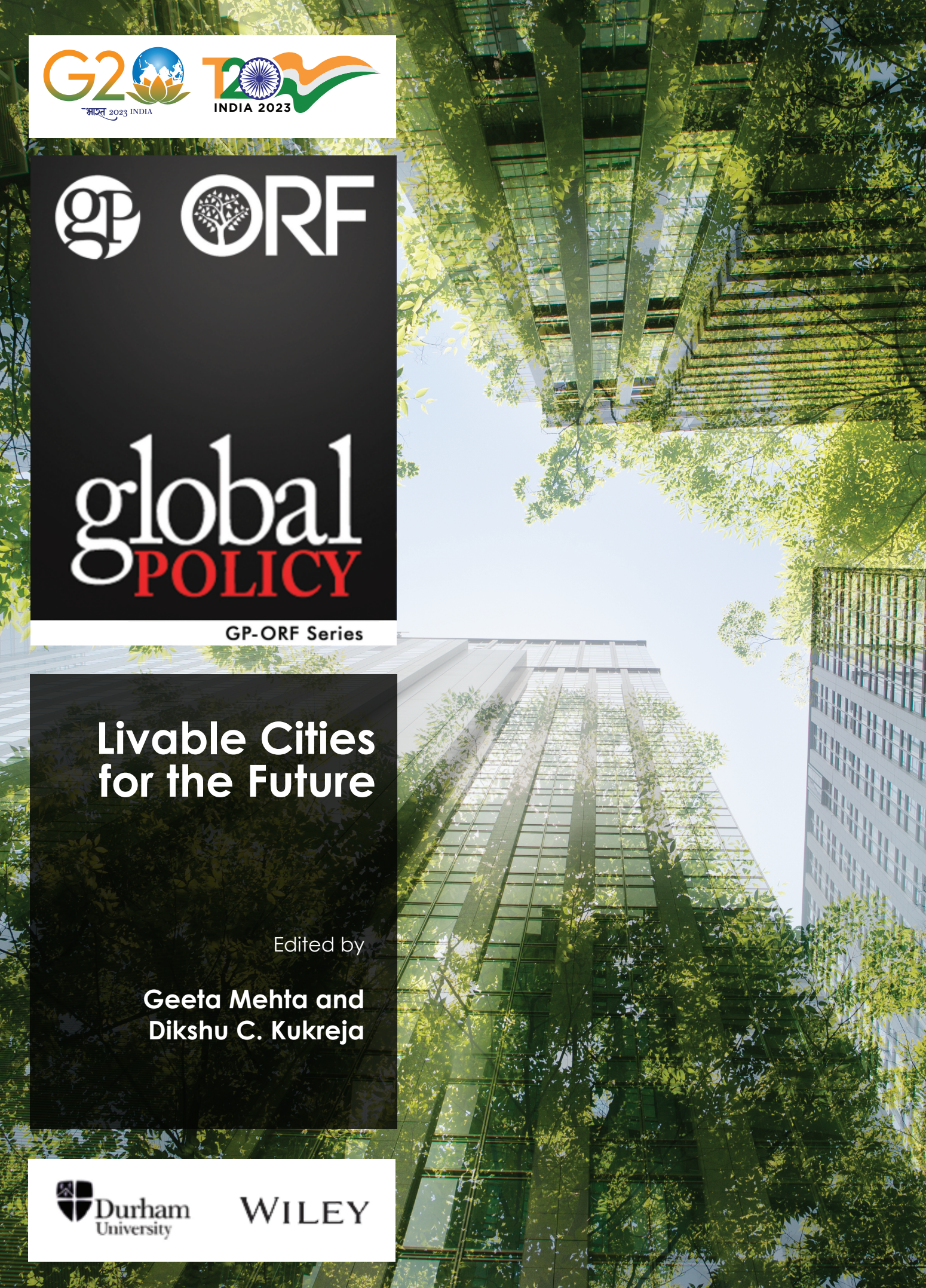

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Livable Cities for the Future

Edited by

Geeta Mehta and Dikshu C. Kukreja

Durham University

WILEY

LIVABLE CITIES FOR THE FUTURE

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Cover image: Getty/Hiroshi Watanabe

Cover Design: Rahil Miya Shaikh

Layout: Simijaison Designs

ISBN: 978-81-963864-2-9 (print); 978-81-963864-1-2 (digital)

Citation: Geeta Mehta and Dikshu C. Kukreja, eds, Livable Cities for the Future, (New Delhi: ORF and Global Policy Journal, 2023).

Contents

Introduction

This moment in our planet's history presents an urgent need for transformative thinking and action to make our cities and villages sustainable, and empower habitats for people from across the socioeconomic spectrum, now and for the future. The most pressing challenges are extreme climate change, population pressures, social and economic inequities, the growing refugee crisis, and managing evolving technologies. Cities and villages are dynamic entities that reflect the aspirations and lifestyles of their inhabitants. However, the rapid pace of change has exacerbated many interconnected challenges such as congestion, pollution, inequitable infrastructure, social inequalities, and resource depletion. Impacts of climate change, including rising temperatures, extreme weather events, and sea-level rise, further exacerbate the vulnerability of urban environments already stressed by racial, gender, and ideological divides. We can meet these challenges by developing strong policy directives and fostering international collaboration and knowledge sharing among innovators, entrepreneurs, thought leaders, and citizens. Recognising the urgency of this task, this compendium, *Livable Cities for the Future*, brings together the insights of prominent scholars and experts in the fields of sustainability and urban design from around the world.

According to Abraham Maslow's 'hierarchy of needs theory', once humans have satisfied their basic needs of food, water, and shelter, the actualisation of their full potential can begin to take place. While modern cities are centres of wealth accumulation and incubators of cutting-edge

technologies and ideas, they are also home to many populations whose basic needs of food, water, and shelter are not adequately met. The severely marginalised poor worldwide, from New York to Mumbai to Mombasa, are being joined by new climate and capitalism refugees every day. According to the Institute for Economics and Peace, over 1.2 billion climate refugees are expected to move to inland cities worldwide by 2050 (1). This does not include capitalism refugees, who are facing desperation due to factors such as crop failures or poverty-induced violence in their home countries. According to the UN Network on Migration, 20,000 people have died while trying to cross the Mediterranean since 2014 (2). However, recent migrations, already among the most extensive human movements in history, are just the tip of the iceberg. Cities need to prepare for the coming influx so that migrants and the currently marginalised citizens can thrive instead of just surviving in future cities.

The threats and potential of the self-learning capabilities of generative artificial intelligence (AI) will also impact cities. AI is set to influence or even control urban transport, energy, water, sewage, security, and policing systems of the future. AI systems can pick up data from various sources, learn patterns, and make assumptions and decisions. AI can also misinterpret data and patterns, fabricate misinformation during a pandemic or a climate disaster, and send people rushing into harm's way. The urgent challenge is to generate political will, commitment, and resources to ensure that generative AI and other technological developments are adequately controlled.

At the heart of this compendium lies the recognition that expertise and innovation are not confined to specific geographical regions or disciplines. By inviting essays from renowned scholars representing diverse cultures, backgrounds, and areas of expertise, we aim to foster a global dialogue that transcends borders and disciplinary boundaries. By exploring different contexts, case studies, and theoretical frameworks, we can better understand the complexities inherent in urban sustainability and design. Four clear themes have emerged from the writings in this compendium, which are presented as clusters described below.

Under the 'Big Ideas' cluster, Guilherme Lassance from Rio de Janeiro, Brazil, questions the dense city narratives that are now popular to ask why urban planners are not coming to terms with the excluded urban periphery. Saskia Sassen from New York, US, focuses on the need for new institutions to bridge the gap between local civility and urgent global issues. She also describes the corporate capture of cities by financial business formations. Sara Roversi from Bologna proposes 'Prosperity Thinking', a methodological approach to designing a world that fulfils all its beings' needs within the planet's ecological means. Lastly, Tetsuo Kidokoro and Norihisa Shina from Tokyo, Japan, propose a new urban framework for planetisation rather than globalisation.

Three authors have looked at urban problems and solutions from the 'Lens of Social Justice'. Peter Marcotullio from New York has focused on environmental, energy, and climate justice in the US, pointing the way towards a more just future for all. A passionate advocate of gender justice, Susan Blaustein from Washington DC, US, shows us how women's empowerment and gender justice are intrinsically linked to the planet's environmental sustainability. Kate Ascher from New York and London (UK), while observing the radical transformation underway in the very structure and form of post-COVID-19 cities, also focuses on transport justice, which has historically led to social and spatial injustices.

No discourse about present and future cities can be complete without squarely facing the issues of 'Informal Settlements'. Already perilous due to their uncertain tenures and ecologically vulnerable locations, they are now rendered even more susceptible due to climate catastrophes, which are only increasing. Matias Echanove (from Geneva, Switzerland) and Rahul Srivastava (from Mumbai, India) posit that the only logical solution is to allow and empower residents to self-build and improve their homes, streets, and neighbourhoods with local knowledge, and in partnership with the government to ensure adequate infrastructure. Relocating essential urban workers away from their work to make space for profit-making developments is not socially or economically smart.

Three authors have provided the 'Historic Perspective' necessary to move us forward. Kaisa Bronen-Bauer from Finland describes the ongoing big shift away from Modernist ideas of the early and mid-twentieth century, towards today's more human-centric and urgent needs. This essay helps us locate our position as urban practitioners in the large tapestry of history. Nikos Salingaros from Texas, US, questions the enduring fascination with modernist architectural forms that are utterly unsatisfying to the human soul and the systematic media campaign denigrating the forms of traditional architecture that have been scientifically proven to be more satisfying to human beings.

Since the future of cities must include the point of view of future citizens and decision-makers, Sushmita Shekar, provides the 'Young Person's Perspective' and their needs going forward.

We hope this compendium sparks conversations, inspires innovation and action, and fosters collaborations that transcend disciplinary and national borders. We are incredibly grateful to each author for providing important ideas that need to be discussed not only in urban planning, policy, and academic forums, but also amongst community groups so that our cities can be places of well-being, inclusivity, and sustainability for all, now and in the future.

Geeta Mehta and Dikshu Kukreja

Endnotes

(1) Sean McAllister, "There could be 1.2 billion climate refugees by 2050. Here's what you need to know," *Zurich*, June 3, 2023, https://www.zurich.com/en/media/magazine/2022/there-could-be-1-2-billion-climate-refugees-by-2050-here-s-what-you-need-to-know.

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BIG IDEAS

Towards Creating New Civic Institutions and Resources for Future Cities on the Internet

SASKIA SASSEN

Several small Spanish cities have preserved their boundaries for hundreds, perhaps even thousands of years. There are similar cities in the American Midwest, with problems of a type that could be addressed with the city's capabilities. It was not the question of a wealthy centre from which all modest-income households had been pushed to distant and informal sprawls, and where exhausted workers must travel ever-longer distances to jobs servicing the ever-higher luxury towers and the better-off residents. Nor were these cities dealing with the suffocating touchdown of an extractive global network—criminal or not—in their physical and psychological spaces.

Beyond this dynamic and the scale of community, the city demands systemic intermediaries, our institutions. What institutions could scale civic capabilities to address the scalar problems that are crying out for systemic solutions? Addressing such global problems requires new institutions and policy frameworks that scale the civic, while addressing the new realities.

The need for new institutions arises from at least four factors, the most important of which is the assemblages of complex types of knowledge and technologies—including algorithmic mathematics, law, accounting, and high-level logistics—that have helped generate complex

predatory formations that treat our cities as financial commodities. The complexity of these formations tends to camouflage their predatory character. Furthermore, such formations are systemic. These predatory formations, especially financial, are often beyond the reach of ordinary policy responses but result in highly degraded socio-economic outcomes. This scenario played out in the subprime mortgage that developed since the early 2000s, culminating in the 2008 global financial crisis, is one example of such an outcome. The significant trends leading to this point were ignored (1). While the government bailed out the banks, millions of low- and modest-income Americans lost their homes (2). Most financial actors that created this crisis walked away much wealthier, and hardly anyone went to prison. Perpetrators of the subprime crisis were not interested in enabling access to housing. Their aim was (and remains) to use the actual physical good (the house) to develop asset-backed securities to benefit the financial system. The finance industry accumulated hitherto unheard-of values, ranging from US$630 trillion right before the 2008 crisis to well over US$1 quadrillion today (3). We need multisector civic institutions that can understand such complex assemblages before they can hurt society at the scale that happened in 2008. Such financial assemblages have overwhelmed many cities by making housing unaffordable, especially for the modest working classes, who must travel increasingly long distances to get to their jobs. This dynamic is generating a growing condition of insufficient sleep for many workers, in a sort of novel abuse of the hard-working lower and modest middle classes and blue- and pink-collar workers who must report to work, even as many knowledge workers are now beginning to work remotely, at least part of the time.

Another factor that demands new institutions and policies is the decimation of the traditional banking systems by financial firms. There is a sharp difference between finance and traditional banking. One way of understanding this difference can be as follows. Traditional banking sells something it has (money) for a price (interest). Finance sells something it does not have, and therein lies its complexity and brilliance and its danger to other sectors. To do what it does, finance needs to develop instruments that allow it to invade other sectors to extract value from them or, more concretely, to extract the grist for its mill. At its most brutal and innovative, finance is an extractive sector: once it has extracted what there is to extract, it moves on, leaving behind destruction. Finance is similar to mining, albeit dressed in much finer clothes (4). In contrast to finance, traditional banking gains when its borrowers grow, do well, and keep borrowing. At its best, traditional banking enables others, while finance, at its best, destroys others to enable itself. Extraction, this extreme aspect of finance, is present in a broad spectrum of the sub-sectors. It is a process that has gone through many phases. Our current institutions for protecting the public are no longer sufficient.

The other rationale for new institutions comes from the emergence of specific operational spaces that recur in country after country but are not necessarily framed by city, state, national, or international law or by visible legal markers, even as they use particular national institutions such as laws and courts. These operational spaces create cross-border geographies that include only parts of national territories, often excluding most of the relevant ‘sovereign territory’ that houses them (5). These are tightly bordered territorial fragments that keep out what they do not want. This specificity holds true even for actors operating within a given economic sector, such as the financial ‘systems’ and so-called ‘vulture funds’—each has its operational field. The result is a proliferation of cross-border geographies constituted via specific components of each country. We need institutions that can understand and respond to these new geographies and actors.

Lastly, we need new institutions to understand and deal with the rapidity with which generative artificial intelligence (AI) is permeating our lives. Within a few years, ChatGPT and its likes will gather data from our conversations and messages, understand patterns, and make decisions about infrastructure, police services, our health systems, and more. Not only can AI make wrong conclusions, it can also fabricate alternative facts about events that never happened, or happened in a completely different context. Deep fakes will blur the lines between these and reality. This may completely distort ethics and goodwill in communities and cities. In addition, AI will result in the takeover of certain categories of jobs, leading to increased despair (6). There are also risks of surveillance through AI. Since AI can be biased, this may serve to widen socio-economic inequality. The dangers, and possible benefits, of AI to civic life can be enormous, but we do not yet have civic institutions to keep us safe from the misinformation that may be generated and widely disseminated in the next pandemic or the next climate catastrophe.

We need a funding source to scale civic capabilities and create new institutions. Private money is the money available. We can think of many problems today as the reasons for the lack of a path for private money to flow into civic institutions, cities, and infrastructure. It is necessary to unsettle conversation around private money in institutions, cities, and infrastructure by pointing to the lack of scripts rather than a further critique of the existing scripts. This is necessary to preserve the utility function of the social sciences in a time of rapid change when its powers to name must focus on the future. There is urgency and a dangerous temptation to simplify. This tendency is currently a battle set in moral and legal terms and aimed at forcing powerful global elites to transfer wealth and so forth. Simple solutions to deal with implacable powerful foes we have no time or resources to fight will not work. There is a cost to the leverage afforded to us by institutions—they are necessarily complex. The monied elite also has other priorities, since the entire capitalist infrastructure is mostly based on greed and wealth accumulation.

So, how can we find private funds to build the new institutions needed? Among the American Midwestern cities, Chicago stands out as a historical experiment with many specificities and complex lessons. There was a heyday of institution building, complexity, and ingenuity when the wealthy competed with each other to pour their money and civic care into making Chicago a great city. Chicago's model of growth relied on government-led engineering projects. This has also been pursued by other American cities such as Los Angeles and Las Vegas. But there was also eventually the demise of the older, much-admired innovations and a turn to simple expedients that may work well for some endeavours but not so well for others. Consider the loss of complexity suffered by the so-called "white flight to the suburbs" (7). The wealth of a city was broken into pieces that conformed to single homes and mortgages. We have left, and forgotten, the knowledge of how to recognise and respect many of the great and innovative civic capabilities that have been developed in the past.

But we are also generating new knowledge and capabilities: how important it is for people and communities of low or modest income to have the aesthetic experience of prosperity. The more candidly this experience is present in its human terms in our cities, the more efficiently it confers this benefit. For example, the art opening should not only be for rich people staring at squares but also a chance for anyone to mingle and flirt. For another example, we know that many employers are interested in their housekeeper's well-being—if not on their own terms- as a crucial ingredient of their well-being. Experiences of prosperity provide the raw materials for low and modest-income people, families, and communities to build an image of their prosperity and cast it out into their imagined future. This ideational architecture defines a space that can

gather resolution in both senses of the word. The detail can accumulate, and the resolve to make it real can also accumulate. As the image of their future accumulates resolution, it develops a kind of gravitational pull on the efforts of the individuals, families, and communities towards their imagined future condition. There are many good historical examples of this.

There is a size and form of city that can develop ingenious and complex institutions that harvest civic care in its most valuable way. They deserve close study to find types of knowledge we can use to define principles for the architecture of civic institutions, including on the internet.

In closing, it is quite a challenge to understand where we are at in our cities today. Each city has its own advantages, complications, innovations, destructions, losses, and so much more. Further, some cities have emerged as increasingly significant hubs for a variety of innovations that are best developed in our cities rather than in more remote spaces. This mix of major and minor cities is today among the most significant factors shaping our economies and our connections to the world—much more so than many of our grand projects and constructions. However, if all these cities are to thrive as we move into the future, we need institutions that can serve them, understand the challenges, and create public policies for social and economic justice for all.

Note: Parts of this essay have been previously published by Saskia Sassen in Science, Technology, and Society *(8) and* Territory, Politics, Governance *(9).*

Endnotes

(1) Thomas Philippon, "The Evolution of the US Financial Industry from 1860 to 2007: Theory and Evidence", Working Paper, 2008, https://pages.stern.nyu.edu/~tphilipp/papers/finsize_old.pdf

(2) Manoj Singh, "The 2007–2008 Financial Crisis in Review," *Investopedia*, March 19, 2023, https://www.investopedia.com/articles/economics/09/financial-crisis-review.asp

(3) Saskia Sassen, "Predatory Formations Dressed in Wall Street Suits and Algorithmic Math", *Science, Technology and Society* 22(1), 2017: 6–20, https://doi.org/10.1177/0971721816682783

(4) Sassen, "Predatory Formations Dressed in Wall Street Suits and Algorithmic Math"

(5) Saskia Sassen, "Embedded Borderings: Making New Geographies of Centrality," *Territory, Politics, Governance*, Volume 6(1), 2017, https://doi.org/10.1080/21622671.2017.1290546

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(7) Joshua Salzmann, "How Chicago Transformed From a Midwestern Outpost Town to a Towering City," *Smithsonian Magazine*, October 12, 2018, https://www.smithsonianmag.com/history/how-chicago-transformed-from-midwestern-outpost-town-to-towering-city-180970526/

(8) Sassen, "Predatory Formations Dressed in Wall Street Suits and Algorithmic Math"

(9) Sassen, "Embedded Borderings: Making New Geographies of Centrality"

Post-Compact City: Learning from Modern Integrative Projects to Fight Unequal Urban Conditions in the Global South

GUILHERME LASSANCE

By the end of the twentieth century, the city of Rio de Janeiro became a worldwide reference for its audacious slum redevelopment programme (1), incorporating concepts and methods arising from paradigmatic experiences of participatory urbanism in Brazil (2). These interventions were based on seminal texts of postmodern criticism written in defence of an idealised pre-industrial urbanity, still a prevailing reference used in the field of urbanism (3).

However, this ideal was quickly captured by the neoliberal logic of strategic planning, serving to produce marketing images of the global city (4). This presented several precepts of strategic reasoning as applications of contextualism intended to be more careful and attentive to pre-existing conditions, referring to the 'good form' of urban spaces and the landscape of the traditional city. They have been conceived as commercial slogans ranging from the 'Smart City' to the '15-minute City' and 'Transport Oriented Development'. Some of them materialised in Rio through interventions associated with world sporting events. This is the case of the Bus Rapid Transport (BRT) lines and also of financial projects catalysed by fancy building designs by great names in the world of architecture.

Despite presenting themselves as dominant references, none of these paradigms of contemporary urbanism effectively changed the unequal condition of a Latin American city like Rio de Janeiro. All of them seem at least captured, if not determined, by the logic of a standardised model of the city that has its main reference in the spatial structure of the bourgeois city. In addition to being socially exclusive—since it is based on private ownership of parcelled land transformed into merchandise—the traditional city model is also environmentally perverse. In fact, it is often invoked as a solution to reduce the carbon footprint and other impacts on the environment, often related to a lower demand for infrastructure, especially in daily commuting. However, one just has to broaden the view of the territory mobilised by this city model to perceive the serious and inevitable impacts on what is considered external to it. The ideal of a city with a compact configuration and density that allows for the desired proximity to the provision of quality services cannot produce its own energy or enough food to feed its inhabitants, recycle its waste, or treat its sewage. In addition, due to its compactness, the urban soil tends to be impermeable to water, thus exposing the city to climatic risks. To respond to these needs, the compact city mobilises a vast territory crisscrossed by transport infrastructure—at least for goods and energy—and populated by the undesirable coexistence of land use and facilities (5) that compact urbanity cannot easily accommodate, such as sewage treatment stations, waste facilities, logistics centres, and power plants. That 'outside' territory is, therefore, in principle, a vast periphery that qualifies as a 'service area' with a low value for dwelling and poor life quality standards and is mostly not walkable.

Therefore, while it remains rooted in its privileged reference of the compact city, the field of urbanism does not seem to have other concepts, alternatives, or relevant instruments to deal with these contradictions, not even to improve the conditions of this peripheral territory that is often excluded from the very definition of the city. This conceptual and design deficiency becomes even more blatant in the context of Latin American cities marked by strong inequality that generates socio-spatial segregation and ends up excluding a large part of its population from the 'good' urbanity—the one that is usually disseminated in the literature used as a reference in the field.

The infrastructural territories that are thus excluded from the city definition are precisely those that will remain as the only option for the life and dwelling of the excluded but large portion of the population.

Therefore, to provide urban planners with concepts and design instruments relevant to contemporary urban reality, it is necessary to build an expanded definition of the city that is no longer restricted to a model that is intrinsically incapable of integrating the needs for its existence and sustainability. This necessitates the search for design concepts capable of integrating what is currently excluded by the adopted and privileged city model.

It is possible to identify two lines of reasoning for this search. The first is the search for possibilities of integrating the currently excluded land uses and infrastructure into the city. The Burnham Plan for Chicago offers a historical example of such integrative thinking—the plan for the city of Chicago included the design of hybrid buildings integrating the freight transport infrastructure, its production, and logistics spaces, a disposition that enabled the urban architectures to host these uses and service activities within the dense core of the city (6). Another example is the parkway concept (7), which aims to make road infrastructure compatible with the more valued landscape of urban parks. More recent examples of this attempt to integrate have created

camouflaged unwanted facilities in some cities in the Global North, including waste incineration plants created in Copenhagen (8) and the urbanised banks of the Seine River in Paris (9). This is, however, an integration strategy that implies the creation of a land control legislation capable of going against the real estate market rules, where the project viability stems from the expectation of higher costs driven by the need to compete with the high value added to areas of recognised urban quality and imposed by the technology of camouflage and integration itself (such as special external coatings and sound insulation) (10).

Another line of reasoning that seems more promising and compatible with the challenges facing urban planners invests in combatting the discrepancy in value associated with different urbanised areas, thanks to the integration of city quality into peripheral territories, crisscrossed and populated by unwanted activities and underserved populations. A response to this type of thinking can be found in the thesis of New Urbanism, which intended to treat these discontinuous territories characterised by a generic landscape, assuming their discontinuity and applying the spatial principles of the traditional city to certain areas. This is the thesis of the regional city defended by Peter Calthorpe (11) and appropriated by several authors as an antidote to sprawl. However, this solution failed to resolve scale inconsistencies and other interferences that prevent the coexistence and effective spatial and landscape integration of service infrastructures that continue to be excluded from urban projects designed according to such references. Indeed, by keeping the exclusionary 'inside–outside' relationship, these projects assume the creation of islands of 'positive urbanity' amid the negative ocean of a non-city and non-place condition. In their North American origin, the concepts of 'new urbanism' were explored and made viable by the real estate market, interested in the profits arising from the capacity to generate value for the cheap peripheral land by creating autonomous enclaves conceived, like amusement parks, as 'fantasy islands'—a well-known recipe replicated in gated community projects (12, 13). These enclaves thus begin to prescind any relationship with the 'non-urban' territory that is devoid of the required qualities and is difficult to navigate, in which they have been created. In the Latin American context, such separation tends to perpetuate the relationship of economic dependence and social exclusion between urban centres—understood as the interior condition of such enclaves of pretending good urbanity, with a periphery associated with what is irremediably outside the city definition.

The Brazilian federal government entered the financial side of this equation, becoming a partner of the real estate developer to enable a wider inclusion of the population that could not afford the elitist commercial product that such New Urbanism created. This is what happened in the *Minha Casa Minha Vida* (My House My Life) programme. If the initiative faced the important challenge of the huge Brazilian housing deficit on the one hand, on the other, it produced mostly low-income gated communities in areas that were undervalued from a real estate point of view, either because of the close proximity with intense concentrations of unwanted land uses (expressways, viaducts, high voltage lines and dumps), or due to the location of the projects, mainly placed in the middle of non-urbanised areas devoid of any infrastructure. The functional isolation of exclusively residential developments was added to the spatial isolation of these autonomous dwelling entities based on the sectoral logic of public planning policies and a contractual need of control guided by the real estate bank's financing rules.

While the city grows on its 'non-urban' margins, urban planners, to a large extent, abdicate the search for alternatives and take refuge in academic criticism to denounce the processes of socio-spatial segregation and peripheralisation (14) that seem to escape their professional

competencies. The most prominent names prefer to boast about what they consider to be the positive transformations of 'reconquering the city', thanks to the invisibilisation of service infrastructures in the historic urban cores (15).

Solving this difficult equation necessitates overcoming the hegemonic reference to the traditional city modelled on a medieval matrix of the walled city. In this origin, there was an 'inside' and an 'outside' very clearly defined, where the inside was the urban world and bourgeois civilisation and the outside was what did not fit in it: the wild, the socially excluded, the unknown, and the enemy. The city, protected within its walls, offered a privileged reality, and was by definition organised as an excluding device, incompatible with what was not admitted by that condition of privilege. The social utopias of modern urbanism intended to overcome this enduring separation. They sought to think of city architecture in an integrated way with urban infrastructure, removing it from the logic of the private lot; an intention that led them to be accused of promoting the destruction of the city itself.

Rescuing this integrative approach as an important concept to be considered by contemporary urbanism implies stripping, at least temporarily, the modern city project from its historical context of origin. It is about overcoming the split between the competencies of architecture, urbanism, and engineering generated by the rise of postmodern criticism and thought. Contrary to this historical process, it is a matter of articulating the city's architecture with its urban infrastructure, hydrology, and topography. Indeed, recent research on such projects has revealed qualities of integration (16, 17, 18) hitherto rejected by postmodern critics for not corresponding to their urban *retrotopia* (19, 20). There is, therefore, an urgent need for a critical review of this reductive reading that failed to perceive and recognise the sophisticated intertwining scheme of the different components of the modern city project and rid it of the accusation of privileging an approach focused on the formalist design of isolated architectural objects, freely placed on an abstract and ideally flat ground.

Image 1: An aerial view of the earthworks for the construction of Brasilia, showing the strategy of designing with the ground

Source: Public Archives of the Federal District, Brazil

Image 2: An aerial view of the Central Bus Station area in Brasilia illustrating the integrative approach in designing an expressway in articulation with a vibrant urban core

Source: Lassance et al (21)

Revisited through this new lens and less dominated by the thesis of the traditional city, these modern city projects have the potential to play the role of new references for urbanism. *Water and Asphalt* (22) and 'porous city' (23) or, more recently, *Landscape as Urbanism* (24) are works that problematise the role of design in the contemporary city, denouncing its emptying by a field of urban planning transformed into a purely social and economic science. According to Waldheim, by moving away from the materiality of the physical site over the last 50 years, the discussion on urban design has been restricted to a dominant tendency committed, even if not always intentionally, to neo-traditional models of the city adopted by urban planners.

This integration between architecture and urbanism and between design and planning is an alternative that has yet to be explored because it is suspected of authoritarianism on the part of the demiurge urbanist who designs it. That is precisely the interest in revisiting modern cities projects, now with the added layers of time.

Therefore, we believe that modern urbanism offers important methodological clues to deal with the challenges of a non-compact yet more inclusive urbanisation. The challenge is to critically review these same clues in the face of the complex contexts of recent urbanisations in Latin America to build an urban agenda that is more pertinent and coherent with this now dominant reality.

Endnotes

(1) Projects carried out under the Favela-Bairro programme, implemented by the City of Rio de Janeiro with funding from the World Bank, from the 1990s to 2010. The reference to the traditional city clearly appears in the publications of the programme's thinkers who resort to the analogy of the favela with historic neighbourhoods of European cities.

(2) Conducted by Carlos Nelson Ferreira dos Santos in the 1980s, these experiences constituted an important milestone for the redefinition of the role of the architect and urban planner.

(3) In Brazil, the popular bibliography of the field still clearly denotes this adherence to the morphological approach. It contains the translations and re-editions of representative texts such as the Portuguese editions of Gordon Cullen's *Townscape* and Kevin Lynch's *The Image of the City*.

(4) Maria de F. C. M. Gomes and Thaiane S. da Motta, "Empresariamento urbano e direito à cidade: considerações sobre os programas favela-bairro e morar carioca no morro da providência," in *Libertas: Revista da Faculdade de Serviço Social*, (Juiz de Fora, 2013), vol.13, no.2, 55-79.

(5) See the NIMBY and LULU concepts for 'Not In My Back Yard' and 'Locally Unwanted Land Use' respectively.

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(8) Valentina Bisinella et al. "Environmental assessment of amending the Amager Bakke incineration plant in Copenhagen with carbon capture and storage," in *Waste Management & Research* 40.1 (2022): 79-95.

(9) Dominique Alba (ed.), *Services urbains : examples d'intégration en zone urbaine dense* (Paris: APUR, 2015).

(10) In the case of the Copenhagen, the Waste Plant, called CopenHill, was designed as a tourist attraction that includes a belvedere and a skiing ramp. In Paris, the facades are adorned with vertical gardens.

(11) Peter Calthorpe and William B. Fulton, *The Regional City* (Washington D.C.: Island Press, 2001).

(12) It is inevitable to associate this real estate valuation strategy with the current concept of the 15-minute city, which tends to reinforce the value of proximity associated with certain privileged areas of the city with an existing offer of higher quality services.

(13) Martin J. Murray, *The Urbanism of Exception: The Dynamics of Global City Building in the Twenty-first Century* (Cambridge: Cambridge University Press, 2017).

(14) Erminia Maricato, *Para entender a crise urbana no projeto de cidade contemporânea* (Bauru: ANAP, 2019).

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A Model of Integral Ecological Regeneration: The Power of Marginal Areas

SARA ROVERSI

Everything on Earth is irrevocably connected. Plants and animals, terrestrial and marine ecosystems, biodiversity, and human settlements: it is impossible to consider each of these without the interconnected networks of relationships and mutual exchanges. If nature and humans are inextricably linked, it follows that the health of one is linked to the health of the other. This was confirmed by the latest Intergovernmental Panel on Climate Change (IPCC) report (1), which highlighted the unequivocal human responsibilities in the climate emergency and the social consequences of the latter: water and food insecurity, resource scarcity, risks to cities and infrastructure, and serious mental health outcomes. It is increasingly evident what we have already sensed with the pandemic: these are not two crises—one environmental and the other social—to be considered in isolation; there is a single complex one that, affecting nature and humans, requires integral ecological regeneration.

A territorial ecosystem can nurture and regenerate to sustain itself over time only when all its dimensions are healthy. There are six areas of action on which to act for cities to be truly livable: political action; environmental action; human action; societal action; cultural action; and economic action. Combining these actions makes it possible to safeguard the environment,

benefit new generations, ensure social justice for all, and achieve sustainable, participatory, and integral development.

However, it is estimated that 70 percent of the world's exponentially growing population will live in urban areas by 2050 (2). It is, therefore, necessary for any city to be integrally livable, to draw on the enormous wealth of marginal areas and take them as models of integral ecology. The marginal areas rich in dormant resources can be transformed into laboratories of the future and into mines of vital resources that, through their creativity, guarantee oxygen, biodiversity, food of great quality, and, therefore, life to cities, territories, and, potentially (being an exportable model), humanity.

Political Action

There is a need to implement urban planning policies and redesign cities to accommodate the needs of future generations, but also to encourage the recovery of abandoned agricultural activities and the protection of natural resources. Considering the FAO's estimate regarding the urbanisation of a progressively growing population (3), the cities of the future must, therefore, also sustainably feed a growing population, but by producing better, wasting less, distributing responsibly; and, when necessary, using techniques that are soil-free or allow up to 80 percent less water to be used (4). These actions can reverse the rate of depopulation, create jobs, mitigate negative environmental effects, and diversify tourist flows.

Environmental Action

Acting on local water infrastructure and optimising local use of minor water resources ensure the protection of morphological and hydrogeological diversity (geo-diversity), crop varieties (agro-biodiversity), landscape, and flora and fauna (biodiversity). It also significantly affects the preservation and increased production of local food varieties that are cornerstones of the circular economy (5). The latter start by enhancing available resources by rethinking and restructuring their purpose and use. From reducing losses in the fields to more meaningful surplus recovery, from preventing household waste to promoting healthy and sustainable diets—preserving the true value of food also means grasping the real value behind what we throw away. Of course, the circular economy must also include the recycling of agricultural by-products and the efficient management of waste collection—operations that must nurture a sense of community, united around the common good. Equally desirable is the transformation of the agricultural model from conventional or organic to regenerative agriculture to care for land at risk of desertification and protect biodiversity.

Human Action

How food is produced, processed, and transported determines the state of natural resources and ecosystem services, which return to humans the quality, quantity, and variety of the natural bounty of food consumed. Viewing all those who provide food as protectors and custodians of the health of people and the planet is a necessary paradigm shift.

We need innovation to ensure more sustainable and inclusive land use, such as infrastructure to access essential services and scientifically measure the link between humans and nature. Indeed, it is increasingly necessary to rely on technology to demonstrate, with scientific data, the dimension of well-being so that it can be replicated. For example, Strobilo (6) integrates monitoring of environmental indicators (e.g. air pollution, groundwater status, soil conditions) with neuroscientific studies of the resident population, creating a unique algorithm that identifies critical parameters of longevity. Thus, the digital transition must be a strategic lever to address community needs. Platforms like these could enable governments to make strategic decisions based on scientific data, enable citizens to access any service and care, or facilitate digital medicine services that can deliver new healthcare services.

Societal Action

Training the community to cooperate for the area's sustainable development, fostering inclusive policies, generating new skills, providing opportunities for intercultural exchange, and measuring the socio-economic impact of ongoing processes are the basic elements of this regeneration model. Launching initiatives that educate the community in active citizenship, innovative practices of regenerative agriculture, libraries that accelerate participation in political, cultural, and economic life, and new spaces designed to train in entrepreneurship and creativity is essential. The benefits will include disseminating quality, equitable, and inclusive education to realise inclusive, safe, durable, and sustainable cities; activating new community services; and new job opportunities.

Cultural Action

Recovering, safeguarding, and promoting–including through conscious, slow, and sustainable tourism–the tangible (e.g., monuments) and intangible (e.g., gastronomy) heritage must be a mission. It is precisely awareness that creates the necessary basis for triggering in the community the sense of responsibility that is indispensable for generating sustainable development of the territory. However, for the cultural upgrading of cities to occur and for their environmental, food, and cultural biodiversity to be protected and thus enhanced, it is essential to act on innovation and new models of education, which will be discussed in the last section (*Paideia: integral human education is the starting point*).

Economic Action: Economic Regeneration

We need to activate initiatives that support the manufacturing sector and improve the quality of businesses. It is a virtuous circle: the regeneration of abandoned land, for instance, makes it possible to experiment with new production models, and the increase in production facilities implies an increase in employment and education. We need to create entrepreneurial development, participate in pilot projects with national and international partners, implement technologies to enhance the agribusiness sector, spread the tourism offer, recover abandoned agricultural areas, deseasonalise the tourism offer, and increase employment.

Case Study: Pollica 2050 – Mediterranean Living

Pollica 2050–Mediterranean Living is a laboratory to realise an integral ecology, focusing on the Mediterranean diet as a lifestyle and model of integral ecological regeneration to enhance dormant resources (7).

This strategy has been prototyped for over a year. Through hypothesised management tools, it is actively developing a tangible ecosystem capable of nurturing and regenerating itself to sustain itself over time. In Pollica, Italy, the Pollica Living Lab was built as part of the Paideia Campus, an experimental centre where it is possible to learn a new kind of sociality and fully experience the concept of integral ecology. The mission of the Living Lab, guided by the integral ecology approach, is to generate prosperity by enhancing a new entrepreneurial culture based on cooperation and regeneration in the following areas: food and environment, tourism and lifestyle, culture, and the Mediterranean diet. The Mediterranean diet, a gastronomy of creativity, which is now a UNESCO Intangible Cultural Heritage of Humanity, is a concrete example of integral ecology. It exemplifies a lifestyle capable of combining human health and environmental protection, protection of gastronomic pleasure and defence of biodiversity, pride in one's identity, and awareness of coming from cultural crossroads. All this comprises the Mediterranean lifestyle: an approach to existence that is based on the awareness that everything is connected.

The pilot project Pollica 2050 – Mediterranean Living consolidates a path that has proven to work and guarantees the feasibility and sustainability of the initiative, the soundness of the tools applied, and the profound sense that new investments would be possible, desired, and well-tailored. The emphasis on innovation allows the mission to branch out from Pollica as a hub, so everyone can benefit. Indeed, it is a model that can be globally exportable. This is demonstrated by Future Food Institute's project with Tokyo Tatemono, a sustainable food ecosystem in the Kyobashi area of Tokyo, known as the Kyobashi Living Lab (8).

Paideia: Integral Human Education is the Starting Point

Education is the real starting point, but a *paideia* that perfectly reflects the idea of integral ecology. Originating in the concept of pedagogical development in ancient Greece, *paideia* refers to integral human education, a process of long-life learning which intimately places a person's role in relation to their surroundings and engages the individual and environment in a relationship of absolute communion and co-creation of value.

Looking at the dynamics of interaction between humans and their nourishment related to health, culture, and the environment and considering the changes created by using new technologies and ongoing social changes, it is clear that innovation must always be, first and foremost, cultural. Innovation cannot be based only on enabling platforms. For it to be truly realised, it must be based on changing mindsets and building active communities. Innovation is a tool that enables and accelerates the process of transition to sustainability that goes beyond the technological application, entering the social and cultural realms. In 2015, when the United Nations 2030 Agenda was adopted, it led to a global change in perception about the impacts generated by our lifestyle, impressing upon everyone the need to create strategies to develop life- and earth-centred processes—approaches that could create inclusive prosperity.

From this desire, prosperity thinking (9) was born. It is a methodological approach to designing a world that fulfils all its beings' needs within the planet's ecological means. It aims to enable the design of a better food system, starting from a shared inclusive idea of prosperity that encompasses economic growth and social and environmental well-being. As an evolution of design thinking, this approach goes beyond user-centred design to human- and planet-centred growth. Such training cannot be based only on standard education; rather, it must generate a process of widespread empowerment. Therefore, training programmes, such as those activated by Future Food Institute (10), must not only be aimed at those who follow them but indirectly at the entire ecosystem they nurture. This is a 'makers' approach: that is, we are taught to think in a systemic logic that puts what the planet needs at the centre, and we can do this by selecting international and multigenerational classes. Innovation—which is necessary to address any obstacle in our existence—can only subsist in this kind of differentiated and heterogeneous dialogue: a natural vehicle for knowledge.

Through research projects, innovation challenges, and field experiences, mixing theoretical and practical approaches, and human and digital connections, the three stages of learning are then based on the three pillars mentioned below.

- Inspiration: Our age is complex, and providing a greater depth of experience within educational environments is necessary. An experience that is, moreover, charged with senses and the content. Designing a school that regenerates means returning the school to being a generator of experience and passions—the true inducers of knowledge growth. This is the first stage of education: reflecting on the 'why' and being inspired.

- Aspiration: Knowledge is about acquiring a set of skills and tools to be able to make the most of the resources one has, both the visible and the 'silent' ones. Only by activating didactic and methodological experimentation that are in step with the times and the needs of society will we be able to acquire the means of cultural transmission that we need to be able to design change. This is the second phase, in which to learn from the good practices of humans and nature, in and from the different places dedicated to teaching.

- Action: The opportunity of a crisis is often the basis for activating change. Helping to understand the relationships between territories, food systems, climate change, and innovation processes is crucial to implementing a model of integral ecology education and developing systems and methods to assist educational environments of diversity, where everyone can cooperate, participate, and contribute to the preservation of the Earth. In this experimentation phase, individuals can become agents of change capable of generating prosperity for the community.

The goal is to train a new generation of citizens who can embrace the complexity of the present and lead society towards environmental, human, social, cultural, economic, and political regeneration.

Touching on the core issues of environment, health, agriculture, tourism, and society, every action must be true to sustainable development, addressing efforts from a perspective of integral ecological regeneration.

Underlying it all is 'innovability', a word that stems from the now inseparable pairing of innovation and sustainability, which are the essential ingredients to drive any regeneration process. It is a process that drives us to think and act systemically, directing all our actions towards creating inclusive prosperity. To achieve this goal and create opportunities for economic and social development in marginal areas, 'Living Labs' can prototype innovative models of sustainable development, and a collaboration between cities, nations, and continents is necessary. If, as a global society, we adapt our mindset to see the potential inherent in the movement of people and ideas, we can fully regenerate our planet.

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Planetary Challenges and the Smart Urban Solution Framework

TETSUO KIDOKORO AND NORIHISA SHIMA

Cities are becoming home to a growing majority of the world's population. By 2050, the world's urban population will be nearly double. Populations, economic activities, social interactions, and environmental and humanitarian impacts are increasingly concentrated in cities. This poses massive urban sustainability challenges, including reducing poverty and inequality, fostering productive and inclusive economies, mitigation and adaptation to climate change causing extreme weather events and natural disasters, and wars and conflicts in different parts of the world. In the aftermath of the COVID-19 pandemic, public health is again at the forefront as an urban challenge. Cities confront countless challenges (1,2).

Cities not only generate wealth, but they also concentrate on poverty and inequality. Growing levels of inequality and exclusion, which can fuel social unrest as has been witnessed all over the world, are becoming persistent trends in urban areas. Today, many Asian cities have levels of inequality higher than their countries have with other countries. In addition, UN-HABITAT estimates that under the extreme scenario, if 80 percent of the economic damage inflicted by the COVID-19 pandemic persists for a decade, extreme poverty could increase by 32 percent (or 213 million) by 2030, and that the impacts of the COVID-19 pandemic could be long term on the future of cities (3). The above-mentioned planetary challenges will exacerbate this situation.

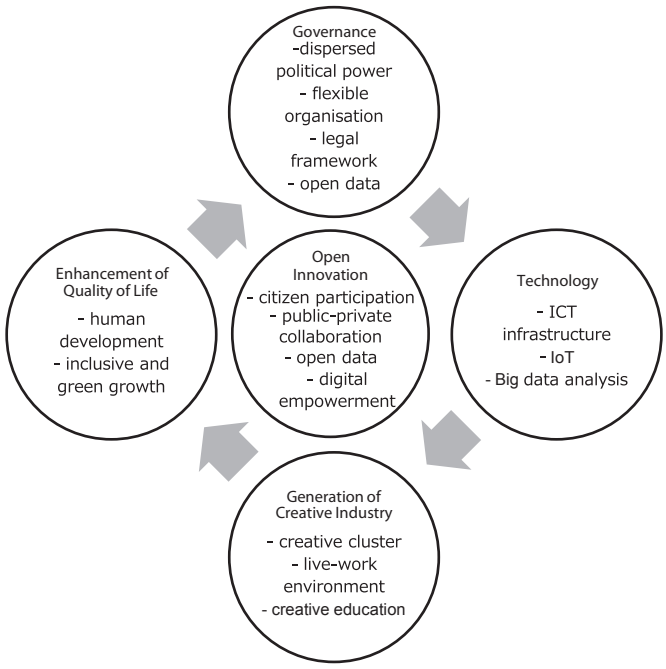
This inequality appears in cities spatially. Recent empirical studies point out increasing spatial disparity due to the expansion of private real estate development targeting wealthy people and the emerging urban middle class. Particularly in Asian cities since the 2000s, large-scale development projects have been created mainly in the existing urban centre. Real estate projects, typically seen as gated communities for high- and middle-income people, result in widening spatial inequality. This spatial inequality and consequential gentrification in Asian cities are considered government-led gentrification under hybrid developmental states and neoliberal political regimes. Before the 1980s, Asian countries sought to realise both economic growth and paternalistic reallocation under the developmental state concept, but have since shifted to a hybrid political regime of developmental state and neoliberalism (4).

How should Asian cities address this urban challenge of increasing spatial inequality and gentrification under neoliberal urban planning policies? This paper proposes a new urban spatial framework, the Smart Urban Solution Framework (SURF), to solve this dilemma. It addresses three issues: rescaling of space, inclusive urban policy, and creative and resilient community development. In conclusion, we will highlight SURF's potential to take us from globalisation toward 'planetisation'.

Smart Urban Solution Framework

In this background, we propose SURF to materialise the UN Sustainable Development Goals spatially in urban areas. In consideration of the ever-increasing importance of the utilisation of digital technology, the key components of SURF will include the reorganisation of governance, the utilisation of advanced technology, the promotion of creative industries, and the enhancement of the quality of life of citizens under the concept of open innovation (see Figure 1). In the context of massive urbanisation and the advance of flexible governance systems supported by

Figure 1: Components of Smart Urban Solution Framework (SURF)



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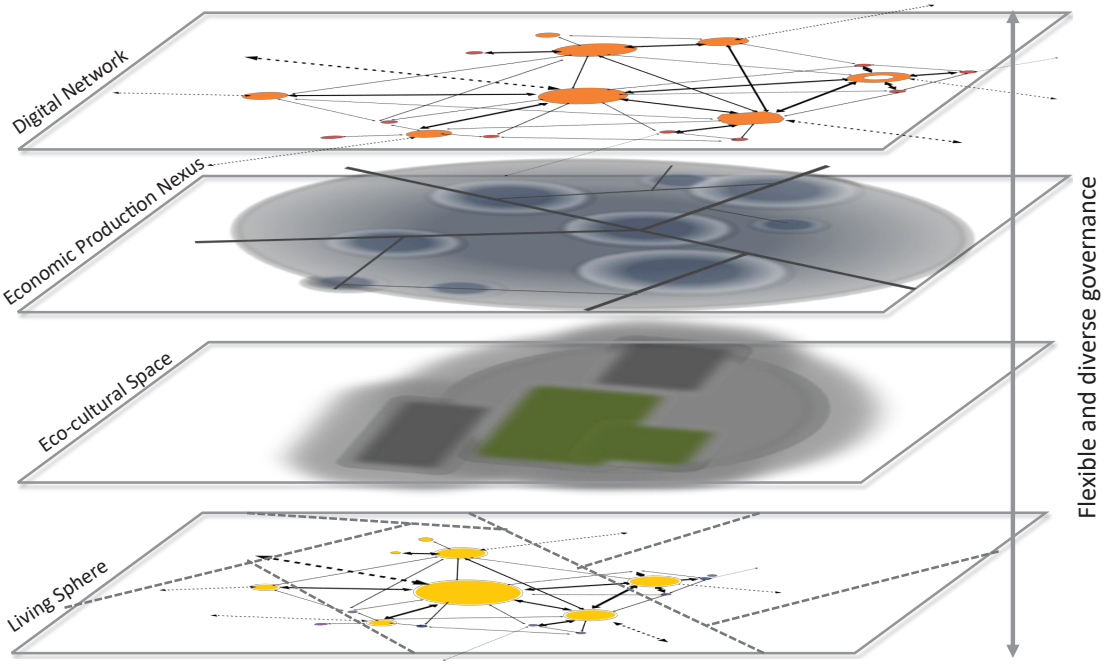
the innovation of technology, spatial rescaling needs to be emphasised as an urgent issue in the field of urban policies. Also, as mentioned in the introduction, spatial inequality is being widened under the current urbanisation trends, which undermines citizens' quality of life. Therefore, the realisation of inclusive urban policy is an important objective of SURF. Furthermore, considering the ever-increasing natural disasters caused by climate change, the resilience of communities—particularly lower-income ones—should be an important issue to be addressed. In this section, we will discuss these three important points regarding establishing SURF: rescaling of space in response to the advent of the digital age, realising inclusive urban policy, and developing a creative and resilient community.

Rescaling of Space

The rescaling of space is an important discussion point under which to consider a new urban spatial framework, taking into account the critical issues which the world faces today, such as the preservation of ecosystems in response to climate change and the digitalisation of urban systems. In view of this, we argue that territorial space should be understood as a multi-layered structure (5)— the 'economic production nexus' representing the economic production systems; the 'living sphere' representing human living space; the 'eco-cultural sphere' representing ecosystems and the life culture nurtured under unique ecosystems; and the 'digital network', which is growing in importance today (see Figure 2).

Among these four layers, a major concern lies in the economic production nexus in the age of globalisation. Yet, considering the ever-increasing planetary challenges under globalisation, the role of the eco-cultural sphere should be emphasised more: for example, adopting adaptive river basin management to respond to increasing risks of floods under climate change, which could undermine the economic production nexus. Furthermore, the importance of the digital

Figure 2: Four Tiers of Spatial Network



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network layer is increasing under the context of smart city policies in many countries. Notably, different layers naturally possess different and changing spatial coverage, which a one-size-fits-all governance system cannot cope with. It is, therefore, important to establish flexible, diverse governance systems to respond to changing circumstances.

Inclusive Urban Policy

The second issue to be addressed under SURF is the spatial inequality and gentrification encouraged under neoliberal urban planning policies, as witnessed in many Asian cities. Tokyo has promoted many large-scale redevelopment projects in the city centre since the late 1990s, and the population change trends clearly explain the gentrification process caused by these redevelopments in the city centre and its environs. Mumbai also has an increasing concern for similar gentrification. After India's economic liberalisation in 1991, slum policies underwent a big change, promoting redevelopment with the participation of the private sector with the condition of providing relocation housing under the Slum Rehabilitation Scheme (SRS), launched in 1995. It is reported that during the initial 10 years after the introduction of the SRS, more than 240,000 units for original slum residents were constructed as a part of the redevelopment of slums. Yet, most scholars claim that this scheme is not a successful solution to improve the living conditions of slum-dwellers. This is due to inadequate design standards, including inadequate unit size, an extremely narrow interval between high-rise buildings, problems of ventilation, high electricity fees, and social problems such as loss of social networks, space, and workspace.

Jakarta also confronts increasing spatial inequality and gentrification in various areas. Gentrification by large-scale, mixed-use redevelopment projects targeting the wealthy is evident in the areas adjoining the city centre, such as the area known as the Golden Triangle. Additionally, the northern area has recently become the hottest place in terms of gentrification. Large-scale regeneration projects have been completed, comprising gated communities and luxury high-rise condominiums and apartments for wealthy and upper-middle-income people. Since this area is the poorest one in Jakarta, the area's spatial inequality is quite evident. The displacement of original residents in *kampung* areas for redevelopment projects has become a serious social concern. Considering this kind of spatial inequality and gentrification, we can clearly point out that inclusive urban policies need to be prepared for Asian cities. Therefore, the state's role in the housing sector should be strengthened.

Creative and Resilient Community Development

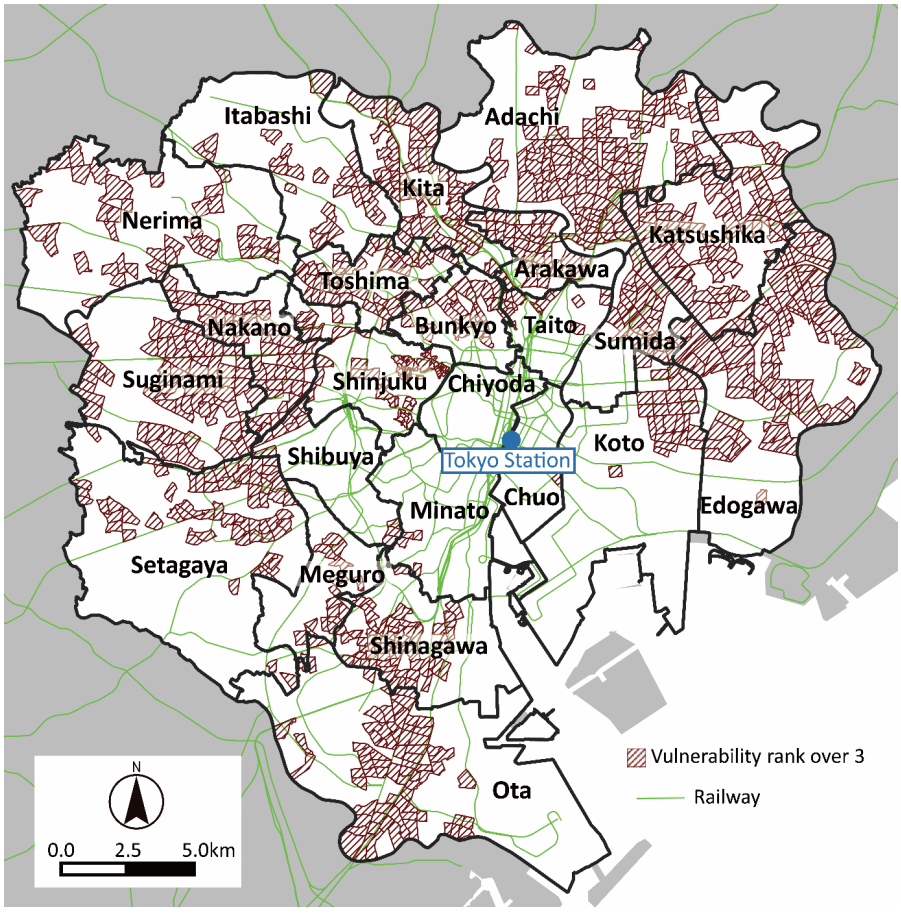
We claim that the dynamics of urban development of Asian cities lie in the co-existence and conflicts between self-shaped urban areas (SUAs) and planned urban areas (PUAs) (6). SUAs are defined as built-up areas formed by an accumulation of individual small-scale developments unplanned, while PUAs are defined as built-up areas developed by large-scale, planned developments. Typically, SUAs are spread broadly in many Asian cities and comprise of a wide variety of access in terms of infrastructure levels—from slum areas with a very low level of infrastructure to popular residential areas with a certain level of infrastructure.

SUAs are characterised by their unique, ambiguous nature. They are socially, economically, and environmentally vulnerable due to their inadequate level of infrastructure. Yet, at the same time, they play important roles such as in the preservation/creation of social ecosystems, a

sense of community, a wide variety of affordable housing, a source of social diversity, mixed-use land use, a live-work style built environment, and incubation function for urban culture and urban industries. For example, in the case of Tokyo, SUAs are spread in areas of 5–10 km range surrounding the city centre (see Figure 3). These areas are regarded as vulnerable to earthquakes and possible large-scale floods, which might occur due to climate change. Yet, they function as popular, affordable rental housing areas and—partly because of this very fact—also as incubation areas of the creative industry and urban culture in Tokyo (7).

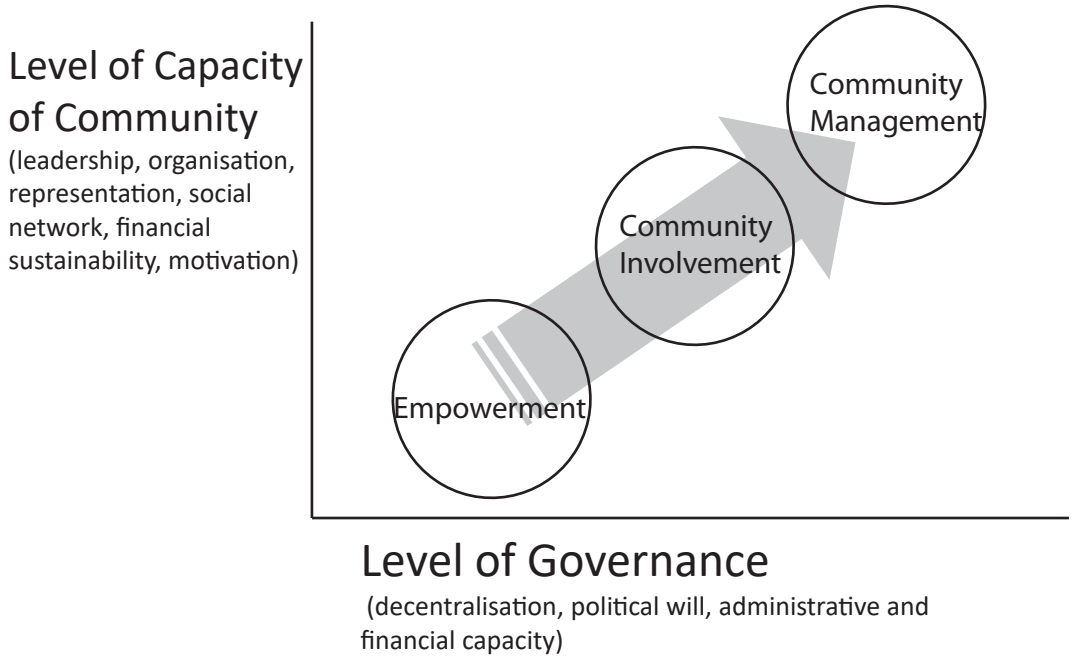
Many start-ups have emerged in the areas of the city centre in Tokyo along its western border, which we named Tokyo West Creative Cluster (TWCC). Importantly, SUAs and PUAs co-exist in a mixed manner in TWCC. Large-scale companies that are major customers for start-ups are in PUAs, while SUAs provide ecosystems for the generation of start-ups such as affordable rental housing, a wide variety of affordable rental office spaces as well as live-work style mixed streets. Yet, recently, large-scale, property developer-led urban regeneration projects are in progress in SUAs in many Asian megacities, including Tokyo, as discussed above. These gentrification projects will undermine the above-mentioned important roles of SUAs and eventually lead to the loss of diversity in urban societies. Considering the ambiguous nature of SUAs, we claim the importance of retrofit-type of improvement of SUAs based on the principle of participatory co-evolutionary community development that strengthens both the capacity of communities and local governance, as indicated in Figure 4 (8).

Figure 3: Distribution of Self-shaped Urban Areas in Tokyo



Source: Kidokoro, Fukuda and Sho (9)

Figure 4: Co-Evolutionary Community Development



Source: Authors' own

Conclusion: Towards Planetisation

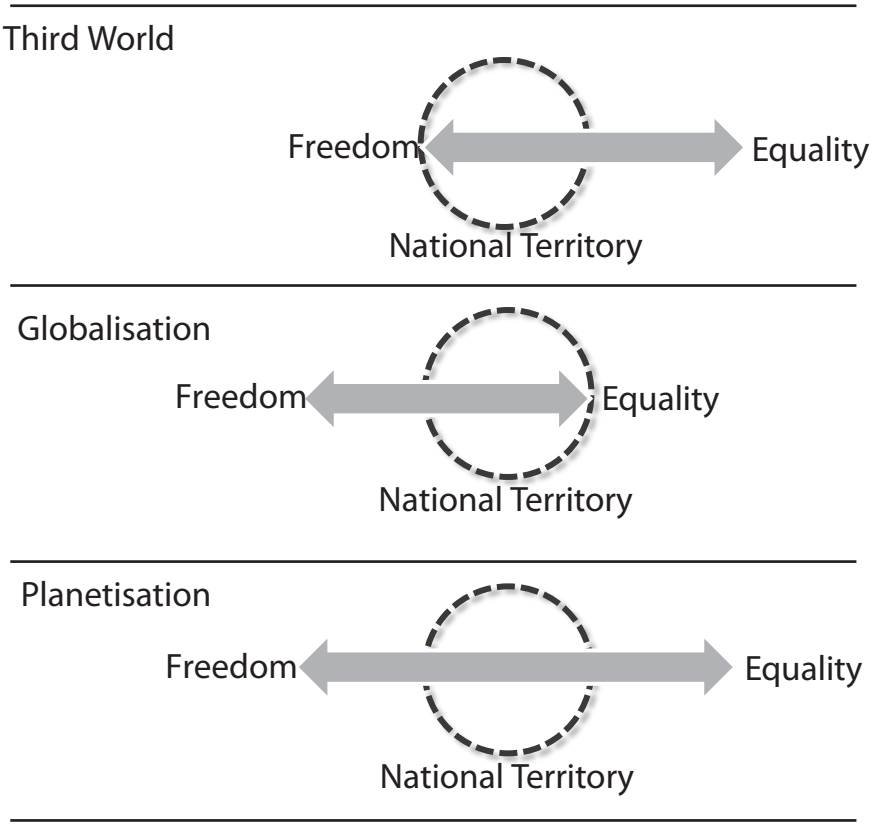
As economic globalisation advances, we should also prepare for social and environmental issues at the global scale, which we call planetary challenges. As discussed, territorial rescaling that responds to planetary challenges is also becoming an urgent issue in urban planning. Keeping these new circumstances in mind, we propose the concept of 'planetisation' to consider a holistic view of economic, social, and environmental issues at the global scale, instead of the current globalisation trends that often focus only on economic issues.

Figure 5 shows the changes in mainstream global views on spatial governance during the past several decades from the viewpoint of how freedom and equality are balanced globally. Note that the concept of equality here broadly includes social and environmental equality, not only income allocation. In this sense, climate change issues can also be viewed as increasing environmental inequality: for example, between the emission of greenhouse gases and impacts of climate change adaptation beyond national territories or between the affluent people whose emission rates of CO_2 tend to be higher and the poorer people who tend to live in high-risk areas (such as flood-prone areas) of climate change, but with a light carbon footprint.

During the era of Third World thinking, the main discussion point was the economic inequality between the North/South or centre/periphery based on academic theories such as post-colonialism, dependency theory, or world system theory. On the other hand, during the era of globalisation since the 1980s, economic growth has been materialised beyond the North/South dualism under economic globalisation, i.e., in the pursuit of global economic freedom. Equality issues are now understood as the widening disparity between global hub cities (both in the

global North and global South) and non-metropolitan areas or serious inequality within such global hub cities.

Figure 5: Beyond Globalisation Towards 'Planetisation'



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As globalisation advances, serious planetary challenges are now more urgent. It follows that inequality beyond the simple dichotomy of global North versus global South is developing into an important global issue. On the other hand, the role of globalisation as an engine of global economic growth is apparent in the digital age. Thus, in conclusion, we would like to emphasise that there is a critical need to balance freedom and equality beyond national territories, which we call 'planetisation' instead of globalisation. We believe that attempts to establish SURF, which we propose, can play an important role in such efforts.

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LENS OF SOCIAL JUSTICE

Environmental, Energy, and Climate Justice in the US: Origins, Drivers, Principles, and Potential Remedies

PETER J. MARCOTULLIO

Over the past several decades, environmental, energy, and climate justice have emerged as critical topics across the US, if not the world. This paper highlights the systematic and extraordinary environmental burdens and lack of opportunities for benefits that some communities have experienced in the country with significant impacts on human well-being. It briefly outlines the origins and definitions of these terms, the moral principles for their underpinnings, and the drivers of injustices and concludes with thoughts on moving towards greater environmental, energy, and climate justice.

Origins and Definition of Environmental, Energy, and Climate Justice in the US

The concept of justice is based upon the general moral principle of fair and equitable treatment of people. Generally, social justice causes address the disproportional distribution of wealth, access to resources, opportunity, and support according to these principles. There are a variety of branches of justice depending upon the particularities of the subject. Attention to environmental justice had its beginnings in the US in the early 1980s, when civil rights activists fought against toxic disposal facilities near African American communities in Warren County, North Carolina

(1). The activists could successfully bring local environmental conditions to national attention for the first time when they identified a national systemic pattern (2). Subsequently, the US Government documented and confirmed that African American communities in southern US were disproportionately located close to many waste sites (3). Benjamin Chavis understood these circumstances as environmental racism, which he used to describe the regulations and laws that deliberately targeted communities of colour for toxic waste facilities (4). Robert Bullard then suggested that the patterned outcome was incompatible with social justice, and in this case, called it environmental justice, of which the moral principle was that "all people and communities are entitled to equal protection of environmental and public health laws and regulations" (5).

Before Warren County, racial and ethnic communities had been only marginally involved with issues of the environment. One reason for this can be traced to the nature of the environmental movement, which had historically been white-middle and upper-class in its orientation, focusing on wild or natural lands. The concept of environmental justice broadened the movement to include all places of human habitation: residences, occupational locations, schools, and streets, suggesting the difficulty of separating the natural–physical environment from the human–cultural environment (6).

Communities most affected by injustices were termed 'frontline', a blanket term referring to neighbourhoods most exposed and vulnerable to detrimental and life-threatening risks. The term has been widely used in literature about the military, emergency response, medical, disaster reduction, vulnerability, climate change, environmental, and energy. In terms of the environmental field, Bullard was the first to identify Black communities as frontline environmental justice neighbourhoods (7). He argued that Black communities have been historically exposed to elevated health risks related to environmental burdens.

The concept of environmental justice has subsequently broadened to describe any community disproportionately affected by environmental burdens or isolated from environmental benefits. The term 'environmental' is now also being used for specific issues, such as energy and climate (8). Energy justice is based upon the principle that all individuals should have access to affordable, safe and sustainable energy to sustain a decent lifestyle and the opportunity to participate in and lead energy decision-making processes with the authority to make change (9). Injustices include, among other things, notions concerning fuel poverty, energy poverty, energy burden, and energy insecurity. Energy poverty is the systemic lack of access to sustainable modern energy services and products. It has been identified as conditions lacking adequate, affordable, reliable, quality, safe, and environmentally sound energy services to support development. Those suffering from energy poverty include a large population in developing countries (10), but the condition also has been identified in the developed world (11). Relieving the millions of people without access to consistent electricity and the billions using dangerous and inefficient cooking systems is a UN Sustainable Development Goal (number 7).

Those suffering from energy poverty are those who cannot afford it. This specific condition has been termed fuel poverty and was first studied intensively in the United Kingdom (12). Fuel poverty includes all uses of energy and not just heating. The standards by which fuel poverty is measured are what is needed, not what has been used. Therefore, it is a normative definition. Scholars argue that housing energy inefficiency is the major cause of fuel poverty (13).

The term 'energy burden' emerged out of fuel poverty. This concept has been the focus of many US researchers who study the relative energy costs to households. Energy burden focuses on the household energy bill as a percentage of the household's annual income. In New York City, for example, an energy-burdened household is defined as one that spends more than 6 percent of its pre-tax annual income on energy (14). According to the US Department of Energy's Low-Income Energy Affordability Data (LEAD) Tool, the national average energy burden for low-income households is 8.6 percent, three times higher than for non-low-income households, estimated at 3 percent. Depending on location and income, the energy burden can be as high as 30 percent in some areas. Energy bills include what is spent on utilities for heating, cooling, and other home energy services and typically do not include energy use for transportation. The extent of the household energy burden has been a widespread and consistent problem in the US (15). For example, urban and rural low-income households (defined as those with 80 percent of area median income or 150 percent federal poverty level) spend roughly three times as much of their income on energy costs as compared to non-low-income households (7.2 and 9 percent versus 2.3 and 3.1 percent, respectively) (16). Moreover, high energy burdens disproportionately impact low-income, African American, Latinx, multi-family and renter households (17). Out of a total of 118.2 million US households in 2015, the Energy Information Administration (EIA), the statistical agency of the US Department of Energy (DOE), estimated that 17 million households received an energy disconnect/delivery stop notice and 25 million households had to forgo food and medicine to pay energy bills (18).

The results of the energy burden have been identified as energy insecurity, or the state in which households cannot meet their energy needs (19). This term refers to the impact of uncertainty that a household faces in paying utility bills (20). The stress from this insecurity creates significant health issues (21). For example, the results of energy insecurity include extreme home temperatures, hazardous heating alternatives, and the constant threat of utility shut-offs or mounting arrearages in utility bills because of non-payment. This problem is especially acute for low-income residents such as single parents, older people, people with disabilities, and others with low or fixed incomes (22). Those facing energy insecurity may be homeowners unable to invest in efficiency upgrades or renters living in housing units where landlords do not pay for the utilities and, consequently, have minimal incentive to create more energy-efficient units (23). Energy insecurity is an important issue in the US. The DOE, EIA, Residential Energy Consumption Survey (RECS) data for 2015 suggest that 31 percent of US households experienced some form of energy insecurity. That year, nearly seven million households had their access to heat interrupted at least once, and six million lost access to air conditioning at least once (24).

Finally, energy justice is closely associated with climate justice as energy systems are the drivers of climatic change and an important polluter of the local environment. Climate justice scholarship stresses that the energy transition to cleaner energy and other climate mitigation and adaptation policies are not necessarily just, but may instead exacerbate current injustices while addressing climate issues (25).

Principles of Environmental Justice

The moral basis of environmental justice is founded upon three related tenets: distribution, procedure, and recognition (26). The distribution suggests that the burdens and opportunities

afforded by environmental conditions are not equally distributed among individuals and communities. Therefore, one of the goals of environmental justice is to ensure that systematic distributions of inordinate shares of burdens or benefits do not fall on specific communities. In the US, as briefly introduced, research demonstrates that some communities of colour and those with lower incomes experience more environmental burdens than other communities (27). At the same time, there is evidence that these communities are prevented from the benefits of environmental amenities. For example, some communities of colour are remote from high quality amenities such as parks, sources of energy, or energy-related opportunities. These communities include Indigenous reservations or communities excluded from energy-related jobs (28).

Procedure suggests that all people have the right to participate in decision-making for investment, allocation, distribution, and maintenance of environmental burdens and benefits. These require accessible and equitable procedures for engaging stakeholders, participation, impartiality, full information disclosure by the government and industry, the use of appropriate engagement mechanisms, and due process in decision-making (29).

Finally, recognition is the fair representation of individuals and communities, where they are free from physical threats and offered complete and equal political rights with all other participants (30). Therefore, a lack of recognition can occur through various forms of cultural and political domination, insults, degradation, and devaluation (31).

Drivers of Environmental Energy and Climate Injustice

Many practices directly or indirectly help to generate environmental injustice in the US. Specific instances include urban renewal, home displacement through zoning and public infrastructure, intentional disinvestment in communities, racial covenants, redlining, exclusionary zoning, siting of environmental burdens disproportionately near low-income and minority communities, and poor-quality housing (32). Examples over the past century that have affected communities of Black, Indigenous and people of colour (BIPOC) include the physical, economic, and cultural displacement of residents, businesses, and institutions through actions such as zoning changes and development approvals that did not include community needs. The construction of new public infrastructure, especially highways, has destroyed entire neighbourhoods and commercial districts. City decision-makers have intentionally disinvested in BIPOC communities while disproportionately creating public amenities for White residents, deepening inequities and spatially concentrated poverty. Under the auspices of the Federal Home Owners Loan Corporation, both public and private actors engaged in 'redlining,' discouraging investment and preventing capital accumulation in some neighbourhoods. This ultimately eliminated a critical source of multigenerational wealth for these communities. Racial covenants and deed restrictions prevented property sale to certain racial and ethnic groups. Exclusionary zoning practices, including creating single-family or other low-density districts, prevented affordable multi-family building development and eliminated access to these neighbourhoods for lower-income residents. Environmental injustices, including the siting of toxic activities in neighbourhoods primarily occupied by low-income people of colour, subsequently exposed residents to high levels of environmental stressors, including air and soil pollution, illegal dumping, and transportation impacts. Many BIPOC residents suffered from poor quality public housing, which, combined with a lack of funding for ongoing maintenance and improvements and few on-site services, resulted

in the concentration of poor households in unsafe, physically deteriorated environments isolated from adjacent communities (33). Despite the diversity of approaches to creating injustices, what is common to all these actions is that they were publicly sanctioned, if not directly implemented, by public agencies.

Conclusion: Thoughts on Moving Towards Environmental, Energy, and Climate Justice

What is clear is that environmental injustice in the past was created through policy in both the public and private sectors. This trend suggests that the current policy-driven clean energy transition will not bring environmental, energy, and climate justice to all citizens. Indeed, if not attended to, the clean energy transition can exacerbate injustices. Therefore, in addressing the current trend, a broad array of policies, including environmental, infrastructural urban development, housing, employment, energy and climate mitigation and adaptation, necessitate a justice lens for implementation.

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Empowering Women to Make Cities More Climate Resilient

SUSAN M. BLAUSTEIN

Each new report (1) published by the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) heightens the urgency of reckoning with the increasingly dire impacts of climate change. We have witnessed extreme heat, drought, and wildfires; severe storms, floods, and tsunamis; and other natural disasters ravaging whole seasons of growing and fishing, leading to failed harvests and economic deterioration in country after country. Two-thirds of the countries most exposed are low-income (2), with little capacity for mitigation, adaptation, or a robust response. Families caught up in this devastation are regularly forced to leave their homes and farms or fishing boats behind to forge new lives elsewhere, often in the nearby city. The ones responsible for resettling and providing for those families are most often the women. This essay describes some of the privations faced by low-income women migrants upon reaching the city, the expertise they gain in navigating a challenging new urban environment with respect to local infrastructure and the needs of the local community, and the vital importance of engaging informed local women leaders in ongoing community outreach, climate-related resilience building, and in disaster risk planning, mitigation, response, and recovery.

Women are routinely in the lead when it comes to moving into cities. Even if they have not experienced violence or catastrophic economic losses, women may decide to migrate anyway, as a kind of insurance policy to diversify family risk, given the precarity of their families' circumstances. And if their families have endured the disruption and uncertainty triggered by climate-related economic hardship, domestic violence is not uncommon, as the men who have lost their livelihoods take out their frustrations on their families, often compelling the women and children to flee for survival. In general, across contexts, the most vulnerable to climate-related disasters are women and girls (3), who likely leave with almost no assets or capital, affording them less security to rebuild their lives.

Coming from such degraded or compromised conditions, what do they find when they finally reach the city?

Once there, they join other women who came earlier for various reasons. They, too, may have fled a natural disaster or environmental degradation due to large-scale extractive investments or development projects. They may have escaped from war, conflict, oppression, interpersonal violence, from lives deprived of freedom (whether at home, in their extended families, at work, in accessing public services) or in search of privacy.

There is also a pull factor: in ordinary times, women might come to the city for educational or economic opportunities or health services, possibly for HIV/AIDS, because their pregnancy or health is somehow compromised. For ailing or older women, their in-migration implicates younger women, who may be enlisted as caregivers, thereby depriving them of pursuing their own education or employment opportunities.

These earlier waves of migrant women have almost invariably ended up in low-income, severely underserved urban neighbourhoods, forcing them to band together to care for themselves and each other. The situation for those living in scarcity can be fiercely competitive. Recent climate migrants not yet known to their new community face higher risks. If sheltered in poorly built, impermanent housing, they may be exposed to sexual assault, with little protection, few trusted neighbours to turn to for help, and few apparent deterrents or consequences for would-be or actual perpetrators.

Critically, these new migrants have lost their social networks, which is particularly tough for women, who usually invest deeply in building their social networks and have come to rely on their social capital. This sudden isolation is aggravated when government and law enforcement officials—even humanitarian and health workers—undervalue and even make fun of immigrant women, undermining their dignity and self-esteem and discouraging care-seeking practices (4).

When women and families arrive in cities, they quickly encounter all the privations constituting a "slum" (5), according to UN-HABITAT, the UN agency focused on human settlements. None of these privations is gender-neutral.

UN-HABITAT's list begins close to home, with the issue of safe housing—its quality and durability; how crowded it is and how secure; how near to public transit, markets, economic opportunity, a clinic, school, or other public services; how near to a park, shade trees, or other green spaces for children to play in and even just to breathe. Along with safe housing come two more UN-HABITAT

criteria: security of tenure and adequate living space, both of which are difficult to come by for those who may have lost their homes, jobs, and social networks due to climate-related events.

UN-HABITAT's third slum-defining criterion is the lack of safe, affordable drinking water. In much of the world, water is mostly neither safe, affordable, nor even available given the lack of investment in water infrastructure, whether it is in Jackson, Mississippi, in the US (6), Tianjin, China (7), or in Accra, Ghana (8), where cholera periodically spills out of the city's corroded, torn water pipes into the open sewers where children play.

The dearth of safe sanitation is a fourth defining indicator. Depending on sewerage overflow, the unsafe discharge of sanitation sites can clog and pollute city streams, waterways, parks, and streets, glutting them with plastics, aerosols, and human waste.

These deficits are all further exacerbated by the lack of affordable energy and connectivity, including the life-threatening lack of heating or fans and the inability to access potentially life-saving weather information or emergency communications. Resorting to procure and utilise one's own energy, often by gathering and burning firewood and charcoal, is terrible both for the environment and for human health—particularly for children, whose lungs are developing, for pregnant and older women, and those whose breathing is compromised. Sourcing one's own energy contributes to deforestation and biodiversity loss and consumes a good chunk of a woman's day in unpaid care work, making it harder for her to get paid work. Moreover, the lack of connectivity keeps women shut out of a broader online community and of vital information flows, whether about a new job opportunity, a town festival or farmer's market, or a children's immunisation drive.

Image 1: Young woman mobilising the community in an informal settlement in Kampala, Uganda

Source: Girl Up Initiative Uganda, a WomenStrong partner

The lack of access to other public goods and services is also severe in slums. Perhaps most critical for women and girls is their lack of access to sexual and reproductive health information, care, and family planning. This leads to their greater economic reliance on men, more early pregnancy and early marriage, and higher fertility rates (9).

Add to this the lack of employment opportunities for those who fled to the city from rural or coastal settings and may not be trained in the industries commonly found in urban areas, such as retail, hospitality, food services, institutional care, or technology. The inability to save and build assets, and the lack of physical mobility—including of proximity, once in the city, to jobs, schools and libraries, and transit-oriented development—contribute to women's continued lack of freedom, their dependence on others, and their status as outsiders clearly deprived of their right to the city.

This level of privation is already a chronic emergency.

Compounding all this, then, is the substantially elevated risk of climate-related disasters when, as we have witnessed time and again, the most vulnerable women and children are the last to be warned, the first to be harmed, and the last to be evacuated or afforded emergency humanitarian assistance (10). They are also, almost always, the last to be consulted (11), with regard to readying preparations for anticipated climate-related emergencies, responding to them in ways likely to protect the most vulnerable, and in after-action reviews, to hear from those in the most adversely affected communities about precisely what went wrong (12).

With rural-to-urban migration accelerating due to the increased frequency of extreme climate-related events (13), so-called "distress migration" could mean some 200-300 million climate refugees, completely stressing global systems (14). Half of these climate migrants are expected to be women and girls, most hoping to move into urban settings, further magnifying the challenges facing cities across the globe.

Concretely, this means:

- Millions more women will lose their livelihoods, and with them, their source of available income;

- With no reliable income, women are likely to experience the lack of secure housing and the safe bathrooms, water, sanitation, and waste disposal described above;

- They will have no other option than to use open water for unhygienic washing, cleaning, and waste disposal; to use open space to relieve themselves, leading to potential waterborne or infectious disease; and to yield to one of the most important privations: the loss of privacy, and any sense of dignity;

- Flooding in low-lying areas can lead to further displacement and to diarrheal disease, cholera, and the spread of such vector-borne diseases as malaria, dengue, or the Zika virus, which disproportionately affect women of reproductive age;

- Poor migrant communities are at heightened risk for emerging infectious diseases, including spillover events from wildlife–urban interface, such as Ebola or COVID-19;

- The lack of energy can lead to illness and even death, from extreme heat, cold, or smoke;
- Food and nutritional security are at risk because of unavailability, unaffordability, the lack of cool storage, and because food's nutritional value decreases dramatically with each degree rise in temperature, leaving low-income families vulnerable to nutritional deficits (15);
- These unmet basic needs increase the risks for expectant or lactating women, women with young children, women alone, women who are elderly or disabled or with other underlying conditions, indigenous women, the gender-non-conforming, and the wholly unhoused.

The impacts of climate change multiply needs, alter the nature of needs, and limit the ability to reach those most in need. Yet rather than readying to prevent and protect, too many response and assistance programmes go into gear after the disaster, including those intended to reach and support women.

An Inclusive Framework to Address the Urban Impacts of Climate Change

It is time to invent new structures to address the cascading impacts of climate change on urban settlements. We need a more inclusive socioecological framework—one that brings together weather, health, socioeconomic, and cultural data into actionable, decision-making processes; and one that centres the deep and ongoing involvement of frontline community leaders and organisations, particularly those that are women-led, who can help the relevant teams identify the most vulnerable and who always know what is needed, what is missing, and what has to be done (16).

At the table where decisions are made, we need these women leaders, together with the scientists—the meteorologists and forecasters, the epidemiologists and other public health specialists, the hydrologists, food safety specialists, and engineers. We need the first responders there—the humanitarian workers, medical and law enforcement personnel, and educators—to consider the needs of affected children. We need representation from the relevant government ministries at national and local levels, including those responsible for health, public works, energy, transit, women's and children's affairs, and public information. We also need employers and other private sector actors who, when properly engaged and guided, can be extremely helpful, including with shelter provision.

Together with these other actors, community-based organisations can think through and set up risk monitoring and risk communications that will reach their communities. Standing community disaster management committees should be created, consisting of locals who can advise aid workers on the best sites for shelters and relief and what went wrong the last time. The local committees can also set up well-publicised early warning systems, with pre-approved funding that can instantly trigger relief activities based on pre-agreed indicators.

This information is vital to effective preventive action. Local women can be the frontline outreach for the larger task force in effecting behavioural change, vis-à-vis food storage and security, water, sanitation, and hygiene practices, monitoring for still water where mosquitoes could breed, keeping track of children (including keeping them safe from waterborne disease), and helping people get cash.

Image 2: Women at the table, voicing their priorities in San Salvador, El Salvador

Source: Mujeres Transformando, a WomenStrong partner in El Salvador

Together, these multidisciplinary task forces can work on pre-crisis resilience-building, such as livelihood diversification and income generation, healthcare provision, and disaster risk reduction, including strengthening flood defences, changing planting patterns, and introducing drought-resistant crop varieties. It is critical to work with community-based organisations to create response plans, evacuation routes, the prepositioning of shelters, relief packages, and emergency financial assistance, and to plan, design, and implement these activities in ways that will build strong, long-standing relationships, new social networks, and trust.

In other words, we need a broad, coordinated response that ranges from building resilience and preparedness; to early warning and early action; to rescue, recovery, and reconstruction; and to a comprehensive after-action review, with all the same partners at the table where their experience can be translated into learning, knowledge-sharing, and action.

Achieving this level of response has been elusive. Despite decades of coordinating the international response to natural disasters, our collective humanitarian response is estimated to meet only 60 percent of current need (17), partly due to several structural blockages related to humanitarian financing.

First, although 70 percent of development assistance goes to countries undergoing a crisis or disaster (18), that assistance does not usually go to the areas where the crisis occurs (19). In addition, although development assistance loans go to low-income countries, those loans, too, generally are not lent to the most vulnerable, perhaps because that population is regularly assumed by international lenders to be less likely to repay its debts, which may well not be the case. Additionally, IPCC and other climate funding is quite limited in their ability to address human need directly; and finally, although adaptation financing is critical for building resilience, it is not available for a humanitarian response as it goes directly to national governments (although generally not to fragile states deemed unable to implement shovel-ready projects), rather than to the most vulnerable communities or to frontline organisations likely to know best what their communities need.

Therefore, far more flexible funding, including disaster risk financing, is needed, as is a more layered approach, with some monies that can be rapidly reallocated in the event of an emergency.

For financing to be effectively and efficiently deployed, in complex emergencies more than in almost any other context, we need a feminist approach to humanitarian action. Given women's unequalled expertise regarding their own communities, we need to engage them deeply in creating a solidarity network capable of connecting and reconnecting to vulnerable populations, sharing information, seeing who is left out, and meeting their needs as swiftly as possible.

But we cannot simply feminise the burdens. A feminist approach means valuing the women in frontline communities as the experts they are: by including them, and compensating them, for the time they spend working on community disaster management committees, teaching aid workers who is where, advising on risk communications, helping to preposition supplies,

Image 3: Young women in Blantyre, Malawi, speaking out to stop violence against women and girls

Source: Girl Empowerment Network (GNET), WomenStrong partner in Malawi (Facebook)

educating their communities regarding the actual and potential risks and arrangements, and leading the response, recovery, and the rebuilding, including planning holistically, and hopefully, as women do, for their families' and communities' future (20).

Remunerated adequately for their expertise, with this acknowledged level of agency, the earned trust of their communities, and implementation by the city of their specific suggestions, low-income and migrant urban women can finally enjoy the precious right to the city they have long been denied.

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Transit Justice in the Post-Pandemic Age

KATE ASCHER

No one can deny the critical role that public transportation networks play in urban economic development and social welfare. Typically operated by state or local governments, mass transit systems are founded on a commitment to maintain affordability and provide a robust level of mobility to a wide spectrum of users. Many subways and buses, for instance, run around the clock to accommodate those who work at night; others maintain a 'one-price-for-all' policy, regardless of how far out from the centre travel occurs, or offer reduced fares for older or younger residents.

Yet as egalitarian as their fares or operating policies are, transit systems themselves rarely reach evenly across cities, often creating bifurcated systems of transport "haves" and "have-nots." In older cities in Europe and North America, subways and commuter rail networks typically radiate out of downtown neighbourhoods, often following topography seen as sufficiently flat for rail transport and hence suitable for development. Areas between rail lines are served by bus or feeder bus services, while residents on the periphery often face longer, multiple-seat commutes to primary business districts or other destinations. In fast-growing cities of the Global South, fixed transit systems cannot grow outward as quickly as the cities they serve, leaving large

numbers of new residents, often living in informal settlements, reliant on cumbersome feeder connections to transit.

Not surprisingly, communities with poor transit accessibility in developed and developing countries are home to lower-income residents: land values and real estate prices, heavily determined by proximity to transit and travel times, are lower in these areas. In this context, the city's physical infrastructure does much to delineate and maintain areas of wealth and poverty. The spatial divide can be thought of as a form of 'transit poverty'—a condition in which a city's poorest workers have the longest commutes due to their location on the periphery and to the substantial travel times to workplaces dispersed around the city and often far from subways. Transit poverty, in this sense, has significant impacts: longer workdays and a deterioration in the quality of life, potentially higher transport costs, and difficulties accessing affordable retail, education, medical and social services.

Rethinking the City

Over the last 20 years, social dislocation, climate change, and a pandemic have made us reconsider what comprises an equitable, livable, and resilient city. Mobility has been a part of this thinking, with new approaches to accessing urban waterfronts, limiting car travel, and encouraging walking and cycling being tested widely. In North American and European cities, for example, street real estate has increasingly been reallocated to facilitate these goals and support new, flexible forms of mobility – such as bikes, e-bikes, and scooters. These changes do not typically aim at greater inclusion but rather at limiting carbon emissions, improving safety, and enhancing the quality of life for a broad spectrum of city dwellers.

Over this same period, technology has fundamentally changed work patterns in ways likely to extend beyond the pandemic. Remote work in white-collar industries will stay to a greater or lesser extent, as a generation that has grown up on remote and digital communication enters and increasingly comprises the workforce. Downturns in the volume of commuter trips to the core are already impacting real estate markets: an oversupply of commercial space in central business districts has put a dampener on new office and retail development and new housing—much of it market rate-driven—is expected to spring up in many of these areas.

Consumption patterns have also changed dramatically over the last decade—further affecting urban mobility. Downtown retail is no longer a major draw for residents, who have increasingly turned to the Internet to purchase physical goods; new distribution networks have evolved to meet this growing just-in-time demand. In response, commercial property owners are replacing traditional, utilitarian retail outlets with experiential and "destination" retail, primarily food and beverage and entertainment outlets catering to a mix of tourists and a younger demographic.

These changes raise important questions about future transportation patterns and the current distribution of public transit spending. To what extent should cities support historic heavy rail networks established to serve commutation to the city centre and reflect wealth biases and increasingly outdated patterns of commerce? Are there alternative forms of investments that should be made on the outskirts of cities as they emerge as the new centres of distribution and commerce? As planners, should we be incentivising the decentralisation of commercial nodes as

a more flexible and environmentally-friendly paradigm of how cities should work? Can innovative approaches to transport at the urban edge help connect those living there and deliver the goal of a more equitable and inclusive city?

Back to the Future

A good place to begin questioning the centripetal biases inherent in many public transport networks is Latin America, where more than half of all people live in informal settlements. Many of these settlements sit on the outskirts of existing cities, where residents face significant spatial and physical barriers to accessing work, commerce, or social services. In recognising and addressing this issue, Latin American cities have highlighted the value of connecting transit-poor neighbourhoods holistically, with an eye on land-use development and the provision of community services.

Curitiba in Brazil first embraced bus rapid transit (BRT) 50 years ago as a tool to expand mobility for populations disconnected from mainstream urban life. The flat-fare BRT programme that debuted in 1974 introduced buses on designated roadway corridors, often but not always segregated from car traffic and able to move more speedily than traditional buses, with fees collected before boarding. Both private and public sectors had a role in what some consider the world's most successful BRT service. The city paid for roadway infrastructure, and the private sector took responsibility for the buses.

Over time, feeder services were added, and the system was expanded to five lines by 1982, configured as spokes that radiated out from the city centre along dedicated lanes on wide boulevards initially envisioned for cars. Importantly, the land use plan that accompanied the system focused on commercial density along these major transit corridors, lowering the need for travel to the city centre for work. The plan was comprehensive, including zoning and a series of other urban design interventions, and addressed affordability. Transportation subsidies provided by employers to lower-income and lower-paid workers encouraged and enabled BRT travel.

Today, over 75 percent of the population of Curitiba uses its BRT system regularly (1). The system has spawned many followers, initially in Latin America but now across the globe – in places like Istanbul, Nagoya, Beijing, and Brisbane. Perhaps most notable is that of Bogota, Colombia's eight-line TransMilenio, introduced in 2000, which runs on dedicated bus lanes in the middle of arterial streets and is supported by feeder services that reach most of the city. While the system is not without issues (2), millions of Bogota residents ride its TransMilenio system daily to parts of the city that a proposed subway would likely never reach.

BRT is not the only innovative approach that has paid dividends in Latin America. Aerial cable cars have become an answer to one of the biggest spatial problems of the last half century confronting the region's more mountainous urban centres: how to serve growing informal settlements on hillsides, unsuited to traditional forms of mass transit. Formal bus services cannot run on unpaved roads, which suffer from poor drainage and are impassable in extreme weather conditions, allowing slow, circuitous, and often crowded vans to serve as the primary transit mode for residents to get to a main-line train or bus stop.

Image 1: Curitiba's BRT system, with its signature tube-shaped stations (3)

Source: Wikimedia Commons (4)

Many believe that the Medellin cable car, 'Metrocable', was inspired by an earlier cable car in Caracas that took hotel guests up a mountain to their lodging. For Medellin, it was seen as a way to increase rail ridership and provide service to marginalised populations in the hills of Santo Domingo. As in Curitiba, the project was part of a broader urban development plan for Metrocable, originally introduced in 2004 as part of the comprehensive *Proyetos Urbanos Integrales* (PUI) (5). The system was an overnight success, reducing average travel times to the city centre by half. It also improved air quality and led to a significant decline in crime in the areas it served – generally attributed to placing many more 'eyes on the street' (6).

Other Latin American cities have blended mobility and land-use planning as well. Caracas introduced Metrocable in 2010 to connect its growing San Agustin barrio with the subway network. Powered by wind turbines, the network is more than just "green" transportation: each Metrocable station incorporates additional real estate (a "community hub") to address a host of economic, cultural, and social needs in the barrio, including childcare, libraries, medical clinics, sports facilities, and police. Bogota developed a similarly scaled TransMiCable car to reach Ciudad Bolivar, a relatively new settlement in the hills around the city that is home to roughly 600,000 people, the overwhelming majority of whom are considered low-income (7). The cable car established a direct connection to the area's mass transit system, reducing travel time to transit hubs dramatically. The project has led to new public spaces development adjacent to stations, paved streets and a growing number of new locally-owned restaurants.

Image 2: Metrocable in Medellín, Colombia (8)

Source: Wikimedia Commons (9)

A Tale of two Cities

Issues of transit accessibility are not limited to emerging economies. Older, heavy rail transit systems are notoriously bad at adapting to changes in the form and economies of the city, notably around transformations of waterfronts and growth on the periphery of urban areas. Shortages of resources often mean that cities struggle to maintain ageing rail systems, with little left to invest in expansion or innovation to meet the city's growth over time, creating and reinforcing transit poverty.

Yet a quick look at two of the world's oldest mass transit systems, New York and London, suggests that age is not limiting in achieving greater transit access for those pushed to the edge by high land costs in city centres. Though the two cities share similarly extensive and ageing transit systems and serve roughly the same-sized population, their paths in providing mobility across their respective geographies have diverged widely over the last half-century.

New York's subway system is among the world's busiest, and its flat-fare policy and 24/7 operation have long represented its commitment to a broad spectrum of New Yorkers (10). Yet at its most basic, it is a system that was explicitly designed to connect three of the four outer boroughs of the city to Manhattan—not to one another (11). Outer borough residents travelling to jobs in locations other than Manhattan are forced to drive or take buses, often multiple ones, to their destinations.

Since the competing rail line system was consolidated in the mid-20th century under state control, minimal expansion of New York's subway system has occurred, and resources have instead gone into express bus services and system maintenance. A decade ago, one existing subway line, the #7, was extended west to activate desolate railyards at an upscale area now known as Hudson Yards, but only after the city stepped in to bankroll what would normally have been a state-funded project. Since then, only three stations on a long-proposed new line along Second Avenue have been completed at enormous cost. All four of these new stations are in Manhattan.

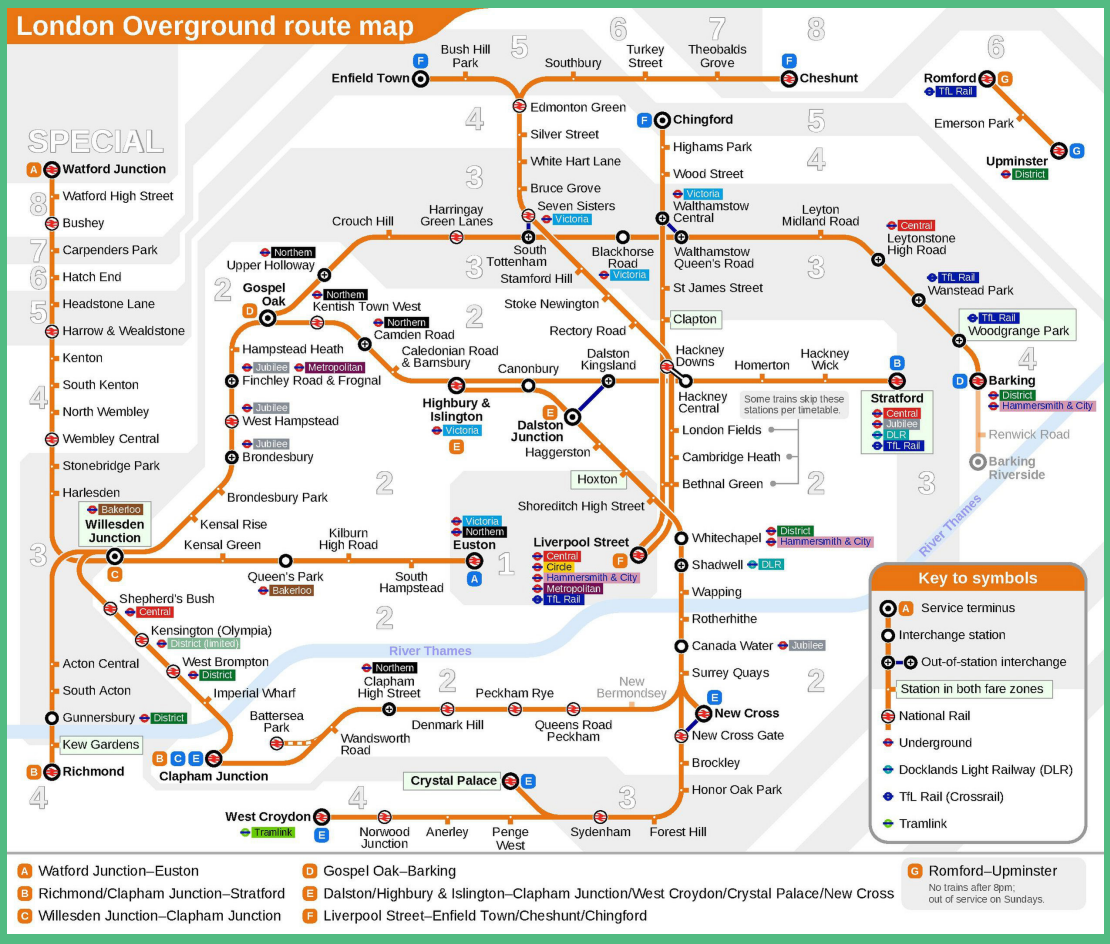
New York's singular focus on providing access to its central business districts is further demonstrated by its outsized focus on investment in core rail stations. Over the last 25 years, the state and city have produced new route options for commuters in the wealthier suburbs and tussled unproductively over massive renovation proposed for midtown's Pennsylvania Station. Except for a boutique ferry service designed to connect the rapidly gentrifying areas of the East River waterfront in Brooklyn and Queens, the focus on transportation infrastructure in Manhattan has arguably come at the expense of investing in connections to and between lower-income areas in outer boroughs.

Contrast the lack of expansion of New York's transit system with what has occurred in London to activate areas outside of the city's downtown core in the last fifty years. Responding to changes in maritime trade, which rendered the docks in East London inactive, the Docklands Light Railway (DLR) was built in the 1980s as part of a wider development plan to help revive the fortunes of that area. As part of this plan, and to provide sufficient transport capacity over time, the Jubilee Line subway was extended from Green Park to Stratford in 1999, featuring 11 new state-of-the-art stations that serve historically transit-deprived areas of south and east London that were impacted directly by the demise of port activity.

Four years after the opening of the DLR, in 2003, London introduced congestion pricing, an innovative approach to curb the dominance of private cars in the city. By charging car users for access to central London, it produced sufficient funding to reconfigure urban roadways for speedier bus transit, upgrade bus fleets and expand bus frequencies. Together, these efforts reduced bus transit times from outlying areas poorly served by rail and led to increased bus travel. While the focus of the congestion pricing programme has shifted somewhat over the years from mitigating road congestion to improving air quality, and travel times have risen as street real estate has been given over to bike lanes, automobile traffic in London is now a fraction of what it once was.

Among the most powerful of London's transit infrastructure investments, completed just a decade ago, was perhaps the most prescient given the enormous changes in commuting patterns hastened by the pandemic's legitimisation of remote working. The Overground, a rail connector for passenger travel around the circumference of London, was borne of a little-used freight line that circled the city. Connecting 'outer ring' communities, the Overground has brought new energy to several transit-deprived areas, encouraging housing and commercial development and attracting younger residents in search of affordable accommodation and more authentic, 'hip' communities. One needs to only compare the quiet of a Friday afternoon in the heart of the City of London with the bustling centres of Dalton or Hoxton to witness the power of infrastructure to transform a local economy.

Image 3: London Overground Route Map



Source: Wikimedia Commons (12)

Investments across London's periphery continue. The Northern Line subway extension to Battersea, paid for in part by developer contributions and combined with massive amounts of development, has brought jobs and tourism to an obscure area outside of traditional transit networks. Likewise, the high-speed Elizabeth Line, opened in 2020, has radically transformed commute times for those living on the eastern and western outskirts of the city and injected life into property markets along its route. Its success in bringing edge communities closer to urban life combined with London's wider efforts over the last half-century to provide inspiration and a roadmap.

Looking Forward

More resilient cities are not simply greener or healthier: they must provide greater levels of economic opportunity for a wider spectrum of their residents. Shortages of workers in healthcare services during the recent pandemic was a clarion call and reminder of the critical role that blue-collar and service workers play in our economies. As we look at the changes brought by technology

and changes in the nature of work and commerce, how might we actively connect urban spatial patterns and mobility in more innovative ways? If the days of one "central business district" are numbered, how do we plan appropriately for the existing and new patterns of journeys between home and work, many of them outside of the city centre? How might we address existing pockets of "transit poverty" as part of that planning? Lessons from some of our more innovative and committed cities should help guide us in that endeavour.

Endnotes

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(2) By 2017, nearly 90 percent of users felt the system was unsafe; "Continua la inseguridad en Transmilenio", *El Espectador*, 22 August, 2017, https://www.elespectador.com/bogota/continua-la-inseguridad-en-transmilenio-article-709213/.

(3) The stations sit just above the ground level. Beyond weather protection, many stations were fitted out with cameras for security and, at one point, books ('*tuboteca*') to ensure comfort and interest for waiting passengers.

(4) "Linha Verde Curitiba BRT", Mario Roberto Duran Ortiz via Wikimedia Commons, 2013, https://commons.wikimedia.org/wiki/File:Linha_Verde_Curitiba_BRT_02_2013_Est_Marechal_Floriano_5952.JPG.

(5) PUI (Proyetos Urbanos Integrales) incorporated new community and public spaces, better pedestrian infrastructure and improvements to public housing.

(6) Madeline Galvin and Anne Maasen, "Urban Transformations: in Medellin, Metrocable Connects People in More Ways Than One," *World Resources Institute*, March 20, 2019, https://www.wri.org/insights/urban-transformations-medellin-metrocable-connects-people-more-ways-one

(7) "Ciudad Bolívar," City Population, accessed June 10, 2023, https://www.citypopulation.de/en/colombia/bogota/11001119__ciudad_bol%C3%ADvar/.

(8) Cable-propelled transit in topographically-challenged cities is relatively easy and cheap to develop. There are few right-of-way issues, little traffic to impede construction, and a limited need to expropriate property to construct the system. Because the system runs on electricity, it has a significantly smaller carbon footprint than most fixed-transit alternatives.

(9) "Metrocable - Reaching the least developed suburban areas of Medellín," Jorge Lascar via Wikimedia Commons, 2014, https://commons.wikimedia.org/wiki/File:Metrocable_-_Reaching_the_least_developed_suburban_areas_of_Medell%C3%ADn_%285083096780%29.jpg.

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(11) Staten Island is an island and is not connected by rail to the mainland. It is served by regular ferry service from lower Manhattan and several express bus services, who rely on road bridges to Brooklyn to the east or New Jersey to the west.

(12) "London Overground map," Sameboat via Wikimedia Commons, accessed July 6, 2023, https://commons.wikimedia.org/wiki/File:London_Overground_map_sb.pdf

INFORMAL SETTLEMENTS

Homegrown Futures: Local Development and Global Cities

MATIAS ECHANOVE AND RAHUL SRIVASTAVA

The COVID-19 pandemic and international conflicts have reversed a process of global economic integration that has been in full swing since the end of the Cold War. During such crises, national economies had to return to their own resources and capacities. The dependency on items produced or grown on the other side of the world suddenly went from being a comparative advantage to a handicap. Conversely, countries that had invested in their own productive capacities were advantaged. Others rushed to develop capacity.

While nation-states may have realised the need to strengthen their capacity to respond to crises at their level and reduce their dependence on global infrastructure and trade, they have not yet realised that they must allow a greater level of agency at the local level. Ivan Illch, an early proponent of political ecology, reminds us that the Greek word *krisis* means "a choice, a decisive moment" (1). He argued that modern nation-states have reinterpreted the word to mean the opposite: a sinister menace that can be dealt with only by handing over full power to a handful of experts who, to start with, are often responsible for the crisis (2). It may be time to look at how people manage to address the systemic crises at the local level.

At a time when the struggle of everyday life was met by the crisis generated by the pandemic response, the resilience displayed by the residents of one of Mumbai's most challenging settlements illustrates the vital importance of collective agency at the neighbourhood level. On a "normal" day, life is hard in Dharavi, a large, incrementally developed neighbourhood in the heart of greater Mumbai. The lack of infrastructure, extreme density, and discrimination have forced residents to build their ad-hoc systems to optimise available space and rely on community networks.

However, when the pandemic hit and the government forbade people from moving out of their homes, what was already difficult became impossible. Those relying on daily wages had no more income. Those cramped in tiny accommodations had no room to breathe. Furthermore, everyone was looking at Dharavi as a breeding ground for the virus and its new variants. The food and basic goods that were distributed through official networks were not reaching everyone equally in Dharavi. Some were left out—not allowed to move, without money even to recharge their phones.

This is when the neighbourhood rose to the occasion: alternative distribution channels emerged, bringing food, soap, sanitary napkins, and other essential items—usually in the middle of the night—to those who needed them the most. Some micro-factories went into action, producing masks. Families stayed put at home, strictly following the government orders, while caring for their relatives and neighbours. For months after, kids took their classes on smartphones while staying at home, with the help of their parents. The virus did not spread much in Dharavi and certainly not out of it. The community proved its capacity to care for itself.

Yet, the same neighbourhood is threatened with demolition today. A new redevelopment plan seems to be moving closer to implementation (3). The plan risks destroying not only the houses

Image 1: Demolition and rehab housing in Mumbai

Source: Ishan Tanka, Urbz

that were built and consolidated over several generations but also the productive capacities of a neighbourhood which is, first and foremost, a bustling centre of activity generating food, wearables, furniture, and recycled materials sold all over the city and the world. What will replace it is not yet known, but if the history of past plans for Dharavi is any guide, a minority will be rehoused in Dharavi, with many more resettled in rehab housing miles away, and a huge number—considered to be ineligible—will be simply pushed away from their homes with nowhere to live and work.

Mass Housing: Huge Market, Huge Failure

Sadly, the provision of housing in rapidly growing cities is one instance where people's capacity to come up with solutions to their own problems, though clearly demonstrated, is ignored by the authorities. Perhaps in the housing sector, as in other economic activities, it is time to look back at local communities' productive capacities as a positive thing.

Urban development in most cities remains highly dependent on global capital and a top-down construction industry that provides for the masses but does not let users anywhere near the planning and development process. Moreover, for most urban dwellers, purchasing a space in the city they live in remains a distant dream. The lucky few who manage to do so rely on loans that they commit to repaying for the rest of their lives.

The construction sector in countries like India (4) and China (5) represents significant percentages of gross domestic product (GDP), with India showing a proportion above 7 percent (excluding real estate). However, in this sector, just as in many others, we have witnessed the emergence of a handful of giant actors who dominate the trade and reap the benefits. These actors have been able to streamline the production process such that it has become as easy to develop mass housing as to copy-paste columns in an Excel spreadsheet. It is often quite literally the way it is done in large construction firms that produce housing units by the thousands. We call "spreadsheet urbanism," a development practice that simply applies a formula without paying attention to users' needs and the context where the new construction will take place.

Housing has become a commodity like any other, in which the rule of the game is to increase profit margins through standardisation and scaling up. The results are the huge vertical mass constructions seen on the outskirts of so many cities, especially in Asia, from Seoul to Beijing, Delhi to Istanbul. The model is imported everywhere in smaller cities, whether the need exists or not and at the cost of destroying the local housing provision. The offer spreads and creates new construction markets, fundamentally altering people's relationship with their habitat. Communities the world over have gone from becoming active producers of their habitats to forced consumers.

The model is so dominant that it has become impossible to imagine any alternative. Any creative thinking happens only within the reductive framework of standardised mass housing. India (6), which has hundreds of millions of people to house, has developed its own copy-pasted version of Korean (7) and Chinese (8) mass housing, which, in turn, had mimicked the now discarded and failed models of social housing in the West. In the second half of the twentieth century, Europe and the US (9) built mass housing for people experiencing poverty in their suburbs. In these

places, the question now is how to destroy or reuse these old structures, which were built with little or no consideration for such essential aspects of urban life.

What is different between then and now is that we know now that this model does not work. Stacking families on multiple floors in mono-functional suburbs is a disaster on so many levels. The shortcoming of this model has been abundantly described in the literature and is a recurrent topic in the news. So why do we keep doing it? Despite these issues being so well documented, there seems to be no change in the direction of public policies in countries like India, which sees mass housing as the only possible response to slums. Even in the face of considerable public and private failure, the dominant paradigm in Asia is a market-driven provision of mass housing incentivised by government schemes.

'Homegrown' Rather than Informal

Many construction activities in cities such as Mumbai spills out of institutionalsed and regularised building sectors. A majority of the world's inhabitants build houses, shops, and even infrastructure with money raised through family and community networks. Such incremental processes have been instrumental to the development of habitats in villages and cities such as Mumbai, São Paulo, Seoul, or Tokyo (10).

Image 2: Dharavi, a homegrown neighbourhood in Mumbai

Source: Ishan Tanka

Local skills and resources fuel construction practices in neighbourhoods that fall outside the planned regimes of urban habitats. Experienced masons, labourers, and artisans produce habitats and transmit skills and knowledge to the next generation of local builders. The result is a vernacular urban typology, which exists on a planetary scale but is systematically dismissed as 'informal'. When describing a habitat, the adjective 'informal' evokes something that lacks form, is messy, confused, and irrational, and should probably be replaced with something neat and orderly. Rather than informal, we call these vernacular habitats 'homegrown,' a term we find far less stigmatising as it expresses the capacity of a settlement to develop from within.

In Mumbai, about half of the agglomeration's 20 million inhabitants live in settlements categorised as slums by the government (11). Due to the contested state of their occupancy rights, their houses are deemed illegal and constantly threatened by destruction. They are also systematically denied basic infrastructure because their settlements should be demolished and redeveloped rather than upgraded. This happens even though, over the years, people have turned actual slums into liveable neighbourhoods by investing in their houses, building shops, small factories, temples, and schools.

Learning from Tokyo

What Mumbaikars did in the shadow of legality, with little support from the government, the city of Tokyo in Japan did with a greater degree of confidence and legitimacy. In its older peripheral, low-rise high-density areas, Tokyo provides us with an alternative and successful model of urban development (12).

Image 3: Reconstruction in Postwar Tokyo

Source: Ohio State University

After the Second World War, most businesses in Tokyo were small-scale, family-run, and rooted in traditional social structures. Micro-enterprises provided the bulk of employment. They largely contributed to rebuilding Tokyo's neighbourhoods and ran the small shops, workshops, and businesses that animated them. While the government employed many people in big infrastructure projects, many more were working as independent masons and contractors building Tokyo's millions of tiny homes, one at a time (13).

While the Japanese economy completely transformed in the postwar period, one thing remained constant to the end of the twentieth century: the vast majority of workers were employed in small businesses with less than 20 people, many of which were family-owned and operating out of residential quarters (14). The same homes were typically used to run small ground-floor retail businesses and tiny home factories (15). As was common in villages, a working space laid with tatami mats could easily be converted into a sleeping room at night.

Thus, throughout the postwar period, tiny factories spread all over Tokyo, producing parts that were then assembled to produce industrial goods, contributing to the Japanese economic miracle. This allowed the incremental emergence of a middle class that would reinvest a part of its earnings in improving their homes, thus contributing to the city's overall development.

While many neighbourhoods in Tokyo were (and are still being) destroyed to give way to large-scale infrastructure projects (16), the government's approach to hyper-dense, low-quality, haphazard settlements has generally been integrative with an emphasis on retrofitting them and allowing them to improve over time. This is why we can now see high-tech, well-managed, attractive versions of the same neighbourhoods that were once shanties.

A Not-So-New Model for the Future of Housing

Researchers and planners have worked on alternative models based on people's capacity to address their own housing needs for years. From John F.C. Turner and Ivan Illich in Latin America in the 1960s to Charles Correa and B.V. Doshi in India in the 1990s and more recent observations by scholars of Japanese urbanisation in the 2010s and 2020s, there is mounting evidence that the local production of housing is a viable alternative, especially in communities that struggle to meet the cost of market-based affordable housing solutions.

What would such an 'old-new' model look like? Local builders, already active in homegrown neighbourhoods, would be engaged in improving homes, developing local civic infrastructure, and servicing the housing needs of millions of the city's residents. This would happen with the support of the government instead of against it. That would entail a paradigmatic shift towards participatory urban planning and a recognition of the capacity of communities to build themselves, instead of bringing in large developers who are not equipped to work at the local scale. Keeping the economy of construction within the neighbourhoods would ensure that, as is the case now, the rent level and price of construction remain affordable. Regardless of how many units developers make by producing standardised housing on a massive scale, their overheads make it impossible to compete with the efficiency and small margins of local artisans of construction.

These artisans typically live in the neighbourhood where they operate. They are hired by families keen on rebuilding their homes. The family selects them based on their previous work and common acquaintances. Contractors and clients live near each other. In scenarios that already exist in thousands of neighbourhoods in cities around the world, the client and the contractor talk about what should be done, agree on a schedule and budget, and start work, with the hallmarks of trust and reputation, in the way that artisans have been working with their clients ever since the dawn of time. When a homegrown neighbourhood gets destroyed to give way to mass housing, it is not only years of investment by the inhabitants that get destroyed, but an entire economy, with extremely valuable skills and trust networks embedded in it.

Conclusion

Any development project for an existing neighbourhood should be participatory and in situ, building on people's knowledge and contribution. Local communities should be involved not only in the planning, but also in the construction. Nothing would boost the local economy and pride as much as the solicitation of skilled local artisans to improve their own neighbourhood.

If the authorities keep putting real estate speculation above the interest of the many, they will only succeed in heightening urban divisions, inequality, and dysfunctionality. It is disheartening to see that cities in India and many other growing countries blindly follow a Western development model that has proven its limits.

A hundred years ago, biologist and urbanist Patrick Geddes, who worked in India for many years, already lamented: "How very different from the present state of affairs would be a city in which such active cooperation could arise spontaneously between the citizens and their town council! In such a city real sanitary and economic improvements would be freed from harsh and wasteful clearances and from the sullen resistance of the people" (17).

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HISTORIC PERSPECTIVE

Preserving the Built Environment for Sustainable Development: Historical Turning Points in Raising Environmental Consciousness

KAISA BRONER-BAUER

The science of ecology teaches us that everything in the universe is connected. We cannot separate ourselves from the consequences of even the least of our actions: whatever we do here comes back there. This is the law of the unity of life. Like gravity or any other law of nature, you cannot break it; you can only break yourself against it.

Eknath Easwaran (1)

A significant change in the ideology of city planning took place in the last decades of the 20th century. The theses of CIAM (Congrès Internationaux d'Architecture Moderne) guided architects and city planners from the 1930s to the 1960s-70s, when it was finally realised that these theses were not enough to build a brave, equal, and happy world. The dream of architecture being a means to bring about a new society was faced with the reality of monotonous mass-produced environments devoid of a local cultural and climatic context. Within a few decades, such environments sprang up like mushrooms all over the world. The ideology that pursued this modern utopia was miscarried, and the only possibility was to make a complete reversal and begin re-evaluating the principles of city planning anew.

On the other hand, efficient journalism, and comprehensive information about the state of pollution and the problems of environmental policies in different parts of the globe undoubtedly played an important role in the rising of a new kind of environmental consciousness. The gravity of the situation started to become clear in the early 1970s when the first United Nations Conference on the Human Environment was organised. In all, 1,200 representatives from 114 countries together with 1,000 journalists attended the conference in Stockholm in 1972 (2). A lively and even radical debate on environmental policy arose, which, among other things, gave impetus to the establishment of Ministries of the Environment in most European countries in the 1970s. At the same time, architects, too, began to deliberate on questions of the built environment from the point of view of environmental policy rather than the artistic perspective. This was a fundamental turning point in the history of modern architecture and city planning (3).

Challenges of City Planning Today: Recent Historical Background

As a result of the emergence of environmental consciousness and as an opposing reaction to the massive destruction of historical buildings in the 1960s and 1970s, cleared away by large urban renewal operations, the field of conservation and maintenance of the built environment has developed significantly in recent decades in the West. Some big European and American cities, where, due to traffic, pollution and dilapidation of buildings, the problems of central areas had already become critical by the mid-20th century, became pioneers in this regard.

One of the crucial moments in the history of architectural conservation occurred in France in 1962 when the so-called "Malraux Law" was enacted. This law enabled the declaration of an entire urban district as a conservation area, besides the traditional way of preserving only historic monuments with their surroundings. The neighbourhood of Marais, located in the historical heart of Paris, became the first area for which a new type of conservation plan (*Plan permanent de sauvegarde et de mise en valeur du Marais,* 1969) was prepared. As a result, a process of change started to take place, leading the entire district to a strong economic and cultural revival. Not only were buildings of cultural and historical interest restored and given new functions corresponding to their status, modest buildings that contribute to the local atmosphere were also rehabilitated by private owners and public authorities. A major operation was the "curettage" of the courtyards of building complexes and blocks. The parasitic extensions of buildings, which had been built over decades from the end of the 19th century onwards, were demolished and green spaces were created in their place. On the other hand, because of extensive demolitions, many small manufactories and craft jobs were indeed lost, and the former tenants of the now rehabilitated buildings had to leave. The French legislation gives wide powers to the authorities, who can expropriate and evict residents in the name of the public interest, but who are also responsible for organising new housing for the expelled (4).

The rehabilitation of Marais and other similar operations of urban conservation and renewal were favourite subjects of research for Marxist sociologists in the 1970s. In fact, these cases provided easy means for proving the functioning and political motives of the capitalist class society in favour of the already privileged citizens. On the other hand, hundreds or even thousands of historic European towns were in similar condition after the Second World War, when their old building stock in downtown areas was about to be destroyed because of a lack of investment in rehabilitation work. Since the less affluent population, who lived almost for free in

those buildings, could not provide any solution to the acute need for rehabilitation and because the owners of the property usually just wanted to replace the old with the new, there was a decisive need for intervention on the part of the public authorities. Likewise, there was a need to re-evaluate the direction of European urban development and the ideology of city planning.

An important step towards the re-evaluation of the principles of city planning and a greater public responsibility for urban rehabilitation and conservation of the architectural heritage was the congress organised by the Council of Europe in Amsterdam in 1975. The congress was to commemorate the European Architectural Heritage Year, and as its result the Committee of Ministers of the Council of Europe published the *Declaration of Amsterdam –1975*. The declaration states that the European architectural heritage is culturally priceless, as it helps the citizens become conscious of their common history and common future, and therefore "architectural conservation must be considered, not as a marginal issue, but as a major objective of town and country planning" (5). The declaration highlighted not only the importance of monuments and their surroundings, but also the significance of conserving all other urban areas and villages of historic or cultural interest. One particularly important focus of the Declaration is the so-called integrated conservation, which was brought up as a holistic goal to which the authorities of all the member countries should commit themselves.

Integrated conservation implies a public policy of conservation and maintenance of the built environment in which local inhabitants and activities are also taken into account. The Declaration of Amsterdam states notably that "the rehabilitation of old areas should be conceived and carried out in such a way as to ensure that (…) [it] does not necessitate a major change in the social composition of the residents" (6). The recommendations and conclusions of the congress already envisaged the ideological principles of sustainable development by not only commenting on resource-saving measures but also stressing the importance of social and cultural diversity in the old parts of towns. Although the idea of sustainable development did not exactly rise to public attention until the following decade, a clear move towards a new planning ideology based on conservation was crystallised in the recommendations of Amsterdam:

"A new type of town planning is seeking to recover the enclosed spaces, the human dimensions, the inter-penetration of functions and the social and cultural diversity that characterises the urban fabric of old towns. But, it is also being realised that the conservation of ancient buildings helps economise resources and combat waste, one of the major preoccupations of present-day society. It has been proved that historic buildings can be given new functions, which correspond to the needs of contemporary life" (7).

However, already before the European Council called for a new type of town planning, a significant move in the history of urbanism was made in the United States when the City of New York reformed its planning system in the early 1970s. At that time, for the first time in a Western country, CIAM's zoning theory was abandoned as the basis for modern city planning when the manufacturing blocks of SoHo were designated as a mixed-use district in 1971. This radical decision proved to be a great success, and in the 1980s, many other commercial and manufacturing areas in Manhattan were granted a similar planning status. This meant that loft buildings, which were for industrial use, could also be allowed for residential use under certain conditions. This resulted in the development of the so-called loft culture, which afterwards became a fashionable residential trend and spread all over the world (8).

SoHo was the first commercial and manufacturing area in the United States to be declared a protected historic district in 1973. The loft buildings have since been recognised as a valuable architectural heritage, and the area has become one of New York's economic and cultural success stories. Contrary to Paris, in New York, the impetus for change was derived from the local people, citizens who were interested in conservation and artists who moved into the SoHo lofts. Paying heed to the grassroots level was an important ideological expression of attitude on the part of the New York City Planning Commission. Naturally, the Commission also took into account the problems which would have been caused by a rise in the unemployment rate if the SoHo loft buildings had been demolished in accordance with previously planned grandiose urban development projects (9).

Maintenance of the Built Environment and Sustainable Development

The concept of sustainable development was born in the 1970s. The Club of Rome published its report *Limits to Growth* in 1972, which aroused much debate. In the same year, representatives from different countries took a stand on environmental protection problems for the first time at The United Nations Conference on the Human Environment held in Stockholm. However, it took many years before the principles of sustainable development were crystallized on the official level. The definition, which today has almost become a cliché, originates in the United Nations' Brundtland Commission (The World Commission on Environment and Development) report, *Our Common Future*, in 1987: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The topic was also covered at *The United Nations Conference on Environment and Development* in Rio de Janeiro in 1992, when the principles of economic sustainability, social sustainability and cultural sustainability were clarified in relation to ecological sustainability and the limits of natural resources.

UNESCO, established in 1945, has also acted in an exemplary way in favour of sustainable development and protection of the architectural and, more generally, cultural heritage. Its first major achievements in this respect were the creation of the ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) in Rome in 1959, and then, in 1972, the Convention Concerning the Protection of the World Cultural and Natural Heritage. The World Heritage Convention is based on the idea that the cultural heritage of humanity consists of places and objects of outstanding universal value, whose protection and maintenance are the common concerns of mankind (10). Advancement of sustainable development is comprehensively included in UNESCO's mission, working to achieve the goals set forth for 2015, recorded in the United Nations Millennium Declaration, where environmental sustainability is one of the central goals, besides world peace, the eradication of poverty and the promotion of equality (11).

Today, we know that human activity is responsible for the environmental and atmospheric pollution that has partly caused the current climate change. The globe's average temperature has risen dramatically during the past century – numerically a little under 1°C (0.74°), but relatively the highest proportion of it in the last 20 years. On the other hand, scientists have shown that 2°C of global warming would have serious consequences for the wellbeing of man and nature. They have warned that if climate change and pollution of the environment are not stopped, they will cause a disaster for all life on Earth. Architects and city planners are concerned especially about

the fact that buildings cause about 40 percent of all energy consumption. The other major energy consumers are industry and transportation (12). This means that all of us who live in cities and who participate in environmental planning, building design or conservation activities play a key role in carrying out practical actions and raising ecological consciousness. Responsibility cannot be laid upon others.

Towards Cultural-Ecological Consciousness

The protagonists of sustainable development have often referred to the letter sent by the Indian chief Seattle to the US president in 1854, when the latter made an offer to the Indians to buy their land:

"You must teach your children that the ground beneath their feet is the ashes of our grandfathers. So that they will respect the land, tell them that the Earth is rich with the lives of our kin. Teach your children what we have taught our children, that the Earth is our mother. Whatever befalls the Earth befalls the sons of the Earth. If men spit upon the ground, they spit upon themselves. This we know – the Earth does not belong to man – man belongs to the Earth. All things are connected like the blood that unites one family. All things are connected. (…) Man did not weave the web of life – he is merely a strand in it. Whatever he does to the web, he does to himself" (13).

Every part of this long letter exudes humble wisdom and respect for the earth and all forms of life. This ecological consciousness serves as the foundation for the principles of sustainable development that still guide us today. Without the capacity to respect, one cannot truly understand the interconnectedness of all living beings, which is the core tenet of ecological thought and science of life, as Eknath Easwaran has pointed out.

Philosopher Martin Heidegger explored the essence of human existence and concluded that to be a human is to *dwell* on the earth and under the sky. This involves a sense of "belonging to men's being with one another." Heidegger believed that the "earth and sky, divinities and mortals" are united in a primal oneness, and dwelling is about being in this "fourfold" state of unity. He further explained that "mortals dwell in that they save the earth" (14). This explicitly means that the fundamental nature of dwelling is to preserve and protect the earth, rather than exploiting it, wearing it out, and subjugating it.

This essay is an edited extract from a previously written article by the author, titled "Conservation and Maintenance as a Means of Sustainable Development – Finnish Perspective", and published in Open House International *(Vol. 36, no. 2) in 2011.*

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The Future of Cities: Sustainability Is Based on Objective Beauty

NIKOS A. SALINGAROS

Two irreconcilable and mutually exclusive currents are shaping our cities. Vast construction projects spawn profits for multinationals, a few allied local firms, and distant stockholders. The media inundate us with their exciting images, and the developing world serves as a testing ground for the more ambitious (and pharaonic) among those schemes.

The other design alternative is small-scale and focuses on human responses to the built environment (1). It uses proven methods to elicit mental well-being and bodily healing. Its products look old-fashioned, not because practitioners always copy traditional forms, but because healing responses rely upon a complex geometry that is common to all historical buildings and cities (2). Self-building and traditional construction around the world follow this second model. Based on centuries of necessity for evolved low-tech energy solutions that utilise local materials, traditional architecture and urbanism are cheaper and more effective in the long term.

Image 1: Traditional urban fabric combining three centuries of buildings in Lisbon

Source: Nikos A. Salingaros.

After the great stylistic schism of the 1920s, design and planning professions applied a narrowed-down set of industrial rules (3). What gets built at great expense and is proclaimed as the "image of the future" is gigantic; utilises glass, steel, and raw concrete; and privileges the automobile in both spatial and temporal scales. Fast speed implies the elimination of detail, ornament, and key components of the pedestrian urban fabric (4). A generic, standardised tectonic vocabulary is the central characteristic of the industrial–modernist model (5). Its design basis cannot adapt to locality and individual user needs and erases many of the human qualities necessary in the built environment.

What is Meant by Traditional?

I am not referring to architecture and cities in any particular geography or time. A body of research distinguishes the design and planning of the 20th century and later from all that came before (6, 7, 8, 9). The criteria for judging the difference are mathematical: pre-modernist structures obey a list of measurable characteristics that correspond to human neurological feedback. Medical studies reveal that those qualities are responsible for long-term physiological and psychological health (10).

Despite radical differences due to climate, culture, geographic location, local materials, and ornamental traditions, architectural styles worldwide encompassing human history until the Second World War all share a common mathematical basis. A new approach to environmental health is possible by designing buildings and urban spaces (11, 12, 13, 14). This commonality within diversity is responsible for their positive effects on human health. The diversity among the buildings' stylistic appearance is irrelevant to their healing effect.

Buildings and urban structures from any place or time that elicit a positive neurological effect by satisfying the appropriate mathematical properties tend to be identified as "traditional" (15). An architectural culture anchored on the modernist stylistic vocabulary misinterprets this positive-valence feedback as being a negative trait because its "look and feel" clashes with the industrial–modernist style. Architects are psychologically conditioned to react negatively to their own body's feelings of comfort, ease, and well-being because those emotions are the goal of traditional architecture; whereas the modernist schism's explicit—though unstated—aim was to create alienation and anxiety (16).

Globalism's Manipulations and Pretensions

It is worthwhile summing up global construction and energy use. The global economy pursues complex, interrelated goals that are often irreconcilable with natural systems, resulting in non-optimal long-term effects:

1. The energy industry is gaining peak profits by burning fossil fuel at alarming rates, with disastrous environmental consequences.

2. Cities are being designed so that they consume maximum amounts of energy, despite deliberately misleading public statements.

3. During urban 'upgrading,' human-scaled sustainable built fabric is being replaced with overscaled, unsustainable buildings.

4. Utilising expensive building materials generates profits from their extraction and transportation over long distances.

5. The push for efficiency through large-scale technological frameworks creates a global industrial system that eliminates local artisans and industries.

6. The architectural information system conditions society to erase local biophilic and human-scaled building and design cultures by tagging them as 'backward', then banning them.

7. A massive propaganda campaign fuelled by global development makes popular heroes of hand-picked architects supporting these industry goals.

This "business-as-usual" gives us a skyscraper-per-minute, ignoring real-life data on the futility of continuing to shape our cities in this disastrous direction (17, 18, 19). Concentrating design on expensive and energy-wasting architectural "images of modernity" coupled with exclusive automobile transport has led us into an unsustainable situation. Curtain-wall buildings are not meant to last for more than 20 years. Authors dissenting from the global standard of high-rise typologies warn of a looming crisis as those buildings move past their intrinsic lifetimes (20). The built fabric of recent decades cavalierly omits sound and thermal insulation, and is decaying. Another missed point is that unloved structures are not worth repairing.

Gardens in the Sky

Bringing nature into cities is a major step in the right direction, but it is only a palliative if the built geometry itself remains alien to human sensibilities. Unfortunately, our world is largely shaped by typologies based on industrial images that oppose what human physiology and psychology require (21). Image-based abstractions continue to serve as templates because the media praise such designs.

As more architects discover the health benefits of biophilia, they understandably wish to take advantage of them (22). But there is a price to pay, and most practitioners do not wish to pay it. They need to drop their modernist stylistic fixations, because much of that standard toolbox is anti-biophilic (23).

Progressive design schemes within the present system continue to utilise anxiety-producing entrances, spaces, and surfaces. While including lots of plants somewhat softens them, this step only utilises 20 percent of biophilia. A minimalist industrial–modernist building set in a garden mixes the negative with positive biophilic effects (24). The major benefit of biophilic design comes from the built structure itself by including ornamentation, curves, colour, complex details, framing, fractal scaling, and nested symmetries on a variety of scales. The look and feel of a biophilic building are old-fashioned without ever trying to copy an older design style.

The Path to Sustainability is Through Objective Beauty

If we build towns and urban spaces that are deeply loved, then people will wish to preserve them (25). It is time to invest in biophilic city innovations instead of deceptive "green-washing" (26). Users will love a new project viscerally if it represents biological beauty, not some abstract, ideological conception of beauty. Objective beauty depends upon our biological need for specific environmental geometric qualities (27). Even though notions of beauty are debated, the most beautiful places, as judged by common users, are also the most commercially successful (28).

We should apply Alexandrian Patterns (29, 30) and supporting geometrical tools for adaptation. Neuroscience experiments are finally empirically validating what we already knew (31), and those results are convincing stakeholders of the long-term health advantages of biophilic design.

Transforming our world into a humane, healing environment also makes it sustainable. An economic solution still benefits developers while achieving human-scale urbanism. A world made for human beings, fit for children and older persons, is one where every place is healing and makes us well just to be there (32). Our cities could become human once again when industry realises the immense commercial advantages of doing so.

Improving the Urban Realm

The flows of a city occur on many networks, which compete on the same ground plane level (separating transportation modes on different heights having proved problematic). All modes of transport need to connect, with the weaker ones protected from the stronger. Adaptive design

creates a safe environment for pedestrians—by not giving in to traffic engineers who gutted our downtowns to increase the speed of vehicular traffic (33). Neo-traditional urbanists are finally reversing this misguided switching of design and planning priorities. Mixed-use, pedestrian-friendly urban fabric—both newly built and renovated—counts among the greatest economic successes of the past decades (34).

The public realm consists of pedestrian space. Loved, usable places pay attention to human dimensions. They can be made as comfortable and safe as possible using Christopher Alexander's design patterns, which specify sizes commensurate to the human body and human movement that the built environment must satisfy (35, 36). Patterns document innate needs that drive people to seek psychological comfort: for example, in proximity to a wall, the attraction of colour, the shelter of an arcade, the safe feeling that comes from bollards bordering pedestrian space, etc. A thriving boulevard full of people and shaded by century-old trees triggers positive human emotional responses. Reintroducing old-fashioned bollards protects a pedestrian physically and psychologically from adjoining traffic (37). Build arcades and colonnades that encourage movement on the human scale whenever possible.

Rules for generating a living city that goes beyond biophilia (38, 39) mandate an urban structure that supports mental and physical well-being with specific design principles:

- Building façades that employ all the human scales and encourage pedestrian occupation and movement alongside them.

- Beloved urban spaces are defined visually by being partially surrounded by human-scaled, informationally-rich building façades.

- The configurational basis of urban space comes from the enclosing geometry, not from stand-alone buildings.

Image 2: New traditional buildings in Le Plessis-Robinson, near Paris, 2018

Source: R. Hanssen, used with permission.

- The city has to guarantee a 'necklace of public spaces' that are connected by protected, robust pedestrian access.

- Legislated mixed use—combining commercial, education, light industry, and residential, not monofunctional zoning—generates living urban fabric.

- Keep vehicular traffic from invading pedestrian space and protect the points of intersection through adaptive design.

There is more interaction between architecture and urbanism than is commonly acknowledged. The key relationship between the scales of an individual building and the scale of a city region is understood in mathematical terms through "fractals" (40). Built fractals connect to users through their scaling, because our own body is fractal inside (41). A living city is itself a giant multiple fractal, with the critical scales being the human dimensions between one centimetre and two metres (42). Everything larger should be anchored visually on these smaller scales so that the complex whole is perceived and works coherently.

Living Places for Children and Aging Populations

Decades ago, architecture schools started to teach abstractions and stopped considering basic human neurological responses (43). At the same time, users accepted a severe reduction of their sensorial world and did not complain. Worst of all, people misinterpreted an alien and sterile look and feel as modern, beneficial and highly desirable.

People locked inside their dwellings during the recent COVID-19 pandemic noticed that those interiors are inadequate to sustain human life emotionally. Indoor spaces designed by architects who ignore human spatial needs lead to stress and mental illness (44). The effects are the most severe on children (45). The world's population still tolerates inhuman environments because very few people connect their own psychological unease with design minimalism and ill-conceived corners, surfaces, and transitions.

Remaking post-war cities so they become fit for children and the elderly accommodates everybody better. Ever since the Bauhaus, the profession's dominant idea has been to create buildings only for adults within a narrow age range, level of fitness, and income class, ignoring the diversity and totality of the human population. Society must demand an end to this style-based limitation. This move will necessitate a return to human-scale design, prioritising the pedestrian's size and easy body movement. Appropriate design tools are found in traditional cities built up to the 1930s, and their application to contemporary urban developments has made neo-traditional urbanism hugely successful (46).

Public squares and plazas that survive undamaged in traditional city centres attract children, with or without their parents, and older persons with reduced mobility. Bushes, lawns, and perhaps some trees in a plaza create organised visual complexity that shapes attractive urban space. Neo-traditional places let pedestrians experience these configurations close-up, not as lifeless abstractions. Old-fashioned, 'soft' public space contrasts with 'hard' contemporary plazas that are emotionally dead and are never used. Nobody lingers there because they lack

biophilic qualities. 'Design-as-image' creates hostile new urban spaces, despite the possible presence of green.

Conclusion: Intelligent Energy Policy Could Reset Urbanism

Positive ideas for change towards a more human-built environment must be protected from empty slogans instrumentalised to continue global consumerism and cultural devastation. Users can educate themselves and demand healing environments. If the mainstream adopts a good idea, the new faces not beholden to the old ideology might replace the usual collaborators that create inhuman environments. In this information age, major world changes could occur on very short time scales.

We learn how cities function by following their energy flows (47). How are buildings fed with energy, and how much-embedded energy did they cost to erect and maintain? Construction projects conceived and marketed purely as giant sculptures continue to obscure these points. Wasting fossil energy reserves by constructing glass towers has set a poor precedent up until now.

The world can radically scale down energy consumption and energy-consuming transport (48). Will we continue to build more power-generation plants and accept the collateral environmental degradation? An intelligent reset could flip energy policy from global to local, from centralised — therefore, non-resilient—systems to overlapping small-scale energy solutions, and from wasteful to conservative. True sustainability means energy independence, implementing frameworks that facilitate switching technologies not tied into a monolithic system. With regards to energy flow, the 'inflow' of energy from the consumption perspective needs to be balanced by the energy 'outflow' from normal function to complete the cycle. The stubborn myopia of using glass 'greenhouses' for housing and offices in hot climates, which is tied to cutting down urban trees, results in catastrophic climate events. Ignoring the impact of overscaled buildings on waste generation gives us examples of several-day-long traffic jams of trucks carrying sewerage, surely a failure to address the waste disposal issue in cities.

This essay reuses material from an earlier article published in Meeting of the Minds—The Future of Cities Project, June 19, 2019; and a revised version in FuturArc (Singapore), 71(4) (2020): 44-57.

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YOUNG PERSON'S PERSPECTIVE

Inclusive Urban Futures: Exploring Youth's Vision of Social Urbanism in India and Beyond

SUSHMITA SHEKAR

India is home to the largest youth population globally, consisting of 808 million individuals below 35 (1). However, amid the diverse fabric of its urban areas, towns, and villages, young residents encounter significant challenges arising from the impacts of the climate crisis, their own economic future, lack of adequate social infrastructure, and quality of life issues. It is crucial to address the aspirations and requirements of this demographic to shape not only India's future, but also that of the entire world.

During the 2023 United Nations Economic and Social Council (ECOSOC) Youth Forum in New York, it was acknowledged that the world is nearly halfway towards realising the United Nations 2030 Agenda for Sustainable Development. However, global efforts are falling short of bringing about the transformative changes needed to accomplish sustainable development in our cities by 2030 (2). Additionally, the youth in various countries have experienced setbacks in access to social infrastructure and thriving urban environments due to the widespread impact of the Covid-19 pandemic. Therefore, it is crucial to urgently involve and empower youth in planning the future of our cities and adopt a more inclusive approach to assessing and monitoring progress, or the lack of it.

Image 1: Global youth leaders unite at the UN ECOSOC Youth FORUM to fast-track the United Nations Sustainable Development Goals

Source: UN Economic and Social Council (3)

Youth are the future inhabitants, leaders, and decision-makers of cities and towns worldwide. Young leaders like Greta Thunberg, Nadia Whittome, and others are stepping forward bravely, demanding urgent action on global issues. The younger generation possesses a unique understanding of emerging challenges and can offer unique perspectives on addressing issues such as climate change, technology, and social matters. Their participation can lead to the development of more effective and forward-thinking solutions. Social media platforms allow young people to raise awareness, share their experiences with others, and influence policy. This, in turn, builds social capital and empowers them to play an active role in shaping their communities and the world they live in.

Considering the worldwide size, impact, and aspirations of the youth population, what strategies can be implemented in our urban environments to effectively address our cities' social, economic, and environmental challenges and foster a more promising future?

Progress in Social, Economic, and Environmental Capital in India

Traditionally, the progress of urban development and growth is assessed using financial indicators such as Gross Domestic Product (GDP), employment rates, and infrastructure development. However, these conventional measures often neglect crucial aspects of well-being, including income distribution, social inclusion, quality of life, and environmental sustainability of our cities. They fail to account for non-market activities, informal economies, and cultural endeavours. Financialisation of every aspect of our lives in a hyper-capitalist world has led to a growing lack of trust in governments, severed social infrastructure, and resilience required in our cities. However, should not the fundamental purpose of financial capital be to support and foster what truly matters: our social and natural capital?

To support the holistic development of our cities for the next generation, we need to redefine progress by emphasising social, economic, and environmental capital. Recently, the Indian government initiated several programmes and strategies to drive more sustainable and inclusive development. Despite these efforts, large gaps continue to exist. The Ministry of Housing and Urban Affairs, India launched "The Ease of Living Index" in 2018, an assessment tool developed to rank Indian cities in terms of their livability and quality of life. The tool tracks progress through social, environmental, and economic fronts, thereby exposing the areas of development required. The following paragraphs provide an overview of significant advancements and remaining gaps within the development process in India.

On the social front, India has made great strides in reducing poverty and improving access to education and healthcare. The poverty rate fell from 22.53 percent in 2011 to 10.1 percent in 2020 (4) while the literacy rate increased from 52.2 percent in 1991 to 77.7 percent in 2020 (5). In the past few years, the government has launched various social welfare programmes like the National Rural Employment Guarantee Act, Pradhan Mantri Jan Dhan Yojana (Financial Inclusion Programme), Ayushman Bharat Yojana (National Health Mission), and educational loan programmes like Vidyasaarathi to improve access to social welfare for the disadvantaged sections of society. The New Education Policy seeks to radically improve the quality of education across all levels, while the Yuva Kaushal Vikas Yojana specifically focuses on employable skills development for the youth. Nevertheless, India still confronts considerable challenges in terms of creating employment opportunities that provide decent wages, ensuring access to quality education, and mitigating gender and income inequality for the youth.

On the economic front, India has been one of the fastest-growing economies in the world in recent years. The country has succeeded in reducing poverty and increasing economic growth, with GDP growth at an annual average rate of 7 percent between 2014 and 2019 (6). India has made progress in developing infrastructure and promoting innovation, ranking 48 out of 190 countries in the World Bank's 2020 Ease of Doing Business report (7). The government has launched initiatives like Make in India, Startup India, and Digital India to promote entrepreneurship and innovation. However, India still faces significant challenges in creating enough jobs for its rapidly growing young workforce, reducing income inequality, and promoting sustainable economic growth.

On the environmental front, India has taken several steps to address the challenges posed by climate change and environmental degradation. Improvements have been made in the availability of clean water and sanitation, as the proportion of people with access to improved water sources has risen from 88 percent in 2000 to 95 percent in 2020 (8). India has also made significant progress in promoting renewable energy and reducing greenhouse gas emissions, ranking fourth in the world in installed solar capacity in 2020 (9). The government launched initiatives like the National Clean Energy Fund, the *Swachh Bharat Abhiyan* (Clean India Mission), and the National River Conservation Plan to promote sustainable development and protect the environment. However, India still faces significant challenges in reducing its carbon footprint, improving air and water quality, and conserving its natural resources. With the country's rapid urbanisation, overcrowding, pollution, and deficient infrastructure pose significant challenges to promoting responsible consumption and production. The challenges were exacerbated during the pandemic, with underprivileged communities bearing the brunt of the consequences. Indian youth, who are now digitally very well connected to the world, are demanding more action and better results.

Given these challenges, what measures can be taken to cultivate thriving cities supporting youth development?

The short answer is social urbanism driven by stakeholder capitalism, where young people are well represented on the table. It proposes an alternative way of thinking and designing our cities and neighbourhoods so that we can build cities, villages, and landscapes to be places of creating and nurturing our social, natural, and financial capital, as a three-legged framework for decision-making. Social urbanism promotes social capital, sustainable development, equal economic opportunities, and high quality of life for all. It emphasises the active involvement of all stakeholders—including the youth, marginalised communities, and refugees—in decision-making processes to create cities that promote equal opportunities and well-being for residents.

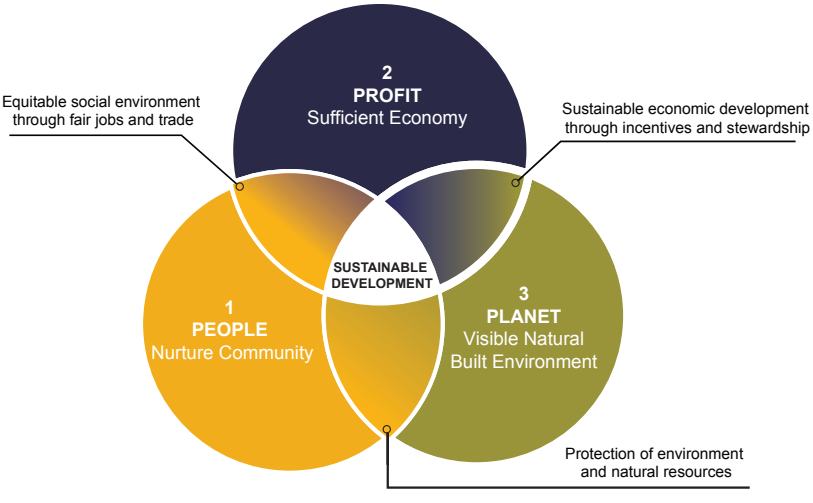
Six Strategies to Advance Social Urbanism by 2030

1. Enhance interlinkages between society, environment, and economy, as isolated efforts are not sufficient to solve urban problems

Recognising the interdependencies between the three P's—people, planet, and profit—encourages integrated strategies that consider broader impacts and trade-offs in urban decision-making. For example, investing in green infrastructure projects, such as parks, urban forests, and green roofs, improves air quality, mitigates urban heat island effects, and enhances biodiversity (environment) while boosting local economies through job creation and attracting tourism (economy), and also providing recreational spaces and improving the overall well-being of residents (society). Interlinkages also help build social resilience in the face of climate change, resource scarcity, and social inequities. A society with strong social networks and inclusive institutions is better equipped to address environmental challenges and foster sustainable economic development.

Likewise, an economy that promotes sustainable practices and values social and environmental well-being is more resilient in the face of uncertainties. The youth can significantly promote social cohesion, highlight environmental issues, and contribute to sustainable economic growth

Image 2: Achieving Sustainability through a Synergy of People, Profit, and Planet



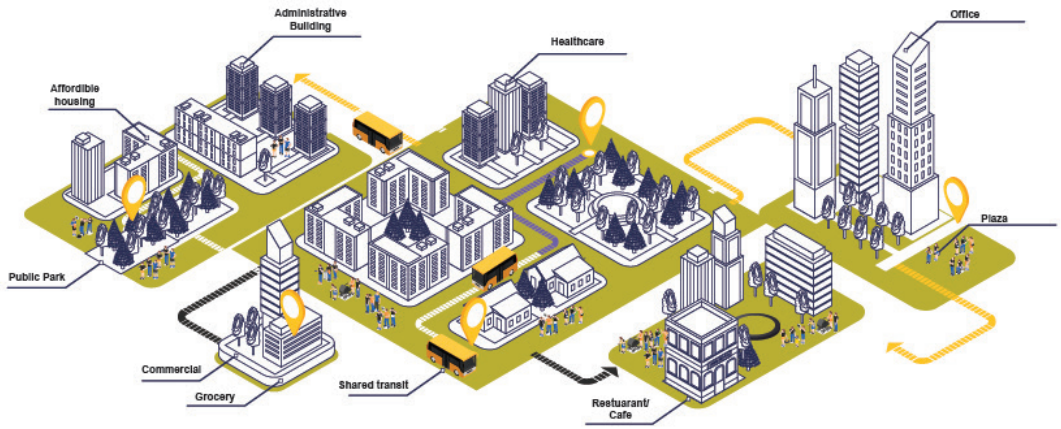
Source: Author's own, based on information from Robbi Mixon (10)

through community-building initiatives, social entrepreneurship, and civic engagement. By actively engaging youth in the democratic urban decision-making process, we bestow upon them the power to shape their communities. This involvement nurtures civic duty among young individuals, bolsters their connection to the local environment, and motivates them to make positive contributions to society. Encouraging sustainable economic growth that considers social well-being and environmental stewardship can result in a better quality of life, greater innovation, and improved competitiveness within a rapidly evolving global environment.

2. Build stronger communities through mixed-use, mixed-income development and enhanced urban infrastructure

Neighbourhoods are where we live, spend time with our family and friends, and connect with our community. These places are critical in supporting the community's social cohesion, health, and well-being. Designing and planning neighbourhoods with compact, mixed-use developments can reduce the need for car-dependent lifestyles, improve well-being, and minimise environmental impacts. For example, a neighbourhood that promotes walkability with well-designed and safe sidewalks supports social interaction and local businesses by bringing more foot traffic to the street. An enriched and vibrant urban environment emerges when a neighbourhood embraces a diverse mix of residents, businesses, employment opportunities, improved streets and social infrastructure. This leads to strengthening social capital and economic vitality. In addition, mixed-use developments integrated with adequate access to public spaces, such as parks, plazas, and community centres, can further improve quality of life and well-being.

Image 3: Revitalising Urban Spaces: Integrating Mixed-Use, Mixed-Income Development and Enhanced Urban Infrastructure



Source: Authors' own.

3. Create livable neighbourhoods by prioritising affordable housing and social infrastructure

One of the primary concerns of sustainable development revolves around ensuring adequate housing for all. Simply increasing the housing supply is insufficient; it is crucial to implement housing policies that prioritise affordability and prevent the displacement of vulnerable populations from gentrification or urban renewal initiatives. Affordable housing ensures that

young people can access safe and stable living conditions without being burdened by excessive rental or mortgage costs. This financial stability allows them to allocate their resources towards education, skill development, and personal growth, promoting long-term financial security.

To effectively support communities and youth, a strong social infrastructure is required. Throughout history, various forms of social infrastructure have emerged as vital components that facilitate connectivity and information dissemination among people. These may include libraries, post offices, telecommunication kiosks, supermarkets, parks and public squares, sidewalks, Sunday street closures, farmers' and pop-up markets. These amenities can be designed to promote social interaction, foster community unity, and enhance the overall well-being of all residents.

4. Create pathways for economic growth and education for underserved communities

When the youth and underserved communities are provided with economic opportunities, they gain greater empowerment and self-sufficiency. This reduces their reliance on external assistance or resources and enables them to take charge of their own progress. Such empowerment cultivates social cohesion and fortifies the community's ability to withstand challenges. When young individuals have access to steady employment, they are more inclined to invest in their communities and neighbourhoods, engage in decision-making processes, and contribute to local development initiatives. This sense of belonging and collaboration strengthens social connections and advances sustainable development.

Encouraging the establishment of cooperatives, community-owned enterprises (11), and social enterprises (12) can help residents collectively own and operate businesses, preserving profits and decision-making authority within the community. Examples of such initiatives include community gardens, co-working spaces, or shared kitchens. Community Land Trusts can also ensure that modest-income households do not get pushed out of the city due to gentrification (13).

Prioritising education and skill development is crucial in supporting job creation. Collaborating with educational institutions, trade schools, and vocational training centres is essential for offering relevant skills training for the youth. This equips them with the necessary abilities for available job opportunities, enhancing their prospects of securing employment.

5. Data-informed decision-making: Use technology to track progress, collect data, and share information

The future of our cities and communities depends on people-centric digital transformation. Technology plays a crucial role in gathering and analysing vast amounts of data, which can offer valuable insights for sustainable development. This data-centric approach greatly assists in making informed decisions and formulating effective policies. Moreover, technology enables real-time monitoring of environmental and urban factors, facilitating a deeper comprehension of how economic activities impact the environment. Today, the youth use digital platforms as avenues for collaboration and knowledge exchange, fostering partnerships and initiatives that integrate social, environmental, and economic dimensions. By bridging the digital divide and ensuring equitable access to technology, we can promote social and economic development in our cities.

6. Engage the youth, marginalised communities and refugees in the development process through incentives

Engaging communities in sustainable development promotes social cohesion and inclusivity by ensuring that all voices are heard and that the needs and concerns of marginalised groups and youth are addressed. Incentives can provide recognition and rewards for individuals and groups making positive contributions to sustainable development. Engaging youth and refugees in urban development can have multiple benefits, including integrating into local communities, economic empowerment, and enhancing their skills and capacities. Encouraging joint community projects, cultural exchanges, and initiatives bring communities together.

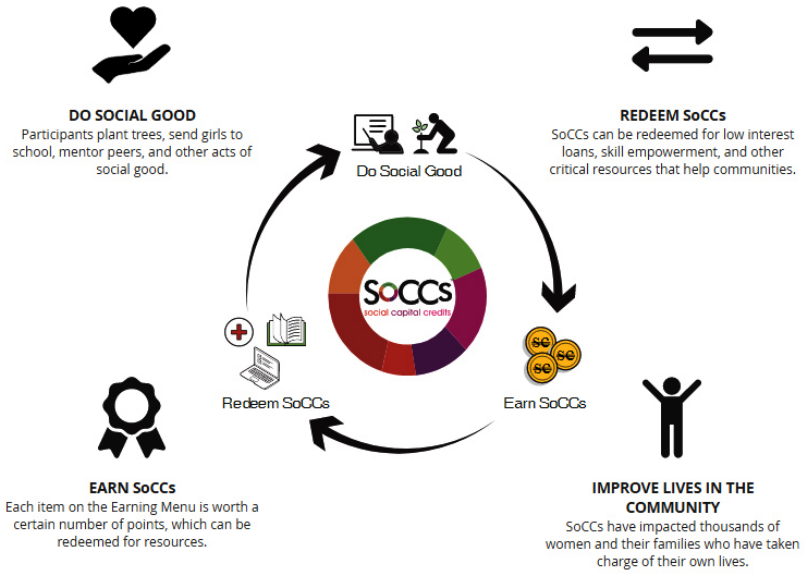
The examples below show how recognition can strengthen social cohesion and create a sense of community around sustainability.

A. **Payment for Ecosystem Services (PES):** This concept seeks to reward communities who are protecting the services that ecosystems provide to humans, including provisioning services (e.g., food, water, and timber), regulating services (e.g., climate regulation, flood control), and cultural services (e.g., recreation, aesthetics) (14). When communities work together to protect and restore natural resources, it can promote a sense of ownership and stewardship towards climate and environmental challenges. Collaborative efforts like community-based conservation initiatives or participatory decision-making processes build trust, foster cooperation, and strengthen social ties. Ecosystem services can also create shared economic opportunities that enhance social equity and promote social cohesion by creating a sense of collective prosperity and shared interests.

B. **Carbon Credits:** This exchange system measures the amount of carbon dioxide or other greenhouse gases that can be removed or avoided through conservation or restoration of ecosystems, including in developed countries with high emission rates (15). Carbon credits can be bought and sold on international carbon exchanges as a way to incentivise communities and companies to reduce carbon emissions. Carbon trading promotes the adoption of cleaner technologies, energy efficiency measures, and the development of renewable energy sources, decreasing the overall carbon footprints. Carbon credit projects, especially in developing countries, can provide opportunities for local communities to participate and benefit from sustainable initiatives. These projects often involve job creation, capacity building, and the development of sustainable livelihoods, contributing to social and economic empowerment.

C. **Social Capital Credits (SoCCs):** Invented by Asia Initiatives, SoCCs are a virtual currency for social good used in the US, India, Ghana, Kenya, and Taiwan to incentivise participation in community improvement projects (16). It is used to incentivise individuals to engage in activities that benefit their community, such as volunteering, recycling, or participating in environmental initiatives, which reward them with credits. SoCCs can be used for education, healthcare, and up-skilling of community members. Peer-to-peer SoCC transactions within a community facilitate the exchange of local goods and services, creating a self-sustaining economy that rewards positive social and environmental behaviour.

Image 4: Social Capital Credits: Community currency for social good



Source: Asia Initiatives (17)

How Does Empowering the Next Generation of Urban Decision-Makers Contribute to Achieving These Objectives?

In conclusion, engaging the youth in sustainable development initiatives is crucial in nurturing their environmental and civic education. By involving them in environmental education programmes, workshops, community projects and various international and national forums and events, cities can raise awareness about sustainability challenges, climate change, and responsible urban development. Furthermore, empowering the next generation of urban decision-makers ensures that their interests and long-term needs are taken into account, promoting intergenerational equity. Lastly, by recognising the power of youth as advocates for change and role models for sustainable living, cities can foster a sense of ownership, empowerment, and responsibility among the next generation, leading to more active and engaged citizenship in the future. Through these efforts, we can build stronger, more resilient communities prioritising sustainability and creating a better future for all.

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