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

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Abstract

Climate and environmental change are currently in the forefront as global development issues due to their economic, societal and health impacts, and the complex ways these interact. Experience and perception play an important role regarding the overall nature and severity of the environmental change, as these shape coping behaviour. Therefore, more insight is needed into local health-related risk perception, knowledge and coping mechanisms. In Semarang, a low-lying coastal city in Indonesia, a concurrent mixed-methods study design was applied using a cross-sectional survey supplemented by six focus group discussions and eight semi-structured key informant interviews with village officers and health-care workers. Respondents exhibited high awareness of environmental

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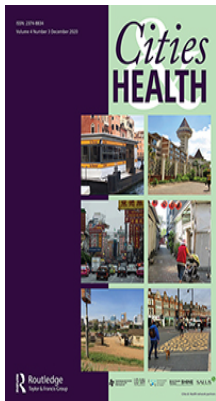
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Narrating the impacts of climate change for urban health governance in Guangzhou, China

Jieling Liu 

Institute of Social Sciences, University of Lisbon, Lisbon, Portugal; Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China

ABSTRACT

Global anthropogenic climate change imposes high risks on environmental sustainability and public health. The paper starts by illustrating the climate change impacts on health in Guangzhou, a rapidly expanding urban hub in China. Next, this paper investigates the institutional narratives of the climate-health nexus in Guangzhou by analysing relevant policies and work plans. Finally, the paper identifies knowledge gaps to which the paper proposes ways to improve urban health governance. The methodology includes a literature review on the health impacts of climate change, in-depth interviews with the environment and health policymakers in Guangzhou, and a policy archive review. Despite the scientific evidence of positive linkages between climate change impacts on health in Guangzhou, institutional narratives and policy responses on this linkage appear to be lacking, insufficient, or delayed. The outcomes of our narrative analysis point to the possibility that this could be due to the top-down tradition of urban governance, a lack of effective interdepartmental and cross-sectoral collaboration mechanisms, and the overall lack of institutional support for implementing the 'Health in All Policies' framework. The paper suggests health policy-making in Guangzhou to narrate climate change impacts more openly, scientifically to the public, and to address urgent health risks more systematically.

ARTICLE HISTORY

Received 17 August 2019
Accepted 3 December 2019

KEYWORDS

Climate change impacts;
institutional narratives;
urban health governance;
systemic approaches;
resilience; China

Introduction

Scientific evidence of climate change and its impacts on health are essential for informing and enhancing policies and governance for urban health and wellbeing. However, such scientific findings, e.g. of heatwaves, air pollution, and extreme weather events, and climate scenarios, often appear to be impersonal and obscure for most non-scientific public readers, including policymakers in government institutions. How to translate scientific evidence into adaptation policies and action, therefore, has been an intriguing puzzle for academics, politicians, and practitioners alike. The resulting knowledge-action gap needs to be improved urgently to reduce the damage of disasters and enhance resilience for urban health. To do that, it is necessary first to understand how policymakers and policy-making institutions perceive and understand climate change impacts from scientific findings. Second, it is needed to know how they narrate their knowledge into policy and action, taking into account the specific geographical, environmental, socio-economic, and political contexts. Following this process can help decision-makers get the information they need for formulating policies. Besides, it can also help academics and practitioners better understand what knowledge to produce and how to present and communicate the scientific findings of climate change impacts for enhancing urban health and wellbeing management.

Narrative, by the definition of the Oxford Dictionaries¹, is 'a spoken or written account of connected events; a story.' In this paper, it is referred to 'institutional narratives of climate change and health linkages,' specifically as government institutions' written accounts of climate change impacts on health. At the UN summit in Copenhagen in 2009, some policy analysts viewed China as a factor of the 'Brokenhagen' – a weak agreement without commitments to emissions reductions (Doelle 2010). Six years after, the Chinese governments are viewed as actively responding to the international goal to mitigate and to adapt to climate change. During this period, Beijing has enhanced its institutional narratives on environmental challenges and sustainability transformation in comparison to other governance issues. 'Ecological civilisation', for instance, has evolved from a general 'future-oriented guiding principle' according which the country needs to 'put our relationship with nature in a new perspective' (China Daily 2007), to an official narrative that is 'vital' and 'of fundamental importance for China's sustainable development' (China Daily 2007). Institutional narratives such as the ecological civilisation reflect organisational identity, values, and political will. Hence, they are vital to understanding better how Chinese governments seek to make progress in these fields.

Paradigms of street food vending in sustainable development – a way forward in Indian context

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ABSTRACT

Street food vending provides many opportunities like market heterogeneity, economic flexibility for the city dwellers and often urban safety. Instead of looking at street vendors as an eye sore, they can be integrated into the urban fabric. The various approaches towards understanding the dynamics of street food vending is explored in this paper through the methodology of literature study. The parameters of sustainable development can be better incorporated through understanding the relevance of street food vending in establishing vibrant public places, as a means to promote healthy food to the urban poor, playing a vital role in augmenting the food security of a city and in strengthening the economic capacity of the city by promoting food tourism. Activities along the street are multivariate, with different actors and activities playing a role. The literature study with respect to India shows the research gap in understanding the paradigms of street food vending. An attempt is made to study the current policies and approaches by Government of India. More in depth analysis need to be effected, with issues pertaining to the India, for successfully incorporating policies and formulating comprehensive approaches in street food vending.

ARTICLE HISTORY

Received 13 June 2020
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KEYWORDS

Street food vending; vibrant public places; healthy food; food security; food tourism

Introduction

Cities are growing at indomitable pace. The dwellers of the city are vying for resources and quality of life. This has created increasing inequalities and polarization within the urban core. The gloss and glamour of national and international chain of commercial enterprises may not be viable to all. It is in this context that we need to look at the parallel informal economy which thrives in cities. The informal economy provides a lion share of non-agricultural employment in the country. Street food vendors are a considerable part of this economy.

Food and Agriculture Organization defines street vended foods as 'Ready to eat foods and beverages prepared and/or sold by vendors and hawkers especially in street and other similar public place' (FAO, 1986). A street vendor is broadly defined as 'A person who offers goods for sale to the public without having a permanent built up structure but with a temporary static structure or mobile stall (or head load).' Street vendors may be stationary by occupying space on the pavements or other public/private areas or may be mobile in the sense that they move from place to place carrying their wares on push carts or in cycles or baskets on their heads, or may sell their wares in moving trains, bus, etc. (Government of India 2009).

The prime actors, street vendors, who are involved in building up the city economy, are often impelled to

exist under harsh circumstances. They are often considered to be a blot on the cityscape. However, the street food vendors are time and again denigrated as a problem by most planners and civic authorities. There have been numerous instances of complaints by the residential and organized commercial associations against the presence of street food vendors. The civic authorities and resident associations alike look at street vendors as transients, who may have to be evicted. Many an eviction drive has been organized in major cities of India by respective civic authorities. Street food vendors are often thought of as making the streets and urban public places dirty and congested. The street appropriation by street vendors is also a major concern to the local governments. The very informal nature of street vending without any regularizing body gives them latitude in indulging in their chosen trade. Street vendors are often uneducated and not knowledgeable in aspects of safe handling of food. This adversely affects sanitation and hygiene, mode of food display, food service and hand washing, sources of raw materials and use of potable water (Bhowmik 2010). This results in the sale of unhealthy and unhygienic food in these street shops (Malhotra 2016). Most of the street vendors are not organized and do not have the legal or economic awareness to sustain in such conditions. These people are on a large scale migrants or impoverished looking for better living

CASE STUDY



The neighbourhood as a fitness circuit: a Singaporean case study of designing for active ageing

Julienne Chen ^a, Hoa Nguyen^a and Joshua Comaroff^b

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ABSTRACT

Population ageing is a rapidly emerging policy and planning challenge for cities around the world. Physical activity is one important piece of this puzzle, linked to benefits to quality of life, physical and mental health and long term functional independence of older adults. This case study considers how to facilitate such healthy ageing in the context of neighbourhood design. The research centres on the behaviour and preferences of adults aged 55+ in a microcosm of Singapore's housing estates. A mixed methods approach is used to understand how older adults perceive, move within and utilize the facilities available in their immediate vicinity. The research finds ample opportunity for the design of fixed elements in the neighbourhood – stairs, walking paths, seating – to more productively engage older adults in physical activity. The findings are translated into the concept of the neighbourhood as a fitness circuit, focused on adaptations of existing elements within the built environment that are geared towards the physical development needs of older adults and integrated into common neighbourhood walking routes. They further highlight how we can continue to reframe and adapt infrastructure to meet the constantly evolving demographics of the city.

ARTICLE HISTORY

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KEYWORDS

Active ageing; active design;
Singapore

Introduction

The recent call to design cities that can be enjoyed by everyone from the age of 8 to 80 is not only a catchy expression. Rather, it is becoming a virtual necessity for cities to keep up with new demographic realities. This is especially pronounced in the many Asian cities that are experiencing head-on the challenges of a rapidly ageing population, ranging from ensuring a sufficient supply of supportive housing and accessible healthcare to addressing issues such as social isolation. Finding a path to long term health and functional independence amongst older adults is one important way to alleviate these pressures.

Like any other population segment, older adults have a distinct set of needs when it comes to maintaining active lives. Part of this has to do with the natural physical progression of the human body as it ages, such as changes in gait, balance, body strength and overall health that affect mobility and thus, access to jobs, goods and services. Older adults also have a set of interests, activities, and patterns for participating in local communal life that may be different from other age groups.

Meeting these specific needs of older adults can be particularly difficult in urban environments that were designed and built in a previous era – decades before notions such as walkable and inclusive neighbourhoods

became more widely acknowledged. The base infrastructure, rife with inaccessible design, can seem difficult to overcome. However, the imperative is clear. The quality of the environment has been shown to lead to higher levels of physical activity (Schutzer and Graves 2004, Loo *et al.* 2017). This in turn is linked to a wide array of positive outcomes for older adults, including chronic disease prevention, social bonding, cognitive and psychological well-being and longer-term independent functioning and quality of life, while also decreasing the strain on social services and healthcare systems (Bauman *et al.* 2016). Thus, forging a path for environments that not only enable, but actively facilitate, physical activity can serve as a vital mechanism to support the long-term health and well-being of older adults.

This case study explores how neighbourhood design can be adapted for active ageing, using a mixed-use neighbourhood in Singapore as a study site. It is informed by a series of research activities including interviews, walk-alongs, surveys, focus groups and observations. Together, they shed light on how existing neighbourhood infrastructure is perceived and used by older adults. The findings point to the outsized impact that micro-elements within the built environment can have on influencing their daily activity and routines.

This leads to the question of how to optimise the design of these micro-elements to stimulate more, and

Built environment correlates of overweight and obesity among adults in Chennai, India

Deepti Adlakha^a, Ross C. Brownson^{b,c} and J. Aaron Hipp^d

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ABSTRACT

Overweight and obesity are steadily rising in South Asia, the world's most populous region. India, a low- and middle-income country in South Asia is experiencing an obesity epidemic. Built environment features may profoundly influence physical activity and counter the risk from overweight and obesity. This cross-sectional study investigated built environment correlates of overweight and obesity among adults (N = 370, 47.2% female, mean age = 37.9 years) in Chennai, India. Participants from low-socioeconomic status households were more likely to be overweight/obese (odds ratio [OR] = 1.8, 95% confidence interval [CI] = 1.1–2.9) than participants from high-socioeconomic status households. Driving to work predicted a three-fold increase in overweight or obesity compared to active commuting (OR = 2.9, 95%CI = 1.3–6.4). Household car ownership was linked with an increased likelihood of overweight or obesity (OR = 1.5, 95%CI = 0.7–3.2). Low walkability neighbourhoods significantly predicted an increase in odds of overweight or obesity (OR = 1.8, 95%CI = 1.1–2.8). By 2030, Indian cities are projected to add 250 million people accompanied by a 9.9% annual motor vehicle growth rate. As car ownership increases across Southern Asia, there is an urgent need to develop interventions to promote physical activity.

ARTICLE HISTORY

Received 1 January 2020
Accepted 23 June 2020

KEYWORDS

Obesity; overweight; physical activity; active commuting; built environment; India

Introduction

The increasing prevalence of overweight and obesity continues to be a major public health concern globally (Jaacks *et al.* 2019). According to recent global estimates, more than 1.9 billion adults aged 18 years and older were overweight in 2016, and of these, over 650 million adults were obese (Guthold *et al.* 2018). Obesity and overweight are risk factors for a range of health problems, including cardiovascular disease, stroke, type-2 diabetes, hypertension and some cancers (Guh *et al.* 2009, Beaglehole *et al.* 2011, Lauby-Secretan *et al.* 2016). South Asia, the world's most densely populated geographical region that is home to one-quarter of the world's population (nearly 1.9 billion), is facing an obesity crisis with recent estimates suggesting that two out of every five adults in the region are either overweight or obese (Helble and Francisco 2017). Once considered a high-income country problem, overweight and obesity are now on the rise in low- and middle-income countries, particularly in urban settings, even as they continue to struggle with a burden of infectious disease (Prentice 2006, Swinburn *et al.* 2011, Siddiqui *et al.* 2015).

India, a low- and middle-income country located in South Asia and the second-most populous country in the world, is witnessing an obesity epidemic where the

prevalence of overweight and obesity along with other non-communicable diseases has been rising steadily (Meshram *et al.* 2016). The Chennai Urban-Rural Epidemiology Study determined that the age-standardized prevalence of generalized obesity in an adult population was 45.9% (95% CI: 43.9–47.9) (Deepa *et al.* 2003). In another study, the prevalence of obesity among an urban adult population was 55.5% (95% CI: 47.2–63.4), indicating a high burden of disease (Rautela *et al.* 2018). A comparative study across three Indian states found the prevalence of generalized obesity ranged from 11.8% to 33.6% (Pradeepa *et al.* 2015). A comparison of two major studies conducted by the National Family Health Survey in 1998–1999 and in 2005–2006 highlighted that the prevalence of obesity among Indian women elevated from 10.6% to 12.6% (Garg *et al.* 2010).

The pace at which obesity prevalence has grown at the population level across the globe points to social and environmental causes. This sum of influences that the surroundings, opportunities, or prevailing conditions of life have on promoting weight gain and obesity in individuals or populations characterises certain environments as more 'obesogenic' than others. Obesogenic environments



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Komisi Etik Penelitian Kesehatan Fakultas Kesehatan Masyarakat Universitas Diponegoro setelah membaca dan menelaah usulan penelitian dengan judul :
“Impact of Environmental Change on Health in Semarang, Indonesia”.

Nama Ketua Peneliti : Julie van de Haterd.
Anggota Peneliti : 1. Toeti Rahajoe.
2. Ernst J Spaan
3. Yusniar Hanani Darundiati
4. Nurjazuli
5. Budiyo
Tempat Penelitian : Semarang.

Dengan ini menyatakan penelitian tersebut telah memenuhi persyaratan etik dan setuju untuk dilaksanakan dengan memperhatikan prinsip-prinsip yang dinyatakan dalam Pedoman Nasional Etik Penelitian Kesehatan (PNEPK) Departemen Kesehatan RI 2007.

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Semarang, 15 Oktober 2015
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