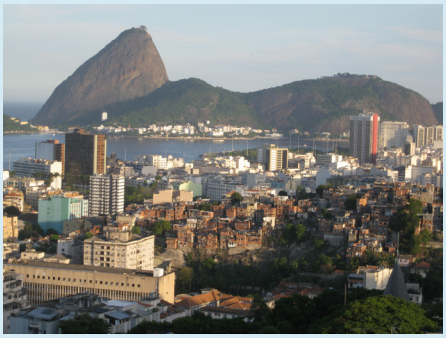
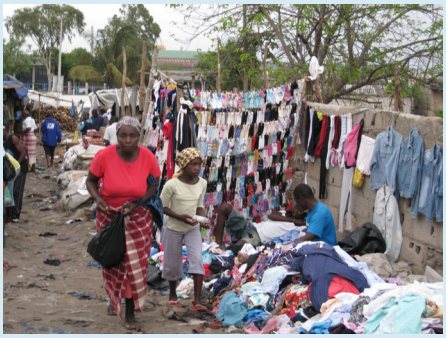
RETHINKING SUSTAINABLE CITIES

Accessible, green and fair

Editor DAVID SIMON

MISTRA URBAN FUTURES

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This is a summary, translated and edited, taken from 'Rethinking sustainable cities: Accessible, green and fair', published by Policy Press 2016 (ISBN: 978-1-4473-3284-8, http://policypress.co.uk/rethinking-sustainable-cities). ePDF available Open Access via OAPEN at https://oapen.org/search?identifier=613676;keyword=Rethinking%20Sustainable%20Cities

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1. Introduction

by DAVID SIMON

Sustainable urbanisation has become an important topic of debate, in research and on political agendas in recent years. There are many reasons for this and the reasons that take precedence vary between countries and regions. However, one of the most important is awareness of the consequences of rapid urbanisation in countries such as China, India and other low and middle-income countries with historically low levels of urbanisation. Much of the urbanisation in these countries follows the unsustainable, resource-intensive patterns by which high-income countries were developed. The trend is also being enhanced by greater global mobility, the globalisation of architecture and urban planning consultants and construction companies and the distributive power of the media and the new information and communication technologies.

In the same way, many cities and regions worldwide have begun to understand the challenges they will meet in the form of climate and environmental change and the importance of taking rapid action. This is also true of poor cities and regions. This constitutes remarkable progress from a situation of just a few years ago, when such arguments fell on deaf ears since the problems were held to be too distant in the future compared to meeting immediate demands for scarce resources. Almost everywhere, the realities of fluctuating and unpredictable weather patterns, and especially the increasing frequency and severity of extreme events, as well as extensive loss of life and both economic and environmental damage, are changing perceptions among politicians, officials and residents alike.

A key marker of the increasing importance of urban issues is how they have risen up the international agenda. A specifically urban Goal (no. 11) – to make cities inclusive, safe, resilient and sustainable – is now included in the set of 17 Sustainable Development Goals (SDGs) adopted by the UN at the 2015 General Assembly. These SDGs replaced the Millennium Development Goals (MDGs) from 2016. Unlike the MDGs, the SDGs were formulated through a lengthy and diverse consultative process involving national and sub-national governments, international agencies, nongovernmental organisations (NGOs), the private sector and community organisations in every country. Importantly, too, the Goals apply to all countries, regardless of per capita income or position on the Human Devel-

opment Index (HDI). This demonstrates the shared fate of humankind in the face of sustainability challenges, be these related to inadequate access to the resources for meeting basic needs and an acceptable quality of life or to excessive consumption and the associated health, resource depletion and environmental problems.

The demographic, economic, environmental and socio-cultural importance of urban areas is growing consistently worldwide. Cities and other sub-national entities were mentioned explicitly for the first time in the Paris Agreement reached at COP21 of the United Nations Framework Convention on Climate Change (UNFCCC) in Paris in early December 2015. This gives special recognition to the role of urban areas in meeting the climate change challenges. At the same time, UN member states have actively prepared the New Urban Agenda with diverse stakeholder groups worldwide. The New Urban Agenda was launched officially at the Habitat III global summit in Quito, Ecuador, in October 2016, and will shape global efforts to promote more sustainable urbanisation and sustainable urban areas for the coming 20 years.

That the importance of urban sustainability is now receiving wide recognition represents the first prerequisite for progress towards that objective. However, therein lies a double paradox. While it might at first sight seem feasible to make well-resourced, orderly towns and cities in high-income countries more sustainable, changing the entrenched resource-intensive, high-consumption economic processes and lifestyles there, and the power relations and vested interests bound up with them, will require immense effort, finance and political will. Conversely, to many people, the widespread poverty, resource and service deficits and chronic traffic congestion of large, fast-growing cities in poor countries represent the ultimate challenge or 'wicked urban problem'. Yet, although powerful vested interests exist there too and can be highly resistant to change, the example of Lagos, the biggest city in Nigeria, under the previous governor, Babatunde Fashola, demonstrates how an energetic champion untainted by personal corruption, committed to the cause and possessing the right connections can bring about remarkable results in a relatively short period, even in the face of some of the most severe problems in any megacity.

Naturally, though, however sustainable or otherwise, cities do not exist as isolated islands of bricks, concrete, steel, glass, tarmac, corrugated iron, wood and cardboard. Indeed, they form integral parts of wider natural and politico-administrative regions, as well as national and supranational entities, on which they depend for resources, waste disposal, human

interaction and the circulation of people, commodities and finance. Urban areas can lead or lag in sustainability transitions but ultimately sustainable towns and cities exist only as components of more or less sustainable societies. This is both a truism and shown historically, with evidence accumulating from various ancient urban societies on different continents. This complexity creates 'boundary problems' since the interactive systems span often numerous administrative areas, complicating yet further what are already complex development, economic, environmental, political, social and technical challenges.

Sustainability is itself a complex and contested notion in many ways. It contains diverse elements, some relatively easy to measure and others more qualitative. Moreover, like development, sustainability has the triple characteristics of being simultaneously a normative aspiration, an ideal state of being for a community and the means of attaining that state. It has been theorised, appropriated, used and abused in numerous discourses and practical applications, to the point that some critics claim that – also like development – it has lost any usefulness. Some of these complexities are examined in the urban context in Chapter Three, especially the differences between 'weak' and 'strong' sustainability discourses, policies and practices and the need to integrate economic, sociocultural and environmental dimensions within holistic approaches.

The aim of this book

This compact book aims to contribute to understanding of the agenda for sustainable urbanisation using authoritative interventions. It clearly contextualises, assesses and explains the relevance and importance of three central dimensions of sustainable towns and cities everywhere, namely that they should be accessible, green and fair. These three dimensions inform the work of Mistra Urban Futures (MUF), an international research centre on sustainable urbanisation based in Gothenburg, Sweden, and operating through transdisciplinary research platforms there, in Skåne (southern Sweden), in Greater Manchester (UK), Cape Town (South Africa) and Kisumu (Kenya). These platforms bring together groups of researchers from universities and research institutes, parastatals, local and regional authorities and official agencies to identify shared problems and to undertake joint research to find and then implement solutions.

A new partnership in Asia and/or Latin America is planned in 2016/7 in order to establish a research presence in most continental regions, which will enhance Mistra Urban Futures' ability to undertake comparative re-

search into principles and guidelines of good practice and thereby to influence urban sustainability agendas at all levels.

To inform the second phase of its research programme, Mistra Urban Futures has undertaken substantive reviews of the existing literature in relation to accessible, green and fair cities. This also makes it possible to influence ongoing urban sustainability debates worldwide. Many of these debates came together in the preparatory process for the Habitat III summit in October 2016 and the New Urban Agenda for the next two decades within the UN System and – at least as important – outside it. That constitutes the context and rationale for this book as local, national and international policymakers and practitioners grapple with the twin challenges of building numerous new urban areas (sometimes dubbed 'the cities yet to come') and new urban segments in growing cities while also redesigning old urban areas and segments in accordance with emerging principles of good urban sustainability practice in different contexts around the world. Equally, these principles are increasingly finding a central place in university courses and professional training modules on sustainable cities and urban design.

2. Accessible cities

By JAMES WATERS

Introduction

This chapter considers some of the benefits and disadvantages of the concept of accessibility in urban planning and policy, and how its various dimensions can be assessed.

Among mainstream urban policy, density is generally hailed as a positive goal for urban planning. The World Bank has argued that 'density makes the difference' and has adopted this as a central tenet of its urban policy for many years, while densification has been promoted to achieve sustainable development within European policy. However, arguments around the relative benefits of urban density are not very clear, and more recent discussions have also highlighted the importance of accessibility.

Most arguments for densification are made around the economic value generated through agglomeration, the economic potential of cities, greater resource efficiency and use of transport and better access to services. However, density also relates to a number of wider issues, including housing affordability, privacy, mental and physical wellbeing, crime, biodiversity and energy use.

Altogether, three key benefits of density have been identified as: more efficient and intensive use of urban land and infrastructure and reduction of car travel, more productive economies and more vibrant and inclusive communities.

Urban efficiency and environmental impact

One of the purported advantages of density is around mobility with lower fossil fuel emissions from shorter journeys and lower carbon footprints of development. Proximity also allows public transport to become more viable, as well as cycling or walking, generating health benefits as well as reducing private vehicle use and thereby pollution. Furthermore, the notion of 'transit-oriented development' (TOD) drives development that is physically oriented around public transport stations and reduces travel time/distance further. By mixing pedestrian-oriented development with public transport nodes, the likelihood of people using public transport for out-of-neighbourhood trips and walking/cycling within their neighbourhood increases further.

In 'smart cities', digital technologies or information and communication technologies (ICT) are used to enhance urban services, reduce costs and resource consumption, and engage more effectively with citizens (see chapter 3). Land use can be intensified in high density areas, with a greater mix of uses, and infrastructure becoming more efficient. With roads, water, sewers and storm water drainage not needing to be extended as far, it can take development pressure off agricultural and industrial land as well as existing green space and improve urban quality of life as a result.

On the other hand, greater density does not always reduce the need for private car travel and can actually cause traffic congestion and parking problems, as well as a larger number of road accidents. Construction of high-density buildings can also cause pedestrian congestion, particularly around public transportation. More energy will also be used in the construction of high-density buildings, particularly skyscrapers. With regard to land use, disadvantages include a lack of public open space and a reduced ability of the urban area to cope with rainfall and air pollution.

In regions such as sub-Saharan Africa, there is rapid and widespread conversion of natural areas into urbanised land, often through low-density sprawl as much as high-density intensified development. Hence the relationship with density is unclear. On the other hand, there is good evidence from European urban development. For example, higher urban densities in the UK were strongly associated with reduced green space coverage as well as hampered ecological functions such as regulation of water and temperature regimes and carbon sequestration. In the future it will become more difficult to place and build new high-density buildings that retain green spaces among already dense urban areas.

Agglomeration and economic benefits

Evidence suggests that high-density development is significantly cheaper compared with funding the infrastructure, maintenance and operating costs of sprawling cities.

There is, however, also evidence of negative economic consequences of high density. High-density buildings and infrastructure often cost more to build and maintain in higher-density areas. Due to highly valued land, residents can be deprived of recreation spaces and the relative prices for dwellings, goods and services may be higher.

Most of the evidence on economic advantages and disadvantages comes from countries such as the US, Australia or the UK, and is likely to differ in each context and so requires contextual understanding of benefits and disbenefits.

Social equity and wellbeing

The social impacts of high-density urban areas are diverse and the relative benefits for social equity are contested. Social and psychological advantages include

- Increased housing affordability in dense areas
- A greater number of people living in an area may make it safer, more diverse, accessible and liveable
- Positive social interaction may be supported
  A greater choice of peers, especially for children

There may also be social and psychological disadvantages:

- Lack of space can cause living environments to be cramped, noisy and lacking in privacy
- Close proximity of buildings may mean that parents are less able to supervise children
- Stress, anxiety and withdrawal may occur, possibly as a result of decreased sense of community

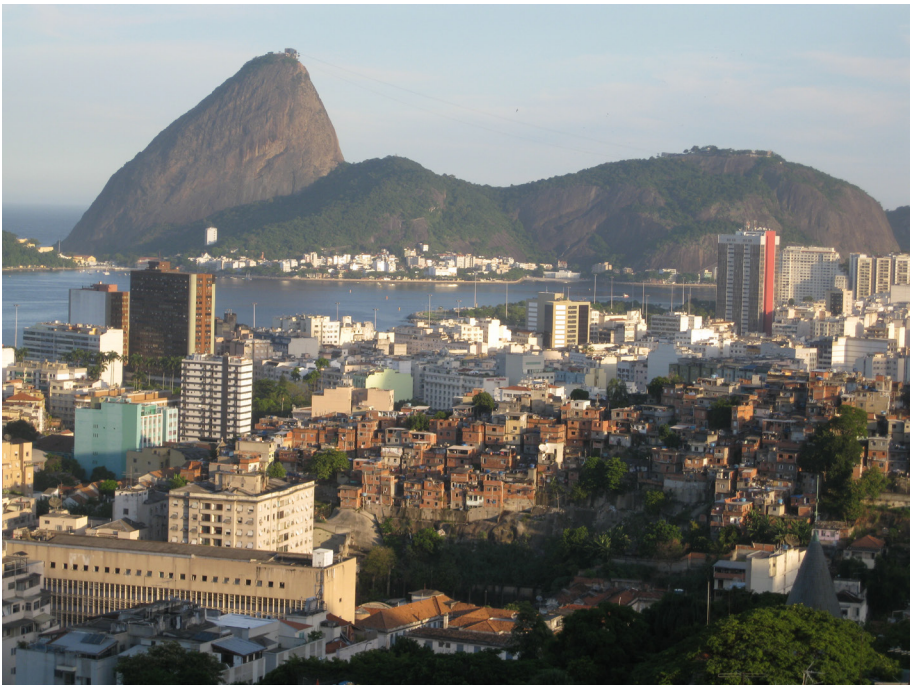
It is important to note that it is hard to equate these effects with absolute density figures, as what is 'liveable' in one social and cultural context will not be in another. What appears to be important is not just actual density but the type of development.

From a social equity perspective, the evidence is equally mixed. The benefits of dense urban living derive from having a range of key services, open space and employment opportunities within walking distance. Density may make key services accessible, especially for groups such as the unemployed, older people or young families, and allow weaker groups in the labour market to improve their access to employment. However, high urban densities sometimes reinforce social inequity and segregation and can mean that the relative prices of goods, services and dwellings are higher.

Trade-offs and political content

The combination of advantages and disadvantages linked to features of urban density was manifested in the pursuit of an 'optimal city size'. However, as early as the 1970's, such discussions were dismissed as unsound and that the evidence for an 'optimal size' was ambiguous. Furthermore, advantages in one sphere may trade off against benefits in another, while political agendas behind pro-densification arguments may lead to selectivity in the evidence presented.

Manhattan borough in New York City (USA), parts of Tokyo (Japan), Singapore and Hong Kong (pictured) have some of the highest residential densities in the world. The lowest residential densities are found in high income suburbs worldwide, as here in Ensenada, Mexico
Photos: David Simon



The highest residential densities in informal housing are found in many shantytowns and so-called slums in large cities in the global South. Rio de Janeiro, Brazil, (pictured) is distinctive in terms of the close juxtaposition of high density favelas and middle-income apartments. Photo: David Simon.

There are two main areas of trade-off: between economic efficiency gains and environmental sustainability and trade-offs within the social dimension. With respect to the former, trade-offs that can occur include those between efficiency of infrastructure provision and reduced car use and reduced affordability and green space. Socially, the two main dimensions of social sustainability – social equity and sustaining communities – often work in opposite directions with increasing density. While some social aspects improve with density (for example, access to services and non-motorised transport), others worsen (for example, provision of green space, feelings of insecurity and social interaction). Likewise, aspects of social equity such as social segregation may improve while others such as availability of affordable housing decrease.

When densification debates focus on urban efficiency and innovation, therefore, there is a risk that they go only as far as intensifying ecological modernisation approaches, narrowing the debate on sustainable cities and possibly at the expense of social issues and wider environmental sustainability.

The political context may also have a significant influence on density/urban efficiency and the issue of whose interests are being served must be considered. Pro-densification arguments are often backed by professionals invoking the urban design-led discourse, and the role of politics may be underplayed in technicist planning-led approaches.

City models and applying the principles

Three current paradigms of urban development build on density arguments: compact cities, polycentric cities and smart cities. These address the need to reform sprawling, car-dependent urban development to more compact, public transport-oriented cities.

Compact cities focus on dense urban forms and patterns. They have been endorsed for many of the positive arguments around urban density above, namely resource efficiency and ability to exploit new technologies, less development on rural land, reduced energy use, lower infrastructure cost, higher quality of life and higher social cohesion. Conversely, the pitfalls of high density mentioned above, including crowding, lack of affordable housing, increase in crime, congestion, loss of green space and pollution, also apply.

The polycentric city is designed with a corridor, star or satellite morphology and addresses issues of containing urban growth, creating room for urban biodiversity, making space for vibrant and diverse neighbour-

hoods and reducing travelling time by concentrating development near easily accessible locations. The objective of polycentric cities is to deliver the benefits of both sprawling and compact cities through focusing on centres of social and commercial activity, which work out as communities formed around multiple neighbourhoods. These neighbourhoods include a diversity of private activities and public services within easy proximity so that car use is reduced and public transport and walking/cycling are utilised.

The third and most recent model is that of so-called smart cities, where smart growth allows greater efficiencies through co-ordinating transportation, land speculation, conservation and economic development. Smart growth is argued to encourage innovation and reorient the private property market, potentially increasing competitiveness through integrating hard infrastructure with knowledge communication and social infrastructure (human and social capital). However, this model has certain socio-technical underpinnings, being dependent on sophisticated ICTs. Smart city agendas often help to reduce emissions as part of wider sustainability goals

Accessible cities

Accessibility is the ability of people to reach goods or services as measured by their availability in terms of physical space, affordability and appropriateness. But accessibility also refers to the provision of services and facilities, job opportunities, education and housing, as well as the means of reaching them. In urban terms, density as examined above is one factor affecting accessibility, but we also need to consider connectivity, diversity and intensity; these links are considered later. Moreover as part of 'accessible cities', broader dimensions, ranging from physical to affordable, to socio-cultural accessibility, need to be considered.

Accessibility refers to the ability of individuals to participate in necessary or desired activities for the wellbeing of humanity. The review of density above revealed the difficulties in finding systematic links between urban density and human wellbeing, including mixed evidence, trade-offs within and between different aspects of density and the politicisation of the topic.

Accessibility is seen as a useful tool for good practice and planning but also as a means to promote societal wellbeing. Lately, through innovation and new technologies, economic, social and cultural activities may be accessed not just via physical transport. Therefore, accessibility relates to places, people, opportunities and activities, and through both physical and virtual connections.

Relation to social sustainability

Social sustainability focuses on social issues such as inequality, displacement, liveability and the need for affordable housing. Early debates on sustainable cities were associated with limiting ecological footprints through solid waste management or reduced car dependency. Nowadays, however, issues such as access to employment, services and education, as well as cultural values, social cohesion and economic stability are all becoming more relevant.

There is a high degree of overlap between social sustainability and accessible cities since access is a key issue for employment, services and education, affordable housing, transportation, recreation facilities, formal and informal institutions; as well as community relationships and social infrastructure that helps create social equity and community sustainability. Accessibility also relates to the procedural aspects of social sustainability, such as access to stakeholder communication and consultation in development processes, accountable governance and management of policy and planning and social monitoring of the standard-setting process.

Measuring accessibility

Accessibility is in many ways a broader concept than density, and novel methods are often used for measurement. Within transport and digital accessibility, three approaches are recommended:

- digital accessibility
- Complex Networks Analysis (CNA) to measure complex urban systems, with potential accessibility as an indicator
- Geographic Information Systems (GIS). GIS is becoming an essential tool to measure (transport) accessibility and can generate detailed information on the accessibility of urban opportunities for just one or for many people

For many aspects of accessibility, such as physical, affordable housing, ecological/public space, such methods will apply. Broader dimensions however, such as social infrastructure, or power and justice, need to be considered separately.

The notion of ‘accessible cities’ encompasses much more than transport and mobility, contributing to social sustainability as described above. First, the necessary types of public goods include public spaces, metro systems, labour markets, streets, services and green spaces. In addition, accessible cities must have social infrastructure that allows social equity (which

Informal traders in central Lagos, Nigeria, who locate themselves to maximise passing trade, despite the noise and apparent inconvenience of their stall's site
This minibus terminus in Dakar, Senegal, is a key accessibility hub for this part of the metropolis, linking diverse areas with affordable motor transport
Photos: David Simon.

includes affordability) and the formal and informal institutions for individuals to thrive, as well as the power and justice systems to make them accessible. More structurally, accessible cities should have the physical and ecological/ public space for residents to meet their aesthetic, recreational and sense-of-place wants and needs. The following section discusses these dimensions, as well as power and justice as a mediator of access.

Perhaps the most straightforward dimension of accessible cities is the accessibility to places and services through proximity. The most defining features of this include residential and workplace densities, the distribution of functions and degree of mixed use, the level of centralisation and the local-level urban design.

Residential proximity is most valued by residents for accessibility to social relations and basic daily activities. Another study in Sweden found an 'accessibility paradox', however – that over the study period of ten years, spatial accessibility improved, with average distances both locally and regionally decreasing, whereas travel distance increased. In other words, people will go further than necessary for amenity provisions that they desire. This shows the importance of understanding context and agency with regard to the effect of both density and the determinants of accessibility.

Accessible cities should permit easy access for all urban dwellers to critical services such as education and healthcare, but the question needs to be asked in each context whether it is possible for local government to provide access to all such services, or whether some will be provided through more informal routes.

Transport

While proximity determines individuals' accessibility to places and services, transport is the mediating factor determining how individuals reach those destinations. With accessibility as the goal, both land use and transport need to be considered in order to facilitate the movement of people, not necessarily cars. At the urban regional planning level, therefore, accessibility provides a useful framework to integrate transport and land use planning.

To a certain extent, physical proximity can be substituted by increasing the speed of travel through urban areas. Infrastructural features that achieve what is called 'access by velocity' include the surface coverage of roads, the quality of road and rail networks and other public transport infrastructure.

Private motor transport allows low-density suburban development, but requires much more space for roads. This creates a tension between public transport that requires urban density and private car use that requires space.

A city's transportation system will affect its environmental impact too. The level of carbon emissions is strongly determined by the mode of transport, with 80 per cent of the increase in global transport emissions since 1970 being due to road vehicles.

Social infrastructure

Accessible cities will also have the social infrastructure enabling all residents to interact, participate in social groups and organisations and to construct the social networks necessary to build collective resilience and thrive. Housing tenure and the social composition of neighbourhoods have influence, whether residents choose to live there or not.

Social capital and networks are also crucial for resilience, in terms of how those social groups respond in times of crisis or shock. Different types of social networks are important for social resilience, with membership of community groups a key facet. Accessible cities should therefore consider how urban form and the spatial provision of community facilities allow urban populations to form links between sectors of society and individuals to access social networks and community groups.

Power and justice

Access is also profoundly about power and justice to ensure that accessibility exists for all of the urban population. The politics and economics of urban development mean that there are often lower levels of resource access in deprived areas. These differences may well affect local resource distribution geographically, resulting in differential access for parts of society, and creating the need to ensure locally equitable resource distribution. Therefore, there is a need to consider how the political and institutional context affects development.

While accessible cities certainly require equitable access according to race, gender and population group, one should also be aware of trade-offs between access to services such as transport and environmental pollution.

Access in terms of power and justice is often particularly challenging in cities in the global South. Where the cost of travel is prohibitive, families may come up with household strategies that prioritise travel by one or two members. This often discriminates by gender and other factors, lead-

ing to only certain members of society gaining access to earning opportunities, education and leisure that tend to be mediated by mobility. Issues of power and justice can therefore hinder or ensure accessibility across geographical areas of a city, race, gender, requiring inclusive governance to implement plans.

Affordable housing

Neighbourhoods with greater density and quantity of affordable housing *types* have more affordable *rental* units than low-density neighbourhoods of single-family homes. A diversity of conditions and costs for livelihoods will create attractive neighbourhoods for all, while it is possible to push or exclude people towards sprawling suburbs due to lack of appropriate housing and services. Finally, accessible housing is not just about housing form, as it will require service from the relevant housing association and/or local authority.

Pedestrian streets in high density commercial areas like Chinatown in Singapore, maximise accessibility and shopper densities.
Photo: David Simon.

Socio-cultural dimensions

Accessibility applies both 'internally' in terms of movement, social organisation or areas of residence and externally. Many cities are experiencing in-migration of large numbers of people from other parts of the country and internationally. On the one hand, this presents great opportunity in terms of industry and labour force. On the other, recent migrants to a city are often the most vulnerable, lacking adequate assets and resources and hence living in squalid conditions and without proper access to services or a political voice. City governments therefore have significant challenges in considering these dimensions of accessibility.

Ecological and public spaces

The World Bank describes public spaces as 'not a "nice to have" but a basic need for cities', breaking down their benefits into economic, social and environmental values. Moreover, research suggests that public spaces are most critical to the wellbeing of the poor, as well as the development of their communities since they do not have personal domestic space. Public spaces therefore comprise a crucial element of accessible cities and should be considered a basic service alongside transport, water and sanitation and so on.

Innovation and business

Accessible cities also allow individuals the ability to access economic opportunities as well as the technology for non-physical access to cities. First, it has been shown that physical interaction fosters knowledge creation by making labour forces and greater market areas more accessible.

Second, if cities are to adopt 'smart growth' models, access to technology is essential. There is currently a rapid and widespread – but spatially uneven – diffusion of information technologies that increases the connectivity of urban networks.

ICTs and the Internet are not equally spread. As with physical transport, therefore, increased access to technology may well promote wellbeing for urban citizens, but also has the potential to increase inequalities.

Accessibility and urban form – what does accessibility add?

The dimensions of accessibility very much link with aspects of urban density, but they also address shortfalls of the urban density arguments and add novelty for urban development. It is certainly possible to generate accessibility through density. High density directly increases proximity to places and services and increases the likelihood of frequent transport.

Further, having urban elements such as mixed land use and density will have a positive impact on access and usage of local services and facilities, as evidenced from Kuala Lumpur and Putrajaya. However, density may reduce accessibility too, for example, where higher densities are negatively correlated with housing affordability.

Therefore, accessibility directly addresses nuances of urban development such as power and justice and the integration of digital technologies in the urban form. While there are overlaps in placebased and transport aspects of accessibility, the concept brings new dimensions that contribute to sustainable development. The specific contributions of accessibility are as follows:

1. First, unlike density, accessibility has a normative focus, as its definition focuses on individuals achieving not just access to places but to jobs, opportunities and services and thereby increasing wellbeing. There is a distinct overlap with much of the social sustainability discourse including procedural aspects, although the framing is somewhat different.
2. Transport is a key component of accessible cities, encompassing the notion of 'access by velocity' and the ways in which different transport forms contribute to this, as well as over urban accessibility pathways. It cross-cuts different urban development patterns in this way.
3. Accessibility also strongly encompasses social dimensions, given that social systems are critical for urban renewal and sustainability. It reflects that *who* gains access is important, therefore incorporating (procedural) dimensions of power and justice.
4. Related to this, accessibility is determined by individuals' assets and social networks and so accessible cities explicitly consider equity concerns and the marginalised, specifically those geographically and socially excluded. Certain aspects of this will be focused on intra-city challenges such as affordable housing while others will focus on creating the conditions for those moving into the city to contribute to it.
5. Accessible cities embrace digital access and create the conditions for innovation.

Future research agenda

While this chapter makes the case for accessible cities, urban density is still a useful measure and indicator in some regards.

- Better indicators are needed that capture these different elements, especially in overcrowded and data-poor areas.
- We need greater understanding of how urban form influences people's attachment to an area and their preference for trade-offs among living space, public facilities and proximity to jobs and services.
- More information is required on the extent and condition of underused land, whether derelict/brownfield, sprawl areas, or speculative buildings. Similarly, it remains unclear whether there will be trade-offs between dimensions of urban accessibility. In order to achieve maximum benefits in implementing urban accessibility, the relationship between general accessibility and access to green space, for instance, requires further study.
- To achieve access to technology or rapid transport without exacerbating inequality, studies should focus on the justice impacts of these developments. As observed in Medellín, Colombia, synergies between poverty reduction and accessibility are possible and these synergies should be explored further too.
- For density, most of the evidence still comes from the global North, while accessibility dimensions around power and justice, affordable housing and the status of transport development differ greatly across the global South. Comparative research in different contexts will therefore be crucial for understanding how accessible cities may evolve and reach positive trajectories.
- Moreover, research into accessible cities needs to consider 'planetary urbanisation', including new forms of urbanisation that are challenging conceptions of the urban.
- In order to consider all dimensions of accessibility, the categories, methods and cartographies that capture urban life should also be reconsidered.
- Finally, the goals for accessible cities should be seen alongside those for fair and green cities. Ultimately, to achieve holistic sustainable urbanism, the dimensions of accessible, green and fair cities all need to be considered alongside one another, contextualised, and also assessed for synergies and trade-offs.

3. Green cities

By DAVID SIMON

Since the end of the 19th century, urban planning as a profession came to be concerned with issues of the harmful effects of industrialisation at an early stage. The need for open spaces for recovery and well-being has remained a central issue ever since.

One of the consequences in the United Kingdom was that previously closed royal parks were opened to the public and involvement in various sports such as football was promoted, for example by building new pitches and facilities, and outdoor pursuits became popular, for example being offered by the scout movement.

Planning soon came to focus on separating residential areas from industrial or commercial areas. The development of garden cities accelerated at the turn of the 20th century, with some of the first initiatives being Letchworth Garden City and Welwyn Garden City, both in Hertfordshire, UK. Other examples include Hampstead Garden Suburb in London, Ullevål Hageby in Oslo and Pinelands on the outskirts of Cape Town.

However, the development of urban planning is just part of what is now called 'sustainable cities' at global level.

In the global South, urban planning and sustainable urban development have often been seen as concepts created for the challenges faced by the western world. Transferred to countries in, for example, southern Africa, they are seen as further evidence of cultural colonialism instead. Greater participation in, for example, nature conservation issues only included the voices and knowledge of the inhabitants at a later stage[1]. Low-income areas often lack the green areas that richer urban areas have. The brown earth reflects a lack of investment and maintenance of public spaces.

One little discussed but vital dimension of sustainability discourses is the distinction between weak and strong sustainability. In the wake of the Brundtland Commission's report (1987), the term sustainability came to be used in a wide range of contexts. In the worst cases, it was simply applied to justify existing activities without any actual improvements, known as 'greenwash'. Strong sustainability initiatives address causes, drivers and power relations, while weak initiatives involve gradual changes of existing

[1] See Chapter 4 by Sue Parnell

systems and relations. Examples of strong initiatives are investments in accessible, affordable public transport linked to pedestrianisation schemes, etc. to reduce vehicle traffic in cities.

Green economy

Various forms of green economy have been discussed in many contexts. Its importance varies from superficial to radical, where the key issue is linked to the balance between economic growth and sustainability. In extreme cases, it can lead to political demands for radical changes to the social structure. However, the dominant attitude currently seems mainly to be defence of neoliberal strategies and their opportunities to promote sustainability.

Green economy has been developed to largely no longer be a national matter. Cities and other non-national organisations have not only participated but in many cases initiated and driven the development of national strategies. Tackling climate change adaptation and mitigation challenges has become a leading urban priority, particularly since both causes and effects pose serious threats to vulnerable urban areas. Ecosystem services and urban greening strategies are seen as important elements of the work.

In the global South[2], strategies for a green economy and development often contain elements of both growth and change. Growth is necessary to reduce significant unemployment and underemployment.

Such approaches also involve a fairer transition to a sustainable society and sustainable cities. This makes the link from 'green' to the two other aspects of sustainable societies – accessibility and fairness – clear.

Disaster Risk Reduction[3] and climate change

The work to counter climate change and Disaster Risk Reduction have different origins but have increasingly overlapped in recent years, particularly in relation to reducing vulnerability and improving resistance to the effects of climate change. In terms of research, this work has also increasingly developed, over a period of 25 years, from being purely scientific to being both interdisciplinary and transdisciplinary, with social sciences and non-academic knowledge as important contributions to the development of knowledge.

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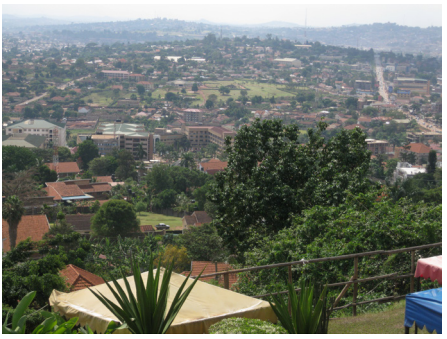
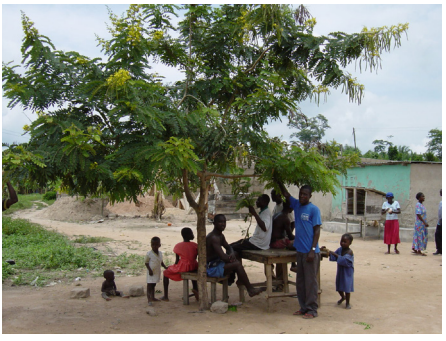
[2] Since the fall of the Soviet Union, 'the global South' has come to replace 'the third World'. In the absence of clear first and second Worlds, the term lost its relevance.

[3] Disaster Risk Reduction (DRR) is an established term for the management of disaster risks.





Urban greening in downtown Vancouver, Canada
Well-maintained garden in a hillside high income area of Kampala, Uganda
Tree planted as part of an action research project in peri-urban Kumasi, Ghana.
Photos: David Simon

Intensive peri-urban agriculture, Lagos, Nigeria. Photo: David Simon.

Climate change is expressed in two clear ways: extreme weather conditions, which occur increasingly frequently and with more serious consequences (the link to DRR here is clear) and slow changes such as rising sea water levels. Both of these expressions have direct consequences for urban areas, in particular for their economic importance. In many cases, the necessary initiatives and strategies are also local or regional areas of responsibility. For these reasons in particular, local authorities have become increasingly active in this area, either entirely independently or in partnerships on several levels and/or with financial support from other sources.

Green cities – more than a mantra

With a diversity of political and practical influences as the basis for discussions and initiatives concerning green cities, it is rarely possible to identify direct links. In addition there are:

- Initiatives and directives 'from above'
- Initiatives and activities that are developed 'horizontally', for example in cooperation organisations such as C40 and ICLEI[4]
- Internal processes, often driven by champions, the importance of which should not be underestimated

One way of analysing cities is to relate their economic, technological and ecological aspects to their social systems, perspectives and contexts. The term 'urban greening' can subsequently be considered and examined based on each of these three system perspectives.

With a *socio-economic* approach, the interest is focused on the economic aspects of a green economy, from the value of different initiatives to investments in infrastructure, technology and new jobs. A growing number of studies indicates that the number of new jobs in 'green' companies and organisations exceeds the number that disappear in connection with obsolete, polluting industries being phased out. The socio-economic approach is often linked to neoliberal and mixed economic theories, but also includes approaches in specific areas that can contribute to sustainability: insulation of buildings, development of fossil-free technology for construction and increased urban and peri-urban food production, which creates both jobs and greater security.

[4] C40 is a global network of megacities that work together on how to counter climate change. ICLEI is an international cooperation organisation for cities and regions. Stockholm, Gothenburg and Malmö are members in Sweden.

The *socio-technical* approach is particularly appropriate to assessing district-wide or city-wide interventions where technical innovation makes it possible to create and realise new, sustainable, greener solutions. Such eco-cities or smart cities have often been accompanied by extensive commercial marketing and by local mayors and politicians who want to demonstrate their leading position on sustainability issues.

In terms of research, the eco-cities and smart cities initiatives have been regarded with a certain amount of scepticism, and their actual contribution to the development of sustainable, fair cities has been questioned.

The *socio-ecological* perspective has been most widely applied in terms of the natural systems and resource flows in and through urban areas. All cities, regardless of size, depend on air, water, open spaces and vegetation. During the industrial era, however, the value of these assets has been undervalued to the extent that human health has been worsened by polluted water, poor air and a lack of recreational opportunities.

The understanding and knowledge of these issues has increased dramatically in recent years. Studies of ecosystem services have become the most common analysis tool for valuing the services nature offers humans in urban areas. Maintenance and enhancement of ecosystems therefore also form the basis of resilience in socio-ecological systems. Restoring natural filters and barriers has often proved to be more expedient than building new infrastructure to counteract the effects of extreme events and other changes. It can also lead to other advantages such as increased biodiversity, better opportunities for urban food production, reduction in the greenhouse effect and improved recreational opportunities for residents.

Green cities initiatives – spatial classification

There are several possible ways to classify the diverse range of initiatives beneath the umbrella of urban greening. A typology based on geographical scale, organised from smallest to largest, is presented in the following.

Initiatives at the smallest end of the scale, individual buildings, are also important in that they function as examples and contribute to the aggregate effect of initiatives. Most initiatives are voluntary, although sometimes subsidised. These include fitting low-energy bulbs, installing solar panels, composting household waste and increased use of cycling and public transport.

A block or tenant-owners' association can create economies of scale by making joint purchases and decisions.

The third level is an area, suburb or district, where local authorities may make strategic decisions, for example to invest in district heating. This is also where major redevelopment projects can be implemented, for example when former shipbuilding or industrial areas are remodelled or demolished to make way for homes and new businesses.

From a sustainability perspective, urban development on land that was previously built on is preferable. As water, sewerage and other services are already in place, the costs of connecting another area are lower on average. New building on greenfield sites, however, tends to contribute to lower density and higher costs for the city's services, calculated per resident or per area unit.

While the majority of such comprehensive redevelopment schemes primarily target middle-class residents, this need not be the case. The projects can offer good opportunities to reflect a strong sustainability profile that promotes fairness and contribute to rejuvenating run-down areas and promoting fairer access to attractive areas.

On the next level, which comprises the entire city, a local authority or, in a large system, several local authorities, can initiate policies and strategies for schemes such as energy efficiency enhancement, green infrastructure or waste recycling. At this scale, the combined benefits of joint action can be significant, but also depend on the local balance and the distribution of power and responsibility.

Finally, the city region constitutes the most appropriate scale in terms of biophysical processes (such as balancing country and city, rivers and dams), economic development and resource utilisation. However, such a region requires some form of administration between the local and national levels, with relevant boundaries and powers, such as a county administrative board, county council or region.

Conclusions

Green cities, urban greening and growing support for the promotion of green, sustainable cities feature on many topical agendas, initially above all in wealthier countries but increasingly worldwide. Such programmes and initiatives can, of course, sometimes be exploited for commercial interests. A key challenge for the public sector is therefore to align these interests with public benefit as far as possible. Green agendas at all levels reflect a complex mix of stimuli and objectives.

Nevertheless, key potential lies in the many examples of benefits that progressive initiatives and measures may result in, whether created direct-

ly to mitigate or adapt to climate change, or to make cities more attractive lived environments for their residents.

This is important in the context of constrained public finances and limited capacity in many local governments, and therefore provides powerful justification for developing and implementing appropriate measures.

One of the constraints to implementation of many of the changes advocated here is outdated urban planning legislation in many parts of the world. These are guidelines from the mid-twentieth century, reflecting the theories and values of that time, that are ill-suited to the complexities and dynamics of contemporary urbanism and the practical needs of poorer urban residents.

However, particularly because of previous investments and institutional inertia, effecting change is both difficult and time-consuming. This is true even when the need to improve sustainability in city energy systems and to develop urban and peri-urban agriculture and other forms of urban greening is both known and accepted. Quite simply *not* applying existing regulations can itself represent important support for renewal by, for example, permitting cultivation in public spaces.

In societies where private property rights are sacrosanct, many individuals deeply resent state regulation and 'interference', even in relation to societal challenges. This, combined with political commitments, previous investments and strong interest groups, makes it a difficult challenge to progress from gradual green interventions to radical, transformative change.

Although environmental issues, usually related in some way to climate change, have increasingly risen up the political agenda, only rarely have they been decisive election issues. However, local authorities worldwide have been able to create the conditions for significant greening measures for both buildings and open spaces, ranging from insulation to energy saving, standards, rainwater infiltration and control of invasive alien plant species. Equally significant are local subsidies and other incentives for residents to get involved themselves. This may concern solar panel installation, planting indigenous rather than exotic species, reusing water from showers and dishwashers for watering, use of bicycles for short trips or development of car pools and public transport.

For private firms, voluntary compliance with various industry standards for sustainability has become important for both goodwill and marketing. For buildings, for example, BREEAM in the UK (the world's oldest standard, established in 1990) has become a global standard and the model for similar certifications in many other countries.

Finally, a word of warning about the role of nature in urban planning. Implicit and to some extent explicit is the idea of taming or adapting nature to the city and its planning. This may involve measures such as protecting wetlands and beaches on the fringes of cities. Many such areas are used for leisure and recreation, in the same way that grassy areas are used for sport and games. However, there is also a tendency to exclude the public from certain spaces to preserve them as 'natural' areas. Such exclusivity should be avoided unless particularly threatened species or ecosystems are involved. Nature should not be divorced from human activity.

Urban designers and landscape architects can't ignore human culture in their efforts to make environmentally innovative cities. Every attempt to seek answers to society's problems in unspoiled nature is actually an attempt to see nature as it is or was entirely in the absence of humans. Yet planning is inevitable, and no project can put things back the way they were before humans showed up.

Urban infrastructural greening as part of comprehensive redevelopment to tackle industrial pollution and unsustainable urbanism, Nanjing, China. Photos: David Simon.

4. Fair cities

by SUSAN PARNELL

The UN Sustainable Development Goals (SDGs) of 2015 marked a shift in global values, introducing the idea that people everywhere should aspire to universally applicable development aspirations that 'leave no one behind' in this and subsequent generations. We need to understand the ecological, social and economic problems on several levels.

The UN's new urban goal (no. 11) aims to make cities inclusive, safe, sustainable and resilient.

The parts are interdependent for sustainable development. To achieve goal 11, even in poor and unequal cities, the way people (especially the rich) live has to become less harmful to the planet.

The biggest challenge of the agenda after 2015 is that fairness needs to be adapted globally and give all urban residents worldwide the same minimum rules and protection. There is currently no reason to have different versions of fairness for previous, present and future generations of urban residents. The logic is simple – all urban residents are equal and should be protected.

But what can actually be done in cities where inequality and unfairness prevail? This chapter describes a change process that integrates the conception, design and execution of an idea intended to create a fairer future in cities.

One central aim is to try to reduce unfairness for cities in terms of design, culture and administration. The focus of the chapter is on cities, but it does not mean that fair development must be generated from or controlled by a local government. The aim is more a reminder that local governments have not hitherto had sufficient powers or resources to implement programmes aimed at creating a fairer world.

Perceptions of what is fair are related to different urban ideas and practices and they do not define fairness in the same way. The point is not to set one idea of fairness against another, but rather to begin by highlighting the importance of how we think about various values in relation to the city and then define the key agents and instruments that can develop value-based interventions in cities.

Acknowledging the importance of the wider regional and national spatial context of urban development, UN-HABITAT is now pushing the idea of National Urban Development Plans, through the HABITAT III preparations, as a means of implementing the commitments necessary to realise SDG Goal 11. The SDGs and HABITAT III represent an effort to define a global agenda for all cities, with the international and national discrepancies in the quality of urban life.

Other than ideological disagreements around what should reasonably be expected of government in redistribution and social protection in cities, there are also obvious differences in the application of notions of fairness or equality in high, middle and low-income contexts. There are also significant points of contention around how to view the role of the state in relation to fairness and equality.

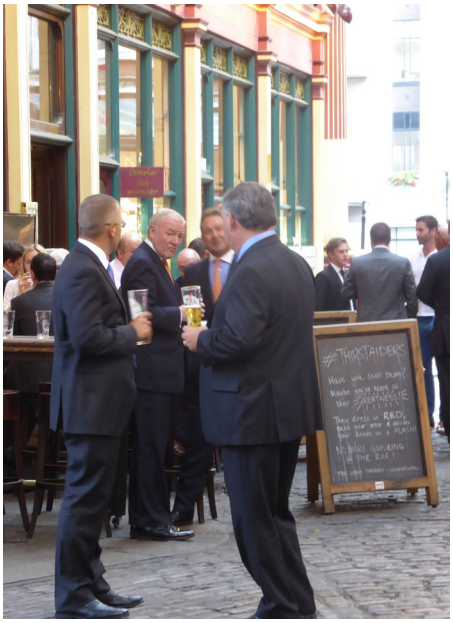
Across the western world, the certainty of governments being able to uphold fair city management is currently in crisis. Even in rich societies, the urban environment has deteriorated, especially for the poor. The vision of a fair city therefore needs reconstruction.

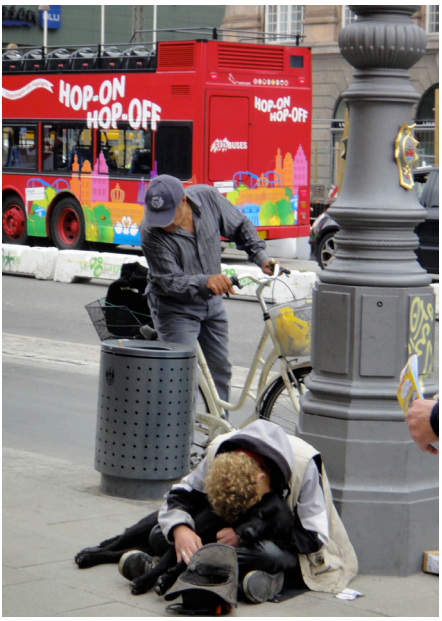
In the global South, the early twentieth-century urban planning and public investment in the built environment served only the interests of the foreign and local elite, largely ignoring the conditions of the most vulnerable of the city. That changed in limited ways with the rise of global support for developing countries, for example through specific projects to provide for basic needs such as access to water and sanitation or housing. Only later in the century was there an internal focus on urban social protection, and what the urban poor themselves could do to improve their livelihoods.

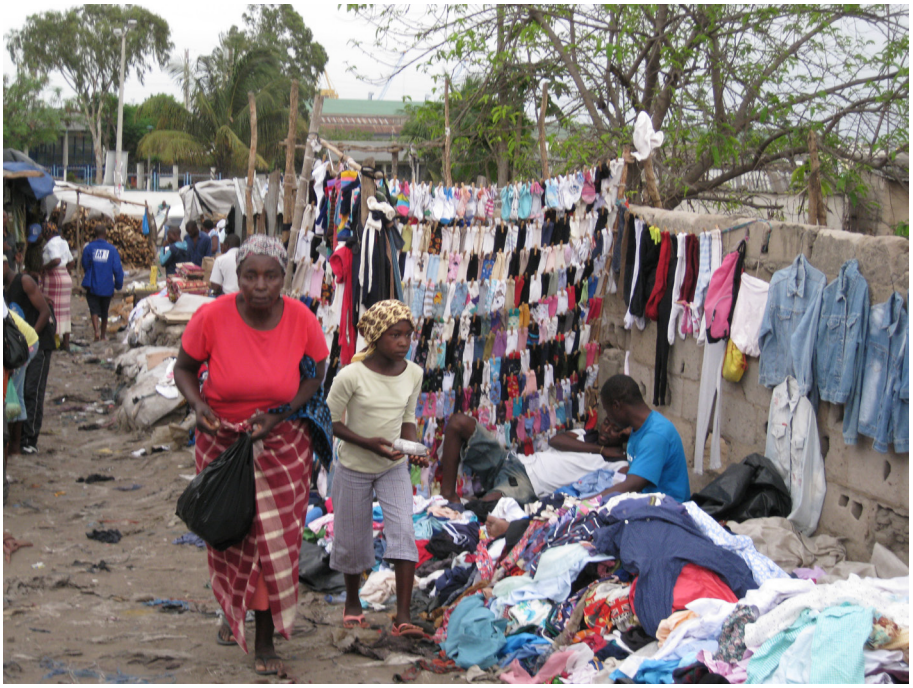
The number of cities in the global South that have social security based on fairness and equal values is now growing – although it is unevenly distributed. There is also a revived interest in the collective benefits of urban planning. However, there is a long way to go in securing even minimum rights for the majority of urban residents. Many cities and towns continue to lack even the most basic minimum household service levels, crippling opportunities for the urban poor.

There is no common scholarly understanding of what fairness in a city might mean or how fairness might be achieved. There is no universal model for a ‘fair city’ either, though it is possible that the SDGs will inadvertently define this baseline, just as the forthcoming debates in HABITAT III on the ‘right to the city’ may create a global standard.

Mindful of the growing disparities in urban environments today, it may be useful to reflect on the ideological antecedents of fair urban deve-







Different conditions, stock exchange brokers in City, London; beggars in Copenhagen; customers and sellers at market in Maputo. Photos London and Copenhagen: Sue Parnell, photo Maputo: David Simon.

lopment and how these utopian ideas relate to changed methods of urban management, especially in areas where the governance and administrative regimes differ from those in Western Europe, where many of the methods of large-scale redistribution were forged.

Utopian theories for cities in the 20th century

Early twentieth-century utopian ideals had and continue to have real impact on the form that many cities have taken. How leaders thought and think about cities has a material impact on the built environment, management, expectations of ecosystems and the social and economic relationships of citizens. There is currently something of a renaissance in utopian writings, especially around notions of the good city and the right to the city, and also around urban resilience.

Much has been written about the early twentieth-century utopian urban planners. A good deal of this history of urbanism is dedicated to the work of the modernist trailblazers like Ebenezer Howard, Frank Lloyd Wright and Le Corbusier.

All of their ideas, despite the differences between them, supported fundamental human rights, effective local democracy, consensus on minimum service levels for the built environment and standards for personal service consumption, a state with some capacity to redistribute resources (including at the local scale) and a comprehensive planning machinery. However, the utopian ideals created no fair cities, even in places where the preconditions for their achievement were in place. In the global South, where many cities lack local democracy, the paucity of municipal capacity, fiscal deficits and a general lack of legitimacy for government, the utopian visions were either corrupted and applied to the elite or never made any impact at all.

For many commentators, the ideas of Howard, Wright and le Corbusier, that focus on urban form rather than urban consumption or quality of life, are now not only outdated. They also fail to solve the problems of the twenty-first century's cities or speak to the fears and aspirations that exist now. The urban centre of gravity is located in the global South, where most future population growth will also occur. These urban places, characterised by collapsed states, ecological disaster and unchecked poverty, are an essential part of the reality which the global vision of a fair city must address.

There is consensus that the urban challenge for making a better world lies in improving conditions in the emerging cities of Africa, Asia and Latin America. The question is how these cities, which are often devoid of

fairness or transparency, should be run to make them more safe, inclusive, sustainable and resilient. Residents, organised civil society and a global community are concerned that development goals may be unachievable because development for the urban poor is simply overlooked.

Utopian theories for cities in the 21st century

The conceptual work on improving current and future cities focuses on the resident. However, the growth of population and consumption has caused many ecologists to believe that climate change and ecosystem destruction are caused by the way urban residents live and we must be more conscious of the role of humans in the natural system. In this interpretation, the term fairness is more about ecological footprints, intergenerational equality and interspecies co-habitation. However, political ecologists do not reject cities as the solution for the future, but they want to change cities through value-based urban management and innovative methods.

For many urbanists, including those who have environment rather than economy as the basis for fairness, it is urban residents' access to an everyday infrastructure that creates fairness. It is not just a material politics, but one that presupposes a citizen's right to the city, where freedom from discrimination enables participation in city life and culture.

Some maintain that building a fair city begins by addressing fundamental questions of which needs the city should serve. Whatever the context, fairness at the city scale is based on interplay between structure, authorities and institutions. In the European context, the way that unfairness in the city has been expressed most recently is through the exclusion of migrants, marginalised people and groups. The social perspective (based in part on various forms of discrimination, including sexuality, ethnicity and language) offers a way of looking at issues of access and distribution and not just the affordability of services. As a utopian ideal, the right to the city advances the notion of fairness in four ways:

1. It is a precondition for taking back possession of invaded land.
2. It is a strategy for the entire city and not just individuals or families.
3. It assumes that slum areas or marginalised neighbourhoods are incorporated in a unitary system of local governance.
4. It demands recognition of the universal right to shelter (Habitat II).

The SDGs and HABITAT III provide more specific information on what a fair city entails but, for social development today, social exclusion and the right to the city hold the greatest general acceptance as conceptual and political frames for a fairer urban future.

Transforming cities can take a number of different routes, and some are better suited to conditions of affluence and some to contexts of extreme poverty. The more practical literature on how cities try to transform themselves to become fairer highlights four general areas of intervention:

1. urban planning
2. welfare or social protection
3. citizens' participation
4. the actions of marginalised groups themselves.

These sometimes compete with each other and, in some cases, one solution works better than another. But these means are mutually dependent on each other for realising 'a fair city'.

Instruments for promoting utopian ideals and building fair cities

Numerous factors influence individuals' or groups' ability to participate fairly in the city. These range from fundamental factors ensuring wellbeing (food, water, money) to more complex factors like freedom from crime and the opportunity to move about freely or enjoy environmental security.

Not all interventions to promote fair cities require large amounts of capital. Clearly there are huge political and fiscal implications depending on how the various approaches are weighted. Each strategic decision also requires institutional capacity to be able to implement the measures adopted.

Urban planning

Cities are not naturally fair places. Land and labour markets provide unequal advantages to current and future residents. However, how cities are designed, managed and run affects the extent and the forms of inclusion and exclusion in them. This is nowhere more obvious than in the rapidly growing cities of Africa, Asia and Latin America, where cities with better planning capacity seem much more able to enter the global economy and prosper than those with weak planning, overlapping planning regimes or even competing planning systems. However, competent planning in a city in no way ensures that the needs of the public are addressed fairly, and it requires political will to ensure that social planning serves the public good.

So who can run a fair city planning machine? The traditional response is local government, though many cities (including in large countries like Kenya and India) lack legitimate democracy or functioning administration at this level. It is virtually impossible to achieve effective and inclusive practices of urban management without a competent municipal system and a local political elite that is dedicated to promoting the interests of the poor and the excluded above those of the vested interests that often dominate city politics.

However, there are other players able to drive a fair city agenda and ensure the rights of urban citizens. In the case of the US and the global South, where socialism is not as powerful a tradition as it is in Europe or Australasia, it is often national government, and the powerful civil society groups and companies that are the important urban players for balancing growth and redistribution agendas.

As important to achieving a fair city as having competent administrators and professionals across government, communities and the private sector, is their ability to work together. For many cities, the problem is that it is not clear who the important players are – either because privatisation or outsourcing has masked their roles or because the roles played by traditional authorities or civil society in allocating or distributing resources have not been acknowledged and introduced in the local administration.

There is no single way to ensure that fairness is practised in a city. A few countries, like Singapore, have made great progress through strengthening planning and rigidly managing the urban growth process. Other cities, like Porto Alegre and Curitiba have emphasised participatory planning around city decision-making processes. However, these diverse examples reveal that activities that are transparent and predictable confer faith in the fairness of a process.

The general South East Asian model, which has strong land use controls, shows that the concentration of activity in urban areas leads to improved prospects for economic growth, more cost-effective delivery of public service and greater scope to deal with particular environmental challenges. This is in stark contrast to South Africa, where cities have focused on promoting social integration through state assistance in housing and reduced service costs. But here too there has been some success in reducing exclusion. Levels of both urban poverty and inequality have declined over the last 15 years. These contrasting examples of planning methods show that there is no blueprint for how urban planners should achieve fair cities – but that concerted action by governments with resources can make a significant difference.

Effective urban development and planning must be highly context-sensitive. There cannot be one-size-fits-all policies. Disengaged, top-down planning methods of the past have been shown not to work in numerous contexts. However, according to UN-HABITAT, there are four planning interventions that are widely perceived as providing a platform from which to promote integration and fairness. These include:

Basic services and infrastructure

Denser living generally makes it easier and cheaper per capita to improve access to basic needs such as safety, water and sanitation and to social amenities such as healthcare and social care. However, the tendency is for large cities to prioritise infrastructure that produces economic growth or makes politicians popular among voters. Thus spending often goes towards 'connectivity infrastructures', including telecommunications and logistical hubs such as ports, motorways and airports, at the expense of basic public infrastructure that would benefit the majority of urban citizens. Building fair cities necessitates urban policies that integrate investment in big infrastructure, social spending and sector-specific interventions, such as housing, as part of a holistic agenda that gives all residents access to the entire city.

Public transport

Prioritising the needs of the whole urban population through investments in transport services and infrastructure, such as roads, footpaths, bus routes and other commuter traffic is essential to give everyone the same opportunities to participate in the economy. Failures in urban transport policy effectively leave the poor stranded since they cannot afford long commutes and often live in badly located areas or on the periphery.

Urban property and housing

The housing and property situation determines to a large degree the capacity of residents to choose where to live, and therefore their ability to build up savings and contribute to social development. Policies in this field have an impact on how the city maintains a viable community life, integrates immigrant groups into city life and develops a strategy for sustainable urban development.

Inadequate access to housing contributes to a vicious circle of poverty and exclusion, particularly for migrants and poor residents, who often depend on provisional housing. Insecurity of tenure also means that munici-

palities often have worse tax revenues, and they are thus unable to provide essential services. Services must then be procured from other sources, often making them more expensive.

There is greater awareness that urban planning is a powerful tool for preventing social, economic and environmental exclusion. Efforts to address the major gaps that exist, especially in cities of the global South, should, however, not overshadow the need to give greater space to unplanned interventions that can make cities much fairer places. The most important of these are the large-scale social protection programmes that are typically funded by national governments.

Urban social protection networks

In the global North, the package of welfare support varies hugely between cities and countries, but typically includes unemployment benefits, housing support, pensions, child support, free or subsidised healthcare and education and a range of other social services. Administrative arrangements for support vary but typically local government plays a major role alongside alternative service providers from government and NGOs.

In the global South, social protection comprises a broad range of socio-economic policies, including social security, healthcare, social insurance, child protection and so on. The development of these forms of social protection in many countries around the world over the last decade reflects the realisation that the state needs to re-engage in the social arena, playing a more active role in shaping markets, redistributing gains from growth and ensuring adequate investments in the human capital and welfare of the poor.

Most cities are involved to a greater or lesser extent in the roll-out of social protection, and if it is done well it has a direct impact on exclusion rates. Social protection measures not just alleviate poverty and reduce income disparities. They also enhance human capital and productivity and make some cities much fairer places than others.

Even in low-income regions, there has been a realisation that social protection measures are well worth their price. In cities in Latin America, Africa and East and South East Asia, there has been a large expansion of social assistance programmes. In cities of the global South, social protection measures have to support the informal sector, where most of the urban poor work in low-paid, insecure jobs. To facilitate the shift into the formal sector, local authorities can adjust their regulations and laws to lower the costs and increase the benefits for people to formalise their businesses.

Conclusions

Over time, urbanisation has made societies in general fairer and more equal, but, despite this, cities themselves remain unequal and unfair places. There are several reasons why there are enormous inequalities between cities across countries, regions and, especially, globally. All cities have different economic, political, social and ecological forces. Consequently, making them fairer requires long-term political work.

Not all cities are endowed with the same ecological resources, which affects how services like water, energy and food are moved between cities. Nor can fair distribution of public goods and services in a city simply focus on current demands. It must also take the needs of future generations into account.

To understand urban inequality and poverty, it is necessary also to understand the economic forces that shape and structure urban life. The flows of capital and labour that feed or starve cities are greatly influenced by global and national regulatory regimes such as trade agreements, interest rates and product standards.

Cities are unfair because of unevenly distributed natural resources, their different histories and the uneven global and national flows of capital that create jobs in some cities but not others. Cities' interventions to enhance fair access to jobs and other economic opportunities are some of the most fundamental means of building fairer future cities.

Cities are also unfair because elite groups protect their interests and minimise their contributions to the taxes on which social redistribution depends. Unfairness in cities may also be the product of discrimination based on ethnicity, age, gender, religion and linguistic prejudice and so on. The marginalisation of young people and immigrants is one of the most serious cleavages in urban societies.

The achievement of urban fairness requires action on numerous levels (global, national, regional and local) and from multiple players (governments, authorities and the private sector). Fairness implies a consensus that recognises the claims of others and puts public interests before private interests. There is a rich legacy of urban utopian thinking, from which we can and should draw while thinking innovatively about a collective, fairer urban future.

5. Conclusions, consequences and practical guidelines

by HENRIETTA PALMER and DAVID SIMON

To achieve holistic, sustainable cities, all dimensions of accessible, green and fair cities need to be considered alongside each other, contextualised and also assessed for synergies and trade-offs.

There are three dimensions of sustainable development: social, economic and environmental sustainability. They complement each other but also have a number of embedded conflicts

- between economic and social sustainability – between the private and the public
- between economic and ecological sustainability – between people and nature
- between social and ecological sustainability – for example when demands from the global North for environmental protection in the global South hinder economic growth and public investments.

This book investigates the concepts 'accessible', 'green' and 'fair', leaving 'economic' as a separate part. Do these concepts lead simply to new power struggles or do they open up opportunities for sustainable development in the urban environment?

The definition of sustainable development changes through local practice and local traditions, as well as through local conflicts and differences of opinion. The three dimensions of the concept are therefore constantly tested and reworked, which also reinforces the arguments for them.

Can we insist that sustainable development should be introduced locally before describing it as a theoretical framework? The three authors of the main chapters in this book consider that the local context is crucial in understanding and possibly translating urban sustainability. Hence, a possible conclusion would be to underline locality as a fourth and vital dimension of sustainable development.

New conflicts?

The gap between theory and practice in sustainable development needs to be overcome by working on the negotiation of conflicts and simultaneously promoting a vision of what sustainable development could imply for the city.

James Waters proceeds from the well-established concept of density in Chapter 2. However, he questions density as a sole means for sustainable urban development and suggests reformulation of density in favour of accessibility. Accessibility is primarily about access to mobility and public transport, about access to various types of public space, green areas, affordable housing and community facilities, and access to social networks and community groups.

To implement sustainable urban development, the measure of accessibility is a good tool for good practice and planning, and also as a means to promote societal wellbeing. However, a number of possible trade-offs may mean conflicts, for example trade-offs between developed public transport and the need for green, unbuilt areas.

The concept of accessibility can also be extended with other dimensions such as access to information, knowledge or experience. To enable local knowledge and experience to be used to build the transition to a zero CO_2 future, the accessible city needs to promote accessibility to different sources of knowledge. Accessibility is a relational concept between the urban citizens and the city, and access to knowledge encourages direct engagement and interaction by the citizens with their urban environment.

Also for the green city, fairness is an original guiding principle. The green city has its western origin in Ebenezer Howard's garden city, but the garden city did not solve the problems encountered by the green city of today. Climate change is the most acute challenge faced today, putting the green city back on the agenda. However, climate change cannot be managed or avoided without a social agenda, which also involves fairness and equality.

Another 'new' challenge for the global environment is the eradication of pollinating bees and other similar natural functions, which has created new ecosystem services. However, sometimes they are transformed mostly into a type of barter. As an example, a grove of trees that has been removed can be replaced by green roofs. Values such as the beauty, shade, micro-climate, identity and the historical connectedness of the grove are substituted in a functional greening equation with 'invisible' carpets of sedum plants on the tops of high-rise buildings.

Besides leading to 'distortions or perverse results' (see Chapter 3, this shows the dilemma of definition – since we can name a thing, it can be quantified. Qualitative values, on the other hand, are imprecise, as the example of the grove shows.

These conflicts are, however, aligned with the previously defined development conflict, where ecological modernisation puts elite utopian visions before social development. We propose (Chapter 3) new common grounds for the conflicting concepts, promoting sustainable development.

If both the 'accessible' and 'green' dimensions need to be integrated in the definition of 'fair' in order to give sustainable development a normative direction, what new conflicts are then to be found in the dimension of 'fair'? Given the global diversity of city experiences and institutional capabilities, there can be no readily held common scholarly understanding of what fairness in a city might mean or how fairness might be achieved. And the challenge of making cities fairer has never been larger (see Chapter 4).

The concept of fair cities also has to be applicable to the cities of the global South, since a better world requires improvements to the urban conditions in the emerging cities of Africa, Asia and Latin America. It is primarily about fair measures on the social scale. Fair cities are a matter of access to everyday infrastructures to enable participation in urban life, regardless of gender, ethnicity, class or cultural identity.

From accessible, green and fair to sustainable cities

This book has discussed the three essential dimensions of sustainable cities, namely accessible, green and fair, and their respective evolution, conceptual basis, current dimensions and key issues. We now integrate the three dimensions in order to shape a coherent strategy for planning sustainable cities.

Firstly, there is no universal way to undertake this integration because each context is distinctive, and the relative weight attached to each dimension will vary accordingly. We proceed from the relative strength or weakness of each dimension.

Secondly, it is necessary to understand the obstacles and problems that the development of sustainable cities may face. These problems may be technical, bureaucratic, institutional, legal, financial and political. This means that even well-prepared, progressive change projects may be blocked, diverted or diluted.

Consequently, it is necessary to hold the three dimensions together within a holistic framework that integrates research, planning and imple-

mentation, despite the inevitable challenges. This book now offers practical guidance to researchers, planners and other officials as well as elected representatives and other decision makers on how to take forward integrated urban sustainability agendas. Almost everyone in all contexts accepts the necessity of promoting greater fairness in access to resources, although there are different views about the balance between fairness and efficiency. Hence the concept of fair cities justifies holding the three dimensions of accessibility, greenness and fairness together.

The first practical step is to mobilise support locally among the key stakeholder groups and thus eliminate existing obstacles in legislation and other regulations, and provide financial resources. Experience also shows that it is necessary to have the right contacts within key organisations. Such people need to be identified and supported so that they can exert influence within their respective institutions.

The most important aspect is to find and develop common ground and build trust, which may be a complex, slow and unpredictable process. It is also important not to try to implement solutions and recommendations from elsewhere or from general guidelines without local debate or research to ensure local acceptance.

Local authorities and other organisations rarely have adequate in-house research capacity. Consequently, it is important to bring researchers into the team, and thus have a research institution as partner to enhance capacity and bring critical perspectives to the project. The tasks of the team should therefore comprise both research and plans for implementing findings in practice. Having such support and the authority lent by the partnership and the research integrity is often very helpful in managing the project and addressing the unforeseen problems that frequently arise.

Establishing and developing relationships is challenging and a great deal of time and effort are required to overcome resistance between different organisations and individuals and find collaboration paths. The precise process needs to be worked out in each case, ideally led by experienced project managers if already identified, but some will only emerge during the process or be recruited later. It takes time and is not risk-free, and the outcome is uncertain. However, there are no shortcuts around this process, which is crucial to building trust, working relations and the space that the partnership should generate for research, experimentation and innovation.

It is also important to retain the shared knowledge, experience and expertise within the project, in other words as a form of collective intellectual property. These must not become privatised. However, this should not

exclude appropriate private sector partners because it can be addressed by making the requirement of retaining common intellectual property rights part of a formal partnership agreement.

Fair cities must have both hard and soft infrastructure that integrates different parts of urban areas and enables sustainable activities. There must also be criteria for prioritisation in line with agreed guidelines: bigger is not always better, for example, and some relatively small interventions that fill a particular gap may have disproportionately large direct and indirect impacts (multiplier effects).

It is also very important to have effective land use. This work is usually managed by state institutions at one or more levels. This is not just about building on greenfield sites. It is also about building on brownfield sites to avoid 'dead', socially alienating and dangerous spaces. Conventional land use rules do not always work. However, new solutions generally result in wider support and acceptance, for example solutions based on interdisciplinary research with public support in the implementation process. Effective land use reduces the distance between people's homes, workplaces and commercial and social facilities, which, in turn, will reduce the total number of journeys, travel distance and travel time and hence encourage a shift from private motor vehicle ownership and use towards public transport.

Use tax revenue to encourage behavioural change in various ways that promote sustainability. In addition to improved public transport to reduce motor traffic, it is possible, for example, to prioritise poor and marginalised social groups, differentiate property rates, encourage private individuals and companies to carry out energy-saving activities in their own properties that contribute to overall green infrastructure, introduce recycling of water and waste, etc.

To manage all these issues, it is necessary to find a good local balance between voluntary work and regulation. This balance may change over time at different stages of the transition to sustainability. A regulation may, for example effectively accelerate social and behavioural change, but once the changes have been achieved, the regulation is not as important. Active engagement by local authorities and civil society is also essential, for example through interdisciplinary partnerships, voluntary groups, non-governmental organisations and, especially, social media.

Sometimes, it can be difficult to enact the necessary laws, at least in a relatively short time. In such cases, passive non-enforcement of existing inappropriate regulations can be an important support. A common example is not evicting but regularising tenure and providing basic infrastructure

to people who have built shanties on open public land which meets their needs, provided that it does not preclude essential planned development. The same applies to cultivation of crops on open land in urban areas. Even if technically prohibited, this facilitates food security for the poorest residents and contributes to urban greening.

Finally, a new global development from 2016, involving all cities and local authorities, has great potential to stimulate the development of suitable sustainable investments and innovations in cities. This is the introduction of a specifically urban goal within the set of 17 Sustainable Development Goals (SDGs) to run from 2016 to 2030. The SDGs apply to all countries to reflect the globally indivisible nature of the sustainability challenge. Goal 11, to make cities inclusive, safe, sustainable and resilient, comprises seven targets and three supplementary targets with a total of 17 indicators.

For all local authorities, the annual reporting will prove challenging in that not all relevant data is currently collected or easily available. There will be UN monitoring and evaluation, accompanied by targeted support to assist the process. This therefore represents a unique opportunity to use the targets and indicators to stimulate political leaders and local authority officials to promote sustainable urban development.

External sources of support and networking

Various external networks for support and innovative approaches exist both nationally and internationally. Within individual countries, regional and national governments and research institutes can engage in effective multilevel governance. Some such relationships may be complicated or even conflictual, for example if powers and responsibilities are unclear, or if political parties with antagonistic agendas control different institutions.

International associations and networks also offer diverse forms of advice, practical support and learning resources, for example the following:

- Local Governments for Sustainability (ICLEI)
- United Cities and Local Governments (UCLG)
- The C40 network of leading cities
- The Smart Cities Council
- The Human Settlements Programme of the London-based International Institute of Environment and Development (IIED)
- The UN agencies UN-HABITAT and UNEP (which produce regular reports and also have special programmes relevant to particular categories of cities)

Final reflections

A common reference point in this book is that utopian thinking has influenced urban planning since the turn of the 20th century. Much of the early utopian ideas originated in anarchist thinking. Implementation is a different matter; reality has a habit of intruding with all its complexities and contradictions.

The imperative of implementation is urgent everywhere. Especially in the global South, where cities are growing fast and the cities of tomorrow, many already under construction today, are emulating the unsustainable urbanism in the global North. There are few examples from the global South of new sustainable ideas that hybridise indigenous cultural and architectural designs with the best of 'international' industrial design, materials and lifestyles.

This book has raised several of the problems and limitations of developing sustainability in cities. We propose that the way forwards is to apply an integrated approach to sustainable cities and that cities must be accessible, green and fair.

That said, it is important to avoid any sense of permanence or finality about such conceptualisations and aspirations. They must constantly evolve to remain locally relevant in space and time. John Friedmann, an advocate of making cities better places and of utopian thinking in urban planning, concluded his critical essay on engaged planning practice like this:

> *"My image of the city remains incomplete, and I think that is proper, because no one should have a final say about the good city. Utopian thinking is an ongoing, time-binding discourse intended to inform our striving. It is no more than that, but also nothing less."*

Mistra Urban Futures is a research and knowledge centre which locally and globally promotes collaborative approaches and co-production of knowledge supporting a transition towards sustainable urban development. All projects are designed and carried out in collaboration between practice and academics.

The Centre's on-going and finished projects contribute to the vision of sustainable urban development, for fair, green and accessible cities. The vision is translated into the objective: 'Realising Just Cities'.

Mistra Urban Futures has five Local Interaction Platforms, in Gothenburg and Skåne, Sweden; Sheffield–Manchester, UK, Kisumu, Kenya; and Cape Town, South Africa, and partners in Stockholm, Sweden; Shimla, India; and Buenos Aires, Argentina.

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