 June.
- Allen, K., 2014. Asia-Pacific takes top place for property investment. *Financial Times*, 12 June.
- Yeung, Y.-m., 2011. Rethinking Asian cities and urbanization: four transformations in four decades. *Asian Geographer*, 28(1), pp. 65-83.
- CBRE, 2017. *Globalization and Real Estate: Where next?* [Online]
Available at: <https://www.cbre.es/-/media/cbre/countryspain/documents/research/global/globalization%20and%20real%20estate.pdf>
- Cutter, C., 2018. *An architect explains why so many cities now look depressingly similar*. [Online]
Available at: <https://www.linkedin.com/pulse/architect-explains-why-so-many-cities-now-look-similar-chip-cutter/>
- Burdett, R., 2018. *Flexible Urbanisms | Barcelona Metropolis*. [Online]
Available at: <https://www.barcelona.cat/metropolis/en/contents/flexible-urbanisms>
- National Parks Board, n.d. *Bishan-Ang Mo Kio Park*. [Online]
Available at: <https://www.nparks.gov.sg/gardens-parks-and-nature/parks-and-nature-reserves/bishan---ang-mo-kio-park>
- International Energy Agency, 2019. *Buildings*. [Online]
Available at: <https://www.iea.org/tcep/buildings/>
- Holland, O., 2018. Are architects turning their backs on glass skyscrapers? *CNN Style*, 25 January.
- Payette, 2015. *Energy Efficiency + The All-Glass Building*. [Online]
Available at: <https://www.payette.com/in-the-news/energy-efficiency-the-all-glass-building/>
- Swanson, A., 2015. How did China use more cement between 2011 and 2013 than the US used in the entire 20th century? *The Independent*, 25 March.
- World Cement, 2012. Evolution of the Southeast Asian cement market. *World Cement*, 28 March.
- P&S Market Research, 2016. *Global Construction Glass Market Size, Share, Development, Growth and Demand Forecast to 2022 - Industry Insights by Type*. [Online]
Available at: <https://www.psmarketresearch.com/market-analysis/construction-glass-market>
- Donnelly, B., 2015. *The life expectancy of buildings*. [Online]
Available at: <https://brandondonnely.com/2015/09/06/the-life-expectancy-of-buildings/>
- Rehan, R. M., 2014. Urban branding as an effective sustainability tool in urban development. *HBRC Journal*, 10(2), pp. 222-230.
- Seisedos, G. & Vagionne, P., 2005. The city branding processes: the case of Madrid. *41st ISOCARP Congress*, pp. 1-10.
- Muratovski, G., n.d. *Pt 1: A Critical Reflection on City Branding – The City as a Brand | Design Online*. [Online]
Available at: <http://designonline.org.au/pt-1-a-critical-reflection-on-city-branding-the-city-as-a-brand/>
- JLL & the Business of Cities, 2015. *Globalisation and Competition: The New World of Cities*. [Online]
Available at: http://europe-re.com/uploads/europe/report_attachments/jll-new-world-of-cities-globalisation-and-competition-2015-20151216123239.pdf
- UN Environment & International Energy Agency, 2017. *Towards a zero-emission, efficient, and resilient buildings and construction sector: Global Status Report 2017*. [Online]
Available at: [https://www.worldgbc.org/sites/default/files/UNEP%20188_GABC_en%20\(web\).pdf](https://www.worldgbc.org/sites/default/files/UNEP%20188_GABC_en%20(web).pdf)
- Kundu, A., 2009. Exclusionary Urbanisation in Asia: A Macro Overview. *Economic & Political Weekly*, 44(48), pp. 48-48.
- Song, K. B., 2015. *Liveable and Sustainable Cities: Common Challenges, Shared Solutions*. *World Cities Summit 2014*, Singapore: Centre for Liveable Cities and Urban Redevelopment Authority.
- World Health Organization, n.d. *Urban green spaces*. [Online]

- Available at: <https://www.who.int/sustainable-development/cities/health-risks/urban-green-space/en/>
- National Parks Board, 2019. *Biophilic City in a Garden*. [Online]
- Available at: <https://www.nparks.gov.sg/about-us/city-in-a-garden>
- Bond, M., 2017. The hidden ways that architecture affects how you feel. *BBC*, 6 June.
- Ellard, C., 2015. *Streets with no game*. [Online]
- Available at: <https://aeon.co/essays/why-boring-streets-make-pedestrians-stressed-and-unhappy>
- Thadani, D., 2018. *City dreams* | *CNU*. [Online]
- Available at: <https://www.cnu.org/publicsquare/2018/08/24/city-dreams>
- Ricca, S., 2018. *Urban Heritage in the Arabian Peninsula, the Experiences of Jeddah and Dubai*. [Online]
- Available at: https://docs.wixstatic.com/ugd/a2733e_993c75d6ed26485ea95e21bd8e320cf7.pdf
- Scharfenort, N., 2013. In Focus n° 1: LargeScale Urban Regeneration: A New "Heart" for Doha. *Arabian Humanities*.
- United Nations, Department of Economic and Social Affairs, Population Division, 2014. *World Urbanization Prospect: The 2014 Revision, Highlights*, s.l.: s.n.
- Ang, Z., 2018. How can Asia's sweltering cities be made more liveable? *Eco-Business*, 10 April.
- Dubbeling, M., 2011. *Inspirational Values for Liveable Cities* | *Connecting Cities*. [Online]
- Available at: <http://www.connectingcities.eu/inspirational-values-for-liveable-cities/>
- Asian Development Bank, 2017. *Meeting Asia's Infrastructure Needs*, Manila: Asian Development Bank.
- Masjutina, S., 2016. Branding Cities Through History and Culture: Example Verona and Cannes. *The Place Brand Observer*, 20 September.
- Knox, P. L. & Pain, K., 2010. Globalization, neoliberalism and international homogeneity in architecture and urban development. *Informationen zur Raumentwicklung*, 5(6), pp. 417-428.
- Anon., 2016. Bengaluru has lost 79% of its water bodies: Study. *Times of India*, 3 March.

