II THE VARIETY OF URBAN EXPERIENCES

The Future of Chinese Cities

LI SUN

China represents the cutting edge of 21st-century urbanism. Its successes and failures will shape global perceptions of city life, not only in that country but around the world. When future historians assess the 21st century, China, along with India, will likely be their focus. The key shapers, discussed below, include demographics, the impact of digitization, environmental protection, and a looming class divide.

Since the advent of its reform and opening-up policy, China has experienced one of the fastest urbanization rates in history—and on an unprecedented scale. In the past four decades, its urban population has increased from 200 million in 1980 to 902 million in 2020. Of the 660 cities in China, 93 have an urban population of more than one million.¹ Six Chinese cities (i.e., Beijing, Chongqing, Guangzhou, Shanghai, Shenzhen, and Tianjin) are known as megacities, with over 10 million urban residents each.² Three engines drive China's rapid urbanization: industrialization, which concentrates capital, labor, and land in cities; marketization, as China has been transformed from a centrally planned economy to something resembling a market economy; and the shift to an export economy requiring access to ports, trains, and other means of communication.³

Such rapid urbanization and industrialization cause severe environmental problems, such as traffic congestion, air pollution, and chemical hazards. An increasing number of urban residents suffers from cardiovascular and respiratory diseases.⁴ Improving conditions in China's cities is a political and economic priority. In March 2021, the Chinese central government approved China's 14th Five-Year Plan (2021–25), with a strong focus on a human-centric "new urbanization" strategy to make cities more inclusive and sustainable.

City Clusters in China

Nineteen city clusters play a vital role in China's urban development; approximately 75 percent of China's urban residents live in these city clusters, contributing to more than 80 percent of China's gross domestic product. Among the 19 city clusters, three are identified as super-megacity regions (i.e., the Beijing-Tianjin-Hebei region, Yangtze River Delta region, and Guangdong-Hong Kong-Macao Greater Bay Area). These three city clusters contribute 40 percent of the national gross domestic product, even though they account for only 5 percent of the country's total land area.

Globally, there are three main structural models of metropolitan areas, including polycentric networks (e.g., the Rhine-Ruhr in Germany), dual-centric regions (e.g., the Boston-Washington corridor in the United States), and monocentric city areas (e.g., London in the UK). But the population scale of most city clusters in China is unparalleled compared to those in other countries. For example, the Beijing-Tianjin-Hebei cluster includes about 100 million people. In comparison, Japan's Pacific megalopolis has a population of 83 million; the Boston-Washington corridor, 49.6 million; and the Greater London metropolitan area, 13.6 million. China's cities reflect this kind of mass urbanism on steroids.

Developing city clusters is seen by most stakeholders as a way to improve the flow and accessibility of capital, goods, people, and services. This, in turn, increases economic efficiency, strengthens social interaction, enhances innovation, and increases employment opportunities. Despite these potential benefits, developing city clusters in China has come up against several challenges.

In China, a city is administrated by its corresponding province or municipality. Many Chinese city clusters include cities from different provinces and municipalities, which results in administrative fragmentation. Due to these jurisdictional boundaries, an integrated network of some sectors is essential within a city cluster, especially with regard to infrastructure, such as energy, transportation (e.g., rails and roads), telecommunications, and water supply. 10

Further, it is common to find that rather than cooperation, individual cities are more likely to carry out strategies to enhance their own competitiveness, causing spatial inequality within megacity regions. Thus, intercity cooperation should be promoted, but due to the fragmentation of administrative boundaries, challenges may occur in areas such as urban planning, transport, taxation, and budgetary systems.¹¹

Digitization in Urban China

In 2020, China had the largest number of internet users in the world, 989 million, compared to 563 million users in India and 292 million users in the United States. Among the 989 million Chinese internet users, 68.7 percent were urban residents who used the internet in domains such as e-commerce, eHealth, remote learning, and telework.

The COVID-19 pandemic triggered an increase in telework and remote learning worldwide. In China, around 400 million workers teleworked, and more than 200 million students engaged in remote learning in 2020. Although a majority of workers and students are now back in offices and schools, e-commerce and eHealth have retained their appeal among residents in China, and such practices are expected to expand over the long term. For example, in 2020, \$626 million of investment flowed into Chinese health-artificial intelligence startups.¹³

Online shopping is popular among Chinese internet users; online consumption generates 30 percent of annual retail value. In 2020, there were 782 million online consumers in China, and China's e-commerce sales totaled \$2.3 trillion, accounting for nearly half the world's e-commerce market. Even though major cities such as Beijing, Guangzhou, Shanghai, and Shenzhen remain the key hubs for e-commerce, residents in medium- and small-sized cities have become emerging consumers of online shopping in recent years. The government has recognized the important role of e-commerce in China's economy, launching various measures to promote e-commerce development; for example, in urban planning, logistical warehousing for e-commerce is facilitated in terms of access to land and building permits.¹⁴

China is a frontrunner in eHealth, compared to countries such as Germany, the United Kingdom, and the United States.¹⁵ In the 2010s, several eHealth apps were launched in China that provide digital medical services,

such as online registration, medical and health consultations, and online payment. Such eHealth services have been quickly embraced by internet users, with the demand for eHealth increasing by 30 percent annually between 2011 and 2018. Undoubtedly, the pandemic further accelerated the use of eHealth; for instance, in the spring of 2020, the use of digital medical consultations increased by 20 times compared to the use of them in 2019. The eHealth app Ping An Good Doctor had 67.3 million users monthly during the pandemic period.¹⁶

In February 2020, the government in Wuhan, the first epicenter of COVID-19, gave permission for health insurance to cover eHealth—the first Chinese city to launch this practice. Recent research by the author and her colleagues has indicated that users were largely satisfied with the convenience of eHealth services, especially for patients with mild symptoms or psychiatric diseases. In most cases, they only needed repeated medicine prescriptions, which could be easily filled digitally. However, patients with critical and severe illnesses may require comprehensive physical examinations, which cannot be conducted online. ¹⁷

Yet digitization in China, as elsewhere, presents challenges. Beyond the wide gaps in coverage between urban and rural areas, ¹⁸ there are also significant gaps *within* urban areas. In cities, internet nonusers encounter inconvenience in their everyday lives. For example, in the wake of the COVID-19 outbreak, a health QR code app that indicates a person's health status was introduced across the country. This electronic health code is required for taking public transportation and entering public spaces (e.g., markets and hospitals). ¹⁹ It is not uncommon to find senior passengers denied boarding on buses and subways due to the lack of a health code.

Based on a national survey by the China Internet Network Information Center, 27.2 percent of internet nonusers reported daily inconvenience because they were unable to access public transport and public spaces, 25.8 percent indicated they were unable to pay in cash as only digital payment is accepted for certain transactions, 24.9 percent replied they were unable to book or order something online, 24.6 percent pointed out that some physical stores and offices had been shut down, and 22.9 percent were unable to access adequate real-time news and information. To reduce such digital exclusion, digital training has been advocated and conducted recently in several Chinese cities, such as Hangzhou and Shanghai. ²¹

Demographic Winter Hangs over Chinese Cities

Arguably the greatest long-term challenge for Chinese cities—like many in the West—lies in their demographic trends. In the early 1980s, the Chinese government introduced the One-Child Policy, which was replaced by the two-child policy in 2016 and the three-child policy in 2021. Data from China's latest census (the seventh national census) were published in May 2021, revealing that China's population had reached 1.44 billion but grew at its slowest rate since the 1950s (when the census began) over the past decade.

The fertility rate (the number of children born over a woman's lifetime) is 1.3 in China, below the replacement rate of 2.1. The number of new babies in China was 12 million in 2020, a drop of 22 percent from 2019 and the lowest level in recent decades. Like their counterparts in the West, major Chinese cities are becoming increasingly childless. For example, the fertility rate in Shanghai and Beijing was about 0.7, the lowest in the world.²²

On the day the three-child policy was announced, the state news agency, Xinhua, carried out an online survey asking whether people would consider having three children. Among 31,000 respondents, only 5 percent answered "yes." Many young urban couples were concerned about the cost of childcare, quality education, housing, and elderly care.

China does not provide some basic services crucial to young families, such as state-provided childcare. Families with children under 3 years old do not receive any parental allowance or any state-provided childcare service. Grandparenting is a common practice in China, with 58 percent of young Chinese couples receiving childcare from their parents, compared to 10 percent in the United States.²⁴

Schooling is a particular burden. Chinese children only start to receive their nine years of compulsory education when they turn 6 years old. Even though preschools are vital for children's early development, preschool education in China lacks public resources, experiencing a shortage of teachers, poor school conditions, and uneven quality across regions. For example, the child-teacher ratio was 18 to one in public preschools in 2018.

With limited quotas and inadequate resources in public preschools, many urban households send their children to private preschools, which often charge high fees. Chinese parents spent \$36 billion on the private preschool market in 2018.²⁷ Due to the lack of adequate, universal statefunded childcare services and public preschools, Chinese cities in particular face a worsening population future, meaning ever-greater dependence on a continued influx of young people driven by internal migration.

As they experience low population growth, some Chinese cities, especially Beijing and Shanghai, also face a tsunami of elderly residents. According to the United Nations, a country is an aging society when its population age 65 and above reaches 7 percent of its total population. By this definition, China became an aging society in 2000. By the end of 2020, there were 191 million Chinese age 65 and above, accounting for 13.5 percent of its total population. It is estimated that by 2050, 26 percent of China's population will be age 65 and above. Exacerbating this, since China's reform and opening-up policy began, life expectancy has increased from 67 years in 1981 to 77 years in 2019.

The low fertility rate, an increasingly aged population, and longer life expectancy could reshape Chinese society—particularly in the cities. Due to the One-Child Policy, implemented between 1981 and 2015, the population configuration in China is now unbalanced; the common family structure is known as "4-2-1" (i.e., four grandparents, two parents, and one child). In other words, a young couple in their 20s and 30s, growing up under the One-Child Policy, needs to care for four parents and at least one child.

Without state-provided formal elderly care, family-based elderly care is widely practiced in China, also influenced by the Confucian value of filial piety. Such elderly care arrangements place great pressure on middle-aged Chinese, especially those who work. Some adult children may fail to fulfill their elderly care responsibilities. To address this, in 2013, the "Elderly Rights Law" was introduced in China, which stipulates that children have a legal obligation to visit their parents.

The biggest long-term effect of aging and lower birth rates could be the reduction of the labor force, which is already occurring. China's rise in the past half century paralleled its workforce's growth, which was higher than in Japan and the West for years. Now China's workforce is shrinking, and as centers of production and service industries, China's cities face a severe and potentially crippling shortage of workers.³⁰

A Tale of Two Migrant Groups in Chinese Cities

Current and growing labor shortages have made cities dependent on internal migrants and could make them even more so in the future. In 2020, the number of internal migrants in China was 376 million, accounting for 26 percent of the country's total population of 1.44 billion. Among them, 286 million were rural-to-urban migrants, making up 76 percent of the migrant population, and the remaining 24 percent of migrants were mainly urban-to-urban migrants, most likely to be highly skilled workers.³¹ The internal-migrant population in China is not a homogenous group. Inequalities between low-skilled and highly skilled migrants are multidimensional, reflected in their differential access to occupations, social welfare, and housing.

Regarding occupation, rural-to-urban low-skilled migrants with a low educational background often engage in "three D" jobs (i.e., dirty, dangerous, and demanding) in the service, construction, manufacturing, and delivery sectors. Such low-skilled migrants are the key driver behind China's spectacular emergence as the "world's factory," since they participate in labor-intensive sectors. In contrast, highly skilled migrants, often well educated, represent the elites in the high-tech, finance, medical, and creative industries.

In addition to the enormous income inequality between these two groups of migrants, social stratification is also evident. For example, with the booming gig economy in China, many aspects of highly skilled migrants' everyday lives largely rely on low-skilled migrants' services (e.g., food, grocery, and parcel delivery). Furthermore, low-skilled migrants work as drivers, housekeepers, nannies, and cooks for superrich, highly skilled migrants.

In recent years, several Chinese cities (e.g., Shenzhen and Wuhan) have introduced preferential policies to attract talented migrants, while other cities (e.g., Beijing and Shanghai) have implemented policies to limit and control low-skilled migrants. Such measures create inequalities in social citizenship. Highly skilled migrants are often encouraged to obtain *hukou* (local residency permits) from their destination cities.³² The *hukou* is tied to residents' urban social-welfare eligibility; in Chinese cities, only those holding a local *hukou* are eligible for urban social welfare such as

education, health insurance, pension, and social housing. In sharp contrast, low-skilled migrants face numerous barriers to receiving local urban *hukou*. This exclusion from urban social welfare makes them a highly precarious social group.³³

In China, government subsidies for children's education are linked to each person's hometown—that is, the place where their *hukou* is located. Therefore, without a local *hukou*, rural-to-urban low-skilled migrant children normally cannot enjoy these educational subsidies in their destination cities. If they would like to study in the schools of destination cities, high tuition must be paid, which is unrealistic for low-skilled migrant households to afford. Due to these institutional barriers, most low-skilled migrants choose to leave their children in their hometowns. These children are therefore called "left-behind children." 34

For the talented, the situation could not be more different. There's a talent welfare housing system to guarantee that highly skilled migrants can purchase or rent housing.³⁵ Low-skilled migrants, however, have limited access to the urban social-housing system. As a result, they often live in informal housing.³⁶ Cities prefer to spend money on housing for coveted skilled workers than apply their fiscal resources to low-income, affordable housing programs.³⁷

While highly skilled migrants are often formally employed with legal employment contracts in cities, many rural-to-urban low-skilled migrants are informal laborers without any such contracts. Low-skilled migrants are thus marginalized, as labor rights and protection claims are based on the prerequisite of a labor contract. Due to the lack of written evidence of their employment status, low-skilled migrants are commonly hindered from seeking legal redress against their employers.³⁸

China's urbanization has been spectacular—but also troubled. The growing inequality among different social groups, a demographic crisis, and incomplete state welfare provide a challenge just as compelling as those posed by China's obvious environmental issues. China may well have created a new, and successful, model of economic development over the past half century, but in the next half century, it can continue this development only if it addresses its pressing set of urban challenges.

Notes

- 1. China Global Television Network, "Official: Number of Chinese Cities with over 1M Urban Population Reaches 93," April 20, 2021, https://news.cgtn.com/news/2021-04-20/Number-of-Chinese-cities-with-over-1M-urban-population-reaches-93-ZC2mjenrLG/index.html.
- 2. Zhao Shiyue, "6 Chinese Cities Home to over 10m Urban Population in 2019," *China Daily*, January 12, 2021, http://www.chinadaily.com.cn/a/202101/12/WS5ffd372fa31024adobaa20a3.html.
- 3. Qi Ye et al., *China's New Urbanization Opportunity: A Vision for the 14th Five-Year Plan*, Coalition for Urban Transitions, June 2020, https://urbantransitions.global/wp-content/uploads/2020/06/China's_New_Urbanisation_Opportunity_Executive_Summary_ENG_FINAL.pdf.
- 4. Renjie Chen et al., "Fine Particulate Air Pollution and Daily Mortality. A Nationwide Analysis in 272 Chinese Cities," *American Journal of Respiratory and Critical Care Medicine* 196, no. 1 (July 2017): 73–81, https://pubmed.ncbi.nlm.nih.gov/28248546.
- 5. PricewaterhouseCoopers, *Chinese Cities of Opportunity* 2021, 2021, https://www.pwccn.com/en/research-and-insights/chinese-cities-of-opportunities-2021-report.html.
- 6. Anthony Gar-On Yeh and Zifeng Chen, "From Cities to Super Mega City Regions in China in a New Wave of Urbanisation and Economic Transition: Issues and Challenges," *Urban Studies* 57, no. 3 (November 6, 2019): 636–54, https://journals.sagepub.com/doi/abs/10.1177/0042098019879566.
- 7. Christian Lefèvre, "Metropolitan Government and Governance in Western Countries: A Critical Review," *International Journal of Urban and Regional Research* 22, no. 1 (December 16, 2002): 9–25, https://onlinelibrary.wiley.com/doi/10.1111/1468-2427.00120.
- 8. Leonie B. Janssen-Jansen and Thomas A. Hutton, "Reconfiguring the Governance Structures of the Twenty-First-Century City-Region: Observations and Conclusions," *International Planning Studies* 16, no. 3 (August 2, 2011): 305–12, https://www.tandfonline.com/doi/abs/10.1080/13563475.2011.591148.
- 9. Yi Li and Fulong Wu, "The Transformation of Regional Governance in China: The Rescaling of Statehood," *Progress in Planning* 78, no. 2 (August 2012): 55–99, https://www.sciencedirect.com/science/article/abs/pii/S030590061200030X.
- 10. W. Martin de Jong et al., "Introducing Public-Private Partnerships for Metropolitan Subways in China: What Is the Evidence?," *Journal of Transport Geography* 18, no. 2 (March 2010): 301–13, https://www.researchgate.net/publication/223601760_Introducing_public-private_partnerships_for_metropolitan_subways_in_China_what_is_the_evidence.
- 11. Stefan Rau, *Bridge to Future Livable Cities and City Clusters in the People's Republic of China: Policy Opportunities for High-Quality Urban Development*, Asian Development Bank, October 2021, http://dx.doi.org/10.22617/WPS210372-2.
- 12. Lambert Bu et al., "The Future of Digital Innovation in China: Megatrends Shaping One of the World's Fastest Evolving Digital Ecosystems," McKinsey, September 30, 2021, https://www.mckinsey.com/featured-insights/china/the-future-

of-digital-innovation-in-china-megatrends-shaping-one-of-the-worlds-fastest-evolving-digital-ecosystems.

- 13. Bu et al., "The Future of Digital Innovation in China."
- 14. Hsiao Chink Tang and Yuying Tang, "What Is Driving China's E-Commerce Growth?," East Asia Forum, October 13, 2021, https://www.eastasiaforum.org/2021/10/13/what-is-driving-chinas-e-commerce-growth.
- 15. Philips, Future Health Index, *Transforming Healthcare Experiences: Exploring the Impact of Digital Health Technology on Healthcare Professionals and Patients*, 2019, https://images.philips.com/is/content/PhilipsConsumer/Campaigns/CA20162504_Philips_Newscenter/Philips_Future_Health_Index_2019_report_transforming_healthcare_experiences.pdf.
- 16. Weiquan Wang et al., "The Use of E-Health During the COVID-19 Pandemic: A Case Study in China's Hubei Province," *Health Sociology Review* (June 23, 2021): 1–17, https://pubmed.ncbi.nlm.nih.gov/34161186.
 - 17. Wang et al., "The Use of E-Health During the COVID-19 Pandemic."
- 18. China National Bureau of Statistics, *China Statistical Yearbook* 2019 (Beijing, China: China Statistics Press, 2020), http://www.stats.gov.cn/tjsj/ndsj/2019/indexeh. htm.
- 19. Xia Yunyang, "Digital Divide Faced by Elderly Underscores Need for Civil Attention," China Development Brief, May 7, 2021, https://chinadevelopmentbrief.org/reports/digital-divide-faced-by-elderly-underscores-need-for-civil-attention.
- 20. China Office of the Central Cyberspace Affairs Commission, "Di47ci Zhongguo hulianwangluo fazhan zhuangkuang tongji baogao" [The 47th China Statistical Report on Internet Development], February 3, 2021, http://www.cac.gov.cn/2021-02/03/c_1613923423079314.htm.
- 21. Chris Gill, "China Helping Its 300m Elderly to Cross the 'Digital Divide," Asia Financial, February 26, 2021, https://www.asiafinancial.com/china-helping-its-300m-elderly-to-cross-the-digital-divide.
- 22. Nector Gan and Steve George, "China's Birthrate Just Hit Another Record Low. But the Worst Is Yet to Come," CNN, December 2, 2021, https://edition.cnn.com/2021/12/01/china/china-birthrate-2020-mic-intl-hnk/index.html.
- 23. Economist, "China Rapidly Shifts from a Two-Child to a Three-Child Policy," June 3, 2021, https://www.economist.com/china/2021/06/03/china-rapidly-shifts-from-a-two-child-to-a-three-child-policy.
- 24. Hongwei Xu, "Grandparenting and Cognitive Functioning in China," *Population Research and Policy Review* (January 2021), https://www.researchgate.net/publication/348337782_Grandparenting_and_Cognitive_Functioning_in_China.
- 25. Yue Jinglun and Fan Xin, "Childcare Policy in China: Review, Reflection and Reconstruction," *Social Sciences in China* 41, no. 4 (January 7, 2021): 151–68, https://www.tandfonline.com/doi/abs/10.1080/02529203.2020.1844448?journalCode=rssc20.
- 26. Yong Jiang et al., "China's Preschool Education Toward 2035: Views of Key Policy Experts," *East China Normal University Review of Education* (May 26, 2021), https://journals.sagepub.com/doi/full/10.1177/20965311211012705.
 - 27. Daxue Consulting, "The Kindergarten and Preschool Market in China: How

Much Chinese Parents Pay for Early Education," June 23, 2020, https://daxueconsulting.com/preschool-in-china.

- 28. Xu Keyue, "Aging of Beijing, Shanghai Populations More Serious Than National Average," *Global Times*, May 19, 2021, https://www.globaltimes.cn/page/202105/1223930. shtml.
- 29. Tao Liu and Li Sun, "An Apocalyptic Vision of Ageing in China," *Zeitschrift für Gerontologie und Geriatrie* 48, no. 4 (October 17, 2014), 354–64, https://link.springer.com/article/10.1007/s00391-014-0816-5.
- 30. Evelyn Cheng, "China Reports a Growing Shortage of Factory Workers," CNBC, January 27, 2021, https://www.cnbc.com/2021/01/27/china-reports-a-growing-shortage-of-factory-workers.html.
- 31. China National Bureau of Statistics, "Diqici quanguo renkou pucha gongbao (Diqihao)" [Seventh National Population Census Bulletin (No.7)], May 11, 2021, http://www.stats.gov.cn/tjsj/zxfb/202105/t20210510_1817183.html.
- 32. In 1958, China's National People's Congress promulgated the Regulation on Household Registration (hukou) system. A person's hukou is regarded as an ascribed status. People born in rural areas are registered under agricultural hukou, and those born in urban areas are registered under nonagricultural or urban hukou. Hukou institutionally divide society, creating an "invisible wall" between urban and rural sectors. For example, the division between agricultural and nonagricultural hukou has been used to distinguish citizens' access to rural and urban social welfare. See Kam Wing Chan, Cities with Invisible Walls: Reinterpreting Urbanization in Post-1949 China (Oxford, UK: Oxford University Press, 1994). There are a few routes for converting agricultural hukou to nonagricultural hukou, such as through employment and marriage, but the conversion criteria are strict.
- 33. Nicholas Eberstadt and Alex Coblin, "Urbanization with Chinese Characteristics: Domestic Migration and Urban Growth in Contemporary China," American Enterprise Institute, October 22, 2019, https://www.aei.org/research-products/report/urbanization-with-chinese-characteristics-domestic-migration-and-urban-growth-incontemporary-china.
- 34. Ming-Hsuan Lee, "Migration and Children's Welfare in China: The Schooling and Health of Children Left Behind," *Journal of Developing Areas* 44, no. 2 (Spring 2011): 165–82, https://ideas.repec.org/a/jda/journl/vol.44year2011issue2pp165-182.html.
- 35. Zhenshan Yang and Yinghao Pan, "Human Capital, Housing Prices, and Regional Economic Development: Will 'Vying for Talent' Through Policy Succeed?," *Cities* 98 (March 2020), https://www.sciencedirect.com/science/article/abs/pii/S0264275119310959.
- 36. Li Sun, "Homing City Migrants," *RICS Land Journal* (October 2015): 16–17, https://www.academia.edu/16395679/Homing_city_migrants.
- 37. Colleen Chiu-Shee and Siqi Zheng, "A Burden or a Tool? Rationalizing Public Housing Provision in Chinese Cities," *Housing Studies* 36, no. 4 (October 2, 2019): 500–43, https://www.tandfonline.com/doi/abs/10.1080/02673037.2019.1667490? journalCode=chos20.
- 38. Li Sun, Rural Urban Migration and Policy Intervention in China: Migrant Workers' Coping Strategies (London: Palgrave Macmillan, 2019).