



# Asian city futures: research to help inform spatial form and health

Jieling Liu

To cite this article: Jieling Liu (2021): Asian city futures: research to help inform spatial form and health, *Cities & Health*, DOI: [10.1080/23748834.2021.1970413](https://doi.org/10.1080/23748834.2021.1970413)

To link to this article: <https://doi.org/10.1080/23748834.2021.1970413>



Published online: 08 Nov 2021.



Submit your article to this journal [↗](#)



Article views: 76



View related articles [↗](#)



View Crossmark data [↗](#)



**‘When the winds of change blow, some people build walls,  
 others build windmills’, Chinese proverb**

1	2	3	1. Dhaka, Bangladesh; 2 Kobe, Japan; 3 Jiufen, Taiwan; 4 Kobe, Japan; 5 New Delhi, India; 6 Xiamen, China; 7 Bangalore, India; 8 Hong Kong; 9 Hong Kong; 10 Quanzhou, China; 11 Tokyo, Japan; 12 Tokyo, Japan.
4	5	6	
7	8	9	
10	11	12	

Photo credits: José Siri 1; Andrea Salmi 3, 8, 9; Thiago Héric de Sá 2, 4, 11, 12; Amy Weimann 5, 7; Marcus Grant 6, 10

## Asian city futures: research to help inform spatial form and health

### SUPPORTING CITY KNOW-HOW

This 'Research for city practice' article is aimed at city leaders, communities, and the professions involved in city policy and practice as well as researchers across many disciplines. It comprises 'City Know-Hows' summary for each main research paper, allowing researchers to explain new knowledge and key messages arising from their work. The full special issue also contains a case study, where you will find evaluations of an intervention, and a commentary piece, supporting the conversations we need to help develop and mobilize important and innovative thinking.

It is imperative that human health and environmental impacts become core foci of urban policies around the world. Changing our current trajectory will require concerted action. *Cities & Health* aims to be part of that change; it is dedicated to supporting the flow of knowledge, in all directions, to help make this happen.

In order to strengthen communities of interest, we would like to include many and varied voices, including those from practitioners, communities, politicians and policy-makers and researchers who are supporting health and health equity in everyday urban lives. Whether you are a just starting out on your journey, or an old hand, we would love to hear from you!

### KEYWORDS

Urban health policy; Asian cities; climate change; sustainability; ageing

Jieling Liu

Lead Guest Editor, *Cities & Health*

The evidence base linking city spatial planning and governance to health and health equity outcomes grows stronger all the time, particularly in emerging Asian developing countries. Many engaged scholars are reaching out and working with communities and policymakers towards healthier place-making across Asia. *Cities & Health* is proud to play a role in supporting these connections. Here at *Cities & Health*, we acknowledge the pressing need for city leaders and practitioners to understand better their role in delivering health outcomes through urban environment policies and programmes. This issue of *Cities & Health* contains seven empirical research papers, one case study and one stimulating commentary.

The subject matter of the empirical papers spans several Asian countries and addresses critical urbanisation issues related to spatial planning, local economy, climate change communication, indigenous knowledge, and health and wellbeing. Yet, each paper, in its own way, sheds light on how important a better understanding of how the natural and built environments impact the health and wellbeing of communities.

Jieling Liu's research on climate change communication shows that climate change impacts need to be narrated and communicated more openly, considering their complexity and long-term uncertainty based on scientific evidence to enhance urban health preparedness and resilience. Yuping Dong and Helin Liu assessed the urban green space index system in China and argued

that human health and wellbeing should be included in the index system in addition to ecological indexes.

Van de Haterd *et al.*'s work in the coastal areas of Indonesia finds an imminent need to address the issues of poor sanitation, waste management, and local employment opportunities to improve the health situations of the local coastal residents. Deepti Adlakha *et al.* examined the effect of increasing car ownership on the obesity rate in India and suggested neighbourhood environment as a critical entry point for obesity prevention. Emily Nix and her colleagues measured the correlation between energy equity and health risks in the context of heat threats and air pollution in Delhi, India. They proposed improving the urban health in Delhi by reducing affluent communities' energy consumption and enhancing the infrastructure in informal slum settlements.

Amanda Alderton and her colleagues inspected the liveability of Bangkok towards the Sustainable Development Goals (SDGs) by developing a city-wide liveability indicator system relevant to cities in a non-developed country context, which was proven effective. This liveability indicator system has the potential to be applied in diverse cities.

Finally, ageing populations are a global concern. Faysal Kabir Shuvo *et al.* compared the urban green space quality for social and active ageing among three Asian cities of distinctive features – Sydney, Singapore, and Dhaka, and found contrasting results due to their contextual dependency. The study calls for special attention to the design and the attached equipment of urban green spaces for the health and wellbeing of a quickly increasing elderly population.

## Narrating climate change impacts for urban health governance; Guangzhou, China

### RESEARCH FOR CITY PRACTICE

**For the attention of:** City officials, urban leaders, professionals and communities concerned with urban health preparedness and resilience



Policies need to promote more open and scientific narration of climate change impacts, taking into account their complexity and long-term uncertainty, in order to enhance urban health preparedness and resilience.

**The problem:** In Chinese cities, government narratives of climate change impacts tend to be much more behind the state-of-the-art scientific research on climate change.

**What we did:** We analysed the narratives of climate change impacts in relevant policy-making arenas and products of the government in Guangzhou, China, a city highly vulnerable to climate change, in order to understand why the urban health sector is inactive, and what can be done to improve.

**What our study adds:**

- Empirical understanding of climate change-urban health governance challenges
- An unconventional perspective to approach the research of the climate change-urban health nexus

- A novel approach to improve the narration of climate change impacts and hence with the potential to improve urban health governance in Guangzhou

**Implications for city policy and practice:** City policy and practice need to:

- take greater consideration of the complexity and uncertainty of climate change impacts and their consequences on health
- respond to public health governance with greater sense of urgency
- deliver greater information transparency regarding climate change impacts narration in order to enhance urban health preparedness and resilience

**Full research article:** Narrating the impacts of climate change on urban health governance in Guangzhou, China

**Authors:** Jieling Liu (@JielingLiu)

**City Know-how editor:** Marcus Grant

## Reframing the index system for urban green space planning in China: for better public health

### RESEARCH FOR CITY PRACTICE

**Take note:** Urban designers, biodiversity planners, public health and landscape architects.



Human health must be recognized, in addition to ecological criteria in urban green space planning in China.

**What is the problem:** There are four main problems with the existing index system for urban green space planning in China:

- Both the common indicators and specific indicators are quantitative measures;
- Most common indicators only assess the availability of urban green space;
- There are a series of metrics, but they largely describe the same features of urban green space;

The index system for urban green space planning only centers on green vegetation with almost no consideration of the users

**What I did and why:** We compared health-related indicators in four case study cities. This allowed us to find four main problems with the current index system for urban green space planning in China.

In light of these findings, we propose a new index system to better promote public health.

There are two elements to this. First, to shift the ecology-centered value-orientation to a new one which placed equal importance on both ecological and health values. Second, to reorganize the current

urban green space planning framework to into a new comprehensive framework.

**What this study adds:** There is now a summary of the problems in the existing index system for current urban green space planning in China from the perspective of health promotion, including an assessment of its ability to address the underlying causes;

We have provided a health-oriented index system and are proposing two correspondingly supportive solutions to achieve and implement it.

**Implications for city policy and practice:** It is vital to shift from the ecology-centered value orientation to a new one with ecological and health values equally pursued;

- More attention should be paid to the users' socio-economic status and daily behaviour when planning urban green space.

To encourage public participation and promote the integrity of different levels of plans, actors and decision-makers need to adopt both 'top-down' and 'bottom-up' approaches

**Full article:** Reframing the index system of urban green space planning towards public health in China: Problems and solutions

**Author:** Yuping Dong and Helin Liu

**City Know-how editor:** Marcus Grant

## Local coastal population's experiences, perception and coping strategies in relation to environmental change

### RESEARCH FOR CITY PRACTICE

**For the attention of:** These research findings can be useful for local agencies involved in environmental change mitigation, planning and development, and public health, and can also provide insights on health-related risk perception and coping strategies of populations in other coastal areas in Indonesia and other developing countries exposed to environmental hazards.



Coastal inhabitants experience environmental change through impact on health, housing and income. Coping is short-term due to the financial burden, frequency and intensity of environmental events

**Problem:** Limited knowledge exists regarding specific situational health-related risk perception and associated coping and adaptation behaviours.

**What we did and why:** To address this knowledge gap, a concurrent mixed methods study design was applied, including a cross-sectional survey, six focus group discussions and eight semi-structured key informant interviews with village officers and health-care workers, to collect community-level data to inform local policy-makers. This provides data allowing for assessing the adequacy of local-level coping mechanisms for improving mitigation and adaptation policies.

**What we found:** Inhabitants of coastal Semarang experience increased temperatures, droughts, land subsidence and inundation.

- Locals link environmental changes to detrimental human action, poor sanitation and waste management, yet insight into disease mechanisms is suboptimal, leading to inadequate health coping.

**Full research article:** Environmental change and health risks in coastal Semarang, Indonesia: importance of local indigenous knowledge for strengthening adaptation policies

**Authors:** Julie van de Haterd, Budiyo Budiyo, Yusniar Hanani Darundiati and Ernst Spaan

**City Know-how editor:** Marcus Grant

- Coping is mainly short-term due to the frequency and intensity of environmental events.

Environmental hazards result in a financial burden due to loss of income and necessity to conduct costly coping strategies.

### Implications for city policy and practice:

#### Planning and Development

- Need to better consider strategic planning and budgeting decisions in coastal areas, including environmental and health issues.

#### Public Work

- Must develop improved infrastructure (drainage, waste management, housing, polder/dam) to mitigate environmental risks in coastal regions.

#### Health Agencies

- Ensure that development of sanitation, fresh water service, disease prevention and health education programs in the coastal community can be implemented through existing primary health care educational programs.

## Why the neighbourhood environment is critical for obesity prevention in India

### RESEARCH FOR CITY PRACTICE

**For the attention of:** The Chennai Metropolitan Development Authority and Transport Department, Government of Tamil Nadu and other regional and city transport agencies facing similar issues.



This new study explores built environment correlates of overweight and obesity among adults in a South Asian context.

**The problem:** India is witnessing a public health crisis where the prevalence of obesity is rising steadily. Increasing physical activity is a preventative strategy to counter this risk. Studies have shown that the design of our built environment (e.g. spaces where residents can exercise) might affect health-related behaviours and outcomes such as obesity.

**What we did and why:** We surveyed the residents of Chennai (164.5 sq. miles, population = 7.09 million), the capital of Tamil Nadu state in southern India. It is the most urbanized state in India with 48.4% of the population living in urban areas and has the highest number of diabetic cases, a majority of them reported in Chennai. The city has also seen a 24-fold increase in motorized vehicles in the last 10 years with private automobiles now constituting 55% of the daily trips.

**What our study adds:** This study is one of the first to explore neighbourhood environment factors that influence obesity and overweight among urban residents in India;

**Full research article:** Built environment correlates of overweight and obesity among adults in Chennai, India

**Authors:** Deepti Adlakha (@drdeeptiadlakha), Ross C. Brownson (@StLouisPRC), J. Aaron Hipp (@drhipp)

**City Know-how editor:** Marcus Grant

- We found that car ownership was associated with increased odds of being overweight/obese;
- With increasing reliance on automobiles in developing countries and a rise in sedentary lifestyles, city planning interventions are needed to mitigate their effects on poor health.

**Implications for city policy and practice:** By 2030, Indian cities are projected to add an additional 250 million people accompanied by a 9.9% annual growth rate in motor vehicles, with substantial health and socio-economic implications.

- As car ownership increases, there is an urgent need to develop interventions to promote active transport (e.g. walking, cycling);
- The availability of pedestrian, bicycling, and transit infrastructure (e.g. sidewalks, crosswalks, bicycle lanes) and access to transport services (e.g. bus rapid transit, light rail) can promote active lifestyles.

## Housing health risks, energy use and intervention priorities across Delhi's diverse settlements

### RESEARCH FOR CITY PRACTICE

**For the attention of:** Housing developers, health professionals, urban planners and city officials in Delhi and cities with similar climatic, housing and population issues.



Hot, polluted and varied housing quality in Delhi: Characterising housing health risks and energy use to inform intervention priorities in Delhi's settlements

**The problem:** Better housing could help simultaneously to improve health and sustainability.

In Delhi, rapid urbanisation, a varied climate, very high pollutant levels, along with wide variation in housing quality and services could result in significant energy use and health risks across the housing sector.

**What we did and why:** We characterised energy use and health risks across Delhi's housing, based on extensive reviews of available data and literature. This review gives an overview of housing health risks and energy use in Delhi, outlines priorities for interventions and where further data are vital. This will help further research and guide planners, developments and policymakers.

**Full research article:** Housing, health and energy: a characterisation of risks and priorities across Delhi's diverse settlements

**Authors:** Emily Nix, Jonathon Taylor, Payel Das, Marcella Ucci, Zaid Chalabi, Clive Shrubsole, Michael Davies, Anna Mavrogianni, James Milner, and Paul Wilkinson. Tweeting via @UCL\_IJED

**City Know-how editor:** Marcus Grant

**What our study adds:** An assessment of Delhi's housing, of this scale and type has never been completed. Such work is necessary for identifying the key risks and priorities across Delhi, this is vital to inform avenues for further research as well as pathways for interventions, which can be utilised by planners, engineers and architects to enable a transition towards a healthy, sustainable urban environment.

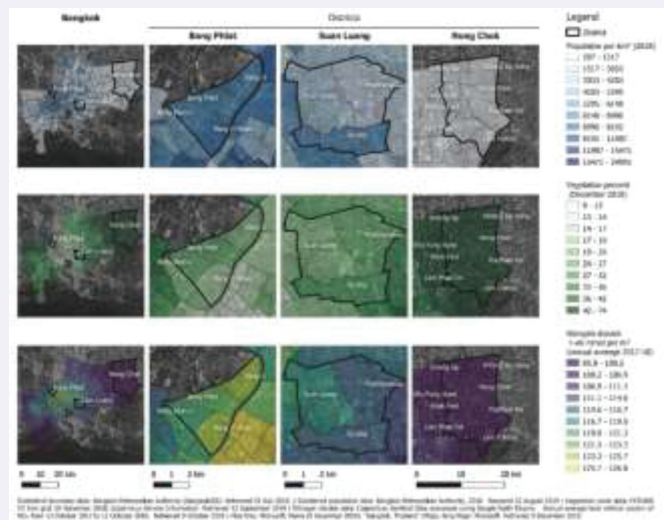
#### Implications for city policy and practice:

- Strategies to reduce energy should focus on affluent areas where housing is planned, in these energy use is estimated to be two times higher compared with households from other settlement types.
- Health risks are found to be largest within informal slum settlements, with important contributions from heat and particulate matter across all settlements.

## How can cities use the concept of liveability to track their progress towards achieving the Sustainable Development Goals? Lessons from Bangkok

### RESEARCH FOR CITY PRACTICE

**For the attention of:** Urban planners, spatial data analysts, city governments



Leaders from the Bangkok Metropolitan Administration teamed up with Melbourne-based academics and three other partner organizations to develop a liveability monitoring system aligned with the SDGs

**The problem:** Globally there is a major push to make cities more liveable for all, in recognition that cities are a key setting for achieving progress towards the Sustainable Development Goals.

**What we did:** We created a city-wide system for tracking liveability in Bangkok using local and open-source spatial data. Liveability indicators were based on local knowledge of the city of Bangkok as well as international research on the health impacts of cities. The indicators are designed to track how liveability varies within the city of Bangkok to guide equitable delivery of liveability infrastructure.

#### What our study adds:

- Proof of concept for developing a city-wide liveability indicator system that is relevant to cities in low-to-middle-income countries

- Partnership has led to the development of an international liveability network and a deeper understanding of shared and unique challenges
- Reflections on opportunities for future capacity building within our organisations and ways that diverse cities can learn from each other

**Implications for city policy and practice:** This proof of concept for tracking liveability in Bangkok has provided:

- Tools for tracking progress towards liveability that may be adapted and applied to other cities globally
- Broader lessons about working collaboratively across diverse cities and organisations
- An example of a partnership model that can be used to guide partnerships in other cities

**Full research article:** Measuring and monitoring liveability in a low-to-middle-income country: A proof-of-concept for Bangkok, Thailand and learnings from an international partnership.

**Authors:** Amanda Alderton, Carl Higgs, Melanie Davern (@mtdavern), Iain Butterworth (@imbutterworth), Joana Correia, Kornsupha Nitvimol, Hannah Badland.

**City Know-how editor:** Marcus Grant

## Enhancing urban green space quality for social and active ageing: Sydney, Singapore and Dhaka

### RESEARCH FOR CITY PRACTICE

**For the attention of:** Cities needing to plan for healthier ageing populations, their park authorities and their communities.



The association between urban green space quality and older adult outdoor recreation may vary across contrasting community contexts, but few international comparisons have been made. Data on older adult outdoor recreation and the quality of green spaces were collected using established tools in Sydney, Singapore and Dhaka.

**The problem:** Geographical under-representation of the evidence on the benefits of urban green spaces for the outdoor recreation of the ageing population.

**What we did and why:** We conducted a comparative study in three geographically and socioeconomically diverse cities.

This study was conducted to add evidence to focus on urban green spaces for promoting better ageing.

**What our study adds:** We provide a global-level comparison of urban green space quality. The study addresses

- How planned approach of green space planning can make difference
- How to tackle 'environmental gentrification' in a low- and middle-income country contexts

Interestingly, the expected association between quality and recreational activity could be different in places where high-quality urban green spaces were abundant.

**Implications for city policy and practice:** Our findings can help cities to

- Focus on vitalizing/revitalizing small green spaces within neighbourhood
- Enhance ageing relevant quality of the neighbourhood green spaces.

We found that higher quality green space was associated both with more sedentary activity and more walking after adjusting for differences between cities. Vigorous recreational activities were more common in parks scoring more favourably on accessibility, safety and landscape quality.

**Full research article:** Urban green space quality and older adult recreation: an international comparison

**Authors:** Faysal Kabir Shuvo (@FaysalShuvo6), Xiaoqi Feng and Thomas Astell-Burt

**City Know-how editor:** Marcus Grant

### Disclosure Statement

No potential conflict of interest was reported by the author(s).

### ORCID

Jieling Liu  <http://orcid.org/0000-0002-7930-9099>