Chapter 1

Urbanization and Cities: *Trends of a New Global Force*

The year 2020 marks a turning point in the global battle for sustainable development, with cities once again at the centre as home to a growing majority of the world's population. On the one hand, the world is entering the Decade of Action, the ten-year period during which national and local governments, the private sector and civil society must accelerate their efforts to deliver on the promise of the Sustainable Development Goals (SDGs) for accelerating sustainable solutions to the world's biggest challenges—ranging from poverty and gender-based discrimination to climate change, inequality and closing the finance gap. By 2030, countless local actions, the vast majority taken in cities or by city leaders, must collectively add up to a global shift toward a more sustainable future that reduces poverty, improves health outcomes, expands access to education and reduces carbon emissions, among other societal challenges.

Quick Facts

1. After decades of ambivalence from policymakers, urbanization has emerged as a key agenda in international development policy.
2. The New Urban Agenda places emphasis on effective implementation at the local level and on the role of local governments.
3. Every region is expected to become more urbanized in the next ten years, although highly urbanized regions are expected to have slower rates of urban growth.
4. The New Urban Agenda and the 2030 Agenda for Sustainable Development were adopted in times of profound global challenges, many of which have been exacerbated by the coronavirus pandemic.
5. With over 90 per cent of confirmed cases coming from urban areas, cities have borne the brunt of COVID-19.

Policy points

1. The New Urban Agenda as a means of achieving SDG 11 offers a framework for unlocking the value of urbanization.
2. While countries have made progress in the implementation of the New Urban Agenda and urban dimensions of the SDGs, there are challenges that need to be addressed.
3. Sustainable urbanization has a key role to play in the Decade of Action for accelerating sustainable solutions towards eradicating poverty, reducing inequality, addressing climate change and enhancing gender equality.
4. Sweeping investment in clean technologies such as renewable energy are among the most cost-effective way to boost economies hit by COVID-19 while reducing emissions.
5. COVID-19 provides the opportunity for cities to build back better in the long term and build up resilience against future pandemics.

1.1 Urbanization: A Key Agenda in International Development Policy

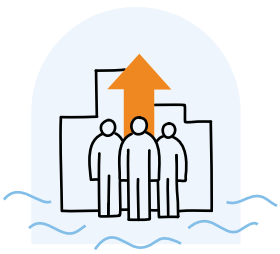
Since the turn of the twenty-first century, cities have become increasingly central to global discussions around sustainable development. After decades of ambivalence from policymakers, urbanization has emerged as a key agenda within international development policy. The unanimous adoption in 2015 of the 2030 Agenda for Sustainable Development, which includes the goal to "make cities and human settlements inclusive, safe, resilient and sustainable," as well as the New Urban Agenda (NUA) in 2016, firmly places urbanization at the forefront of international development discussions. This recognition goes beyond viewing urbanization as simply a demographic phenomenon, but rather as a transformative process capable of galvanizing momentum for development. National governments, local authorities, international NGOs and the private sector now must emphasize the implementation of the New Urban Agenda, which lays out a 20-year vision for sustainable urban development, as an accelerator for achieving the urban dimensions of the 17 Sustainable Development Goals (SDGs).

The importance of urban systems thinking is no longer seen as relevant only to a few globally-connected metropolitan hubs. Such a lens is now distributed across the full spectrum of human settlements, from megacities to secondary cities to smaller towns, that constitute the world's urban majority. Now more than a decade since the world became predominantly urban, the continued increase in urbanization, especially the rapid pace in developing countries, has placed the urban space at the forefront of global policy debate. The centrality of urban processes in securing sustainable futures in a range of diverse fields such as climate change, economic growth, poverty eradication, housing, infrastructure, basic services,

decent jobs, food security and public health—including the coronavirus pandemic—currently ravaging all parts of the world is today undeniable.[1]

The global prominence now given to urbanization is nuanced, drawing both on traditional views that urbanization creates negative externalities such as environmental degradation and rural depopulation, as well as newer thinking about the transformative potential of urbanization for sustainable development. In many respects, this view stems from the realization that while cities hold the key to solving many of the world's sustainability challenges, the current model of urban development is unsustainable. In so far as the mandate of the SDGs is to "leave no one behind," urban development policies focusing solely on economic growth have not always brought about a reduction in poverty and inequality, with the latter increasing worldwide. And yet, when properly planned and managed, urbanization can contribute to socioeconomic development, including poverty reduction.[2]

Cities have emerged on the radar of international development partly due to unprecedented demographic growth, impacts of climate change, increased human exposure to natural hazards and other urban risks. That the international community is now receptive to the positive potential of urbanization follows the recognition that processes and activities in cities, such as unchecked consumption, have significant repercussions on the global environment and can push the planet beyond its ecological limits.[3]



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The rising profile of urbanization in global policy discussions can in part be attributed to the advocacy and activism of the Group of 77+China coalition of developing countries at the United Nations, working within the multilateral processes that shape global development priorities. Their diplomatic efforts were also supported by the United Nations Sustainable Development Solutions Network (SDSN), a body set up under the auspices of the United Nations Secretary-General and UN-Habitat. Together with key partners from across the urban sector, these groups formed the Campaign for an Urban SDG, which successfully lobbied during the SDG negotiations for urban-specific Goal 11.[4] With the ratification of the SDGs in 2015, at a United Nations General Assembly meeting featuring Pope Francis, and following the broadest, most participatory multilateral process in the history of United Nations, urbanization was thus thrust into the global limelight. The complexity of reaching a global consensus in securing an urban goal and agreeing on an agenda that has universal appeal was part of a process that has been described as a significant political battle characterized by variant or even conflicting positions held and promoted by different actors and competing priorities, which forced advocates of sustainable urbanization to make a compelling case that cities are a central driver of global development priorities.[5]

Such a case was made successfully due in large part to the emergence of a certain optimism about urbanization at the beginning of the twenty-first century, especially the importance of cities in developed countries. The "devolution revolution" that devolved national power to the local level and the subsequent sense that as the unit of government closest to citizens, cities were more capable than countries of taking action and working across borders in addressing common global issues, also led to the political rise of urban areas in the diplomatic arena.[6]

The international research community has been pivotal in bringing the urban question to the fore by helping to coordinate, integrate and prioritize evidence and ideas across the complex parts of the multifaceted urban question. For example, the last few decades have witnessed a proliferation of disciplines, including the hard sciences, that has taken up an elevated urban research focus with a concerted effort to demonstrate that "cities need not be environmental sinks."[7] This reinvigorated "science of cities" has further enhanced the expansion and sharing

Addis Ababa, Ethiopia. © Eduardo Moreno

of knowledge largely due to the interconnection between technology and development.

The emergence of the global agenda from multilateral processes is recognition of how critical cities are to sustainable development. SDG 11 is not only fundamental to achieving sustainable urbanization, but it also provides a multilateral platform for cities to build and strengthen partnerships as well as gain additional resources for advancing sustainable urban development.[8] SDG 11 has been described as: "the strongest expression yet by the international development community of the critical role that cities play in the planet's future."[9] It is believed that the SDG 11 will:

i. Educate leaders and the public and focus political attention on urgent urban challenges and future opportunities.

ii. Mobilize and empower all urban actors around practical problem-solving, so that they may work collectively towards common objectives.

iii. Address the specific challenges of urban poverty and access to cost-effective infrastructure and housing, with cross-cutting benefits across a range of SDGs.

iv. Promote integrated and innovative infrastructure design and service delivery, using technology-driven and energy-efficient solutions.

v. Promote land-use planning and efficient spatial concentration, while bringing a territorial approach to the SDGs.

vi. Ensure urban resilience to climate change and disaster risk reduction; and

vii. Give urban and local governments a place at the table to influence decision-making in achieving sustainable development.[10]

Some of the key issues emerging from the implementation of SDG 11 are summarized in Box 1.1.

Box 1.1: The view from the ground: What the Voluntary National Reviews of SDG 11 revealed

United Nations Member States volunteer annually to report on their progress toward the SDGs at an event known as the High-Level Political Forum. In 2018, SDG 11 was among the six SDGs under review. UN-Habitat's analysis of the 46 Voluntary National Reviews (VNRs) for SDG 11 reveals that Member States have adopted varied approaches towards achieving the goal to "make cities and human settlements inclusive, safe, resilient and sustainable" in line with their specific national challenges.

The notion of leaving no one or place behind features prominently in the VNRs with links to national strategies and specific issues, such as housing and the proliferation of slums, rural-urban divide, spatial and gender equality and public space. Member States also focus on vulnerable groups such as persons with disabilities, women and young girls, youth and older persons.

In highly urbanized countries, reoccurring themes were rural-urban connectivity, depopulation, sustainable transport, climate resilience, the green economy and pollution. Reports across countries addressed the importance of climate change adaptation and mitigation, with few countries discussing support for disaster-prone developing countries. The deployment of technology and innovation in decision-making and responding to urban challenges featured prominently, as did the notion of "smart cities."

Reporting countries in Asia and Africa recognized the importance of investing in cities, but in those regions the rapid rate of urbanization has been associated with negative externalities that need to be addressed. Over 90 per cent of countries reported challenges relating to housing and the need to establish social housing programmes to curb the proliferation of informal settlements. Eighty-two per cent of reporting countries stressed the importance of investing in safe and sustainable transport that supports interurban mobility. Reporting countries supported the use of non-motorized transport systems in pursuit of more sustainable transport services and green, pedestrian-friendly cities. Although many countries are cognizant of the interrelated nature of the SDGs and NUA, they presented few policy interventions to exploit such linkages.

To ensure the achievement of SDG 11, the VNRs identified four key areas that need to be improved upon:

i. Reinvigorate governance and civil society participation: Develop effective institutions and structures to oversee the implementation of national urban plans, strengthen urban governance and stakeholder collaboration, increase civil society participation and incorporate urban planning into local development.

ii. Reinforce financial mechanisms: Establish financial frameworks that attract sustainable investments, promote fiscal decentralization especially in developing countries, increase the productive role of cities and urban territories, and enhance collaborations with international development banks and the private sector to scale up urban investment in line with NUA principles.

iii. Capacity development: Enhance the human resources and capacity of policymakers and technical personnel to implement the NUA and the urban dimension of the SDGs.

iv. Technology and information: Increase the use of technology to produce open data to monitor and better manage urban development.

Source: UN-Habitat, 2019a.

Apart from SDG 11, which explicitly covers sustainable cities and communities, nearly all of the other goals require meaningful progress at the city level in order to be met, and as such, many targets beyond those attributed to the urban SDG are relevant to local governments. Development analysts argue that up to 65 per cent of the SDG targets are at risk should local urban stakeholders not be assigned a clear role in the implementation of the agenda.[11]

Accepting that we live in a predominantly urban world makes it easier to ascribe value to cities as critical development points. But in giving greater weight to the urban question, it is important to acknowledge that while there is now near universal agreement that cities are important and must be given even greater attention, there remains disagreement over why and how cities can and should add value to the ambitions of 2030.

1.2. Cities and Development: An Enduring Issue

Cities and urbanization have had a long and significant relationship to development. But it has not always been the case that what happened in cities was linked to wider global or national processes. Especially when only a minority of the world's population was urban, it was easy for policymakers to ignore cities as exceptional bubbles that needed no special attention and could largely take care of themselves. What is new is that cities are now seen as an integral part of the global system. There is more interest in the scale and intensity of current and future urban processes because of the linkages and flows between town and country that have enhanced the overall significance of urban living in shaping planetary dynamics. The emergence of a "global urban agenda" enshrined in multilateral accords like the 2030 Agenda for Sustainable Development, the New Urban Agenda, the Paris Agreement on Climate Change and the Sendai Framework for Disaster Risk Reduction 2015–2030 signals a formal recognition by Member States of the United Nations that urban processes hold the key to sustainable development at a worldwide scale.

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When well-planned, urbanization is associated with greater productivity, opportunities and improved quality of life for all.[12] Cities drive economic growth, innovation and greater societal freedoms. Progressive institutional change—such as women's advancement, gender equality and entrenchment of the rights of minority groups—frequently take hold first in cities (Chapter 5). Highly urbanized countries are generally associated with positive societal outcomes such as higher incomes, lower poverty rates, stronger and resilient institutions that enable economies to withstand global shocks, enhanced democratic accountability, more gender equality and technological innovation.[13]

These cumulative benefits point to one conclusion: There is an intrinsic value associated with sustainable urbanization. Urbanization therefore represents an opportunity that can be harnessed to increase the wellbeing of all urban dwellers and their rural counterparts.[14] In acknowledging this new global and national scaling of interest in the urban, the question of how and why urbanization has risen to this more prominent status becomes salient. Indeed, now that the urban agenda has emerged, it has been "written into contemporary global politics" through particular sectors and kinds of disciplinary knowledge.[15] Moreover, the various theoretical and disciplinary traditions used to legitimize the new urban agenda—the generalized view of cities as a tool for development rather than the specific negotiated outcome document—each have their own way of conceptualizing urban processes as objects of inquiry and intervention.[16] The status afforded to the urban agenda is partly a function of this uneven sectoral and intellectual framing. The application of these foundational ideas is then entrenched through professional practices, including the defining of indicators that value or weight some issues over others.

Yet in the process of calling the urban sector into the global political and developmental realm and the push to make clear that cities cannot be ignored, there is a false impression

that there exists consensus on why the concentration of people, resources and economic activity in a circumscribed geographic area is so important. In making the general argument for cities, certain kinds of urban phenomena and knowledge have been rendered more prominent or visible. Given this tendency, it is important to reflect not only on the content and emphases of the new urban agenda, but also on its disconnections or omissions. Doing so prevents an overly simplistic or celebratory tone from taking precedence when talking about the implications of an increasingly urban world and global policy landscape.

1.3. Implementing the New Urban Agenda

While largely beneficial, urbanization occurs amidst entrenched planetary challenges. Many cities suffer from the impacts of climate change, inequality and exclusion, inadequate infrastructure, uneven access to basic services and a lack of economic opportunities for young people and minority groups. In addition, lax regulatory frameworks have permitted the elite and ruling classes to benefit disproportionately from urbanization through real estate speculation, or even to appropriate city assets outright.[17] Besides which, the process of urbanization in many contexts is based on a model that is environmentally, socially and economically unsustainable.[18] In these contexts, the process of urbanization erodes the inherent value that comes with it.

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It is these persistent and emerging challenges of urbanization that the NUA addresses, as it provides an action-oriented road map to guide sustainable urbanization globally to the year 2036. In many respects, the NUA represents a paradigm shift that will:

a. Readdress the way cities and human settlements are planned, financed, developed, governed and managed, while recognizing sustainable urban and territorial development as essential to the achievement of sustainable development and prosperity for all.

b. Recognize the leading role of national governments, as appropriate, in the definition and implementation of inclusive and effective urban policies and legislation for sustainable urban development, and the equally important contributions of subnational and local governments, as well as civil society and other relevant stakeholders, in a transparent and accountable manner.

c. Adopt sustainable, people-centred, age- and gender-responsive and integrated approaches to urban and territorial development by implementing policies, strategies, capacity development and actions at all levels.[19]

The NUA is anchored on three transformative commitments that are grounded in the integrated and indivisible dimensions of sustainable development—social, economic and environmental. The transformative commitments are: sustainable urban development for social inclusion and ending poverty; sustainable and inclusive urban prosperity and opportunities for all; and environmentally sustainable and resilient urban development.[20] The value of sustainable urbanization as discussed in Chapters 3, 4 and 5 encapsulates the three transformative commitments of the NUA. The effective implementation of the NUA, which is an accelerator for the 2030 Agenda for Sustainable Development, can enhance the value of sustainable urbanization by creating socially inclusive cities where poverty is eradicated; generating inclusive urban prosperity and opportunities for all; and building environmentally sustainable and resilient urban development. Indeed, the NUA offers a global vision for people, the planet and long-term prosperity in which urbanization plays a vital role for positive change.

Manifestation of spatial inequality in Mumbai, India.
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The NUA places emphasis on effective implementation at the local level and on the role of local governments. It affirms "sustainable urban development as a critical step for realizing sustainable development in an integrated and coordinated manner at the global, regional, national, subnational and local levels."[21] The implementation of the NUA contributes to the achievement and localization of the SDGs by providing an implementing framework for the integrated delivery of many SDGs at the urban level. In particular, it covers substantive areas partially covered or not covered by the 2030 Agenda for Sustainable Development, namely the additional means of implementation and localization.

Following the adoption of the NUA, a major task was to develop an enabling framework for its effective implementation at the national, subnational and local levels that would link the NUA to the SDGs. The impact of the NUA will depend on the effectiveness of its implementation and the extent to which it is mainstreamed into national development policy. An integrated approach to sustainable urbanization by various actors, as well as enhanced coordination and coherence, is crucial to its implementation.

Drawing from its normative and operational work, UN-Habitat proposed the Action Framework for Implementation of the New Urban Agenda (AFINUA).[22] This framework is designed as a basis for achieving the urban dimensions of the SDGs, as well as other international development frameworks relevant to sustainable urbanization—the Paris Agreement on Climate Change, the Sendai Framework for Disaster Risk Reduction and the Addis Ababa Action Agenda. The AFINUA identifies the basic ingredients for the implementation of the NUA, who should lead each, how they might be measured and how these are linked to the provisions of the NUA. The AFINUA sets out five themes, which can be referred to as the "elements of planned urbanization": national urban policies; urban legislation, rules and regulations; integrated urban design and territorial planning; urban economy and municipal finance; and local implementation.

These elements require political buy-in at the national level and the necessary capacity at the local level. In an ideal situation, these elements should be interrelated and mutually reinforcing. Such links will not occur automatically, but rather should be facilitated by policy, planning and efficient institutions. This effort involves prioritization of actions as well as selection of interventions through appropriate decisions and monitoring. This strategic harmonization of actions will undoubtably contribute to the effectiveness of the AFINUA.

1.3.1. Linkages between the New Urban Agenda and the 2030 Agenda for Sustainable Development[23]

The New Urban Agenda emphasizes the importance of acting on the linkages between global development agendas. It focuses on where national governments, working in partnership with local governments, the private sector, NGOs and the grassroots, must enact change to ensure that cities and human settlements are planned, developed and managed sustainably. The NUA promotes this vision because there is a spatial dimension to sustainable development. The built environment in which people live, work, learn and play will influence their development outcomes. In acknowledgment of the interlinkages with other global agendas, the NUA complements SDG 11 by detailing strategic actions that are necessary for cities and human settlements to support and facilitate effective implementation of the 2030 Agenda and the SDGs. The NUA is the first internationally agreed document detailing implementation of the urban dimension of the SDGs. It builds on SDG 11, but addresses a wider range of urbanization and human settlements issues.

Sustainable urbanization as spelled out in the NUA has a key role to play in the United Nations Decade of Action to accelerate sustainable solutions to the world's biggest challenges.[24] With ten years left to achieve the SDGs,

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the importance of sustainable urbanization as an entry point for ensuring progress across multiple SDGs needs to be reemphasized. When well-planned and managed, urbanization can serve as a catalyst for the realization of many urban-related SDGs. Planned urbanization has a key role to play in eradicating poverty, reducing inequality, addressing climate change, enhancing gender equality, providing productive employment, driving economic growth and facilitating sustainable consumption and production patterns, among others positive attributes.

The sectoral nature of the SDGs requires a spatial framework, which the NUA provides. For instance, it will be impossible to address poverty (SDG 1), inequality (SDG 10), climate change (SDG 13), gender equality (SDG 5), water and sanitation (SDG 6), economic growth and employment (SDG 8), industrialization and innovation (SDG 9) and consumption and production patterns (SDG 12) without addressing the way cities are planned, managed and governed.

Most of the SDGs and targets relevant to cities and human settlements focus on people, households and communities, rather than on processes. For example, the means of implementation for SDG 11 are very restrictive. Goal 11's targets cover areas like urban-rural linkages (11a), resilience plans (11b) and local building materials (11c). These targets do not cover the most relevant means of implementation required to achieve sustainable urbanization. Similarly, the means of implementation of other relevant SDGs (water, energy, industrialization and climate change) do not cover some of the essential requirements in the context of cities and human settlements. This gap is filled by the means of implementation elaborated in the NUA document.

One of the ways in which the NUA expands on the means of implementation of the 2030 Agenda and SDGs is by addressing strategic spatial and governance frameworks essential for implementation of the 2030 Agenda and SDGs within urban areas, such as national urban policies, legislation, spatial planning and local finance frameworks. These frameworks, which are central to the NUA, will facilitate implementation within cities not only of SDG 11, but also of many other SDGs.

In some areas, such as urban basic services, the NUA deepens the scope of some of the targets of SDG 11. For example, transport is reflected more comprehensively in the NUA than in the SDGs, where it is limited to targets 11.2 (access to public transport) and 3.6 (road traffic accidents). By contrast, there is a range of recommendations pertaining to sustainable transport and mobility in the NUA, such as sustainable transport infrastructure and services generation; rural-urban linkages; travel demand management; road safety; climate change, air quality and energy efficiency; freight transport; land use, urban transport planning; transport poverty, equity and inclusion; capacity building; and sustainable transport financing. The NUA not only deepens the scope of implementation, but also proposes more integrated responses at the urban level, thereby providing a more detailed road map that will assist policymakers in creating a more sustainable urban future.

Although a document negotiated and agreed upon by Member States, the NUA places emphasis on implementation at the local level. In this regard, Chapter 7 discusses the vital contribution of local governments in unlocking the value of sustainable urbanization. While the 2030 Agenda also acknowledges the importance of implementation at the local level and the role of local governments, it positions local and regional governments in tandem with major groups and other stakeholders while giving national governments primacy. The NUA seeks a more balanced distribution of authority for the implementation of the urban dimension of sustainable development by empowering local authorities. Such a role is appropriate because local governments have traditionally facilitated development and provided services directly to households, as well as overseen spatial development through local planning, governance and financial policies. Consequently, the NUA also emphasizes the need to

develop the capacity of local authorities and other local actors to implement both the NUA and the SDGs.

Given that the NUA addresses a much wider range of urban issues than the SDGs, it requires its own follow-up and review process, which consists of a series of quadrennial reports, a midterm review of the New Urban Agenda (Quito+10) and annual dialogues at the World Urban Forum and UN-Habitat Governing Council. This follow-up and review process is complementary to that of the 2030 Agenda and SDGs, with regular overlap every three years when the High-Level Political Forum addresses SDG 11. Ahead of the midterm review of the Sustainable Development Goals in 2022, the follow-up and review of the NUA will have to feed into the overall follow-up and review of the 2030 Agenda and SDGs.

The first quadrennial report on the implementation of the NUA, issued 18 months after the agenda's adoption, provides many lessons, challenges and opportunities.[25] In some cases, there has been low levels of awareness regarding the potential benefits of urbanization and of urban-related commitments made in global development agendas. National authorities are burdened by low institutional and fiscal capacity and weak multilevel governance structures and multi-stakeholder engagement. The implementation of the New Urban Agenda demands local actions; this type of action requires institutional, organizational, policy and financial capacity that is often lacking or poorly developed in many countries. The capacity to strengthen devolution and local autonomy in many countries is low, and many cities continue to lack financial resources and the technical capacity to manage the challenges associated with urbanization.

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1.4. Recent Global Urban Trends and Conditions

The New Urban Agenda, the 2030 Agenda for Sustainable Development and other global frameworks relevant to sustainable urbanization were adopted in times of profound global changes and challenges. The Kuala Lumpur Declaration on Cities 2030 adopted at the Ninth World Urban Forum in 2018 acknowledged several trends and challenges typical of our increasingly urbanized world such as limited opportunities for collective city-making, inequitable access to urban life, gender inequalities in urban economies and leadership, and insufficient protection from human rights violations like forced evictions.[26] The Abu Dhabi Declared Actions adopted at the Tenth World Urban Forum in 2020 moved from challenges to solutions as international organizations, local and regional governments, the private sector, civil society, academia and other groups enumerated commitments to accelerate the implementation of the New Urban Agenda.[27] An understanding of these challenges, many of which have intensified since 2016 and were further exacerbated by the recent outbreak of the coronavirus pandemic, as well as the types of actions taken to address them, is crucial for achieving sustainable urbanization. These trends also have implications for unlocking the value of sustainable urbanization.

1.4.1. Demographic change and related trends

The world continues to experience an increase in its urban population even as the rate of urbanization in many regions has slowed from previous decades. Nevertheless, urban areas are expected to absorb virtually all the future growth of the world's population. At the time of adoption of the 2030 Agenda for Sustainable Development in 2015, 54 per cent (4 billion) of the world's population lived in urban areas (Table 1.1); by the end of the 20-year period covering the New Urban Agenda in 2036, 62 per cent (5.4 billion) of the global population is expected to reside in urban areas.[28] Ninety-six per cent of urban growth will occur in the less developed regions of East Asia, South Asia and Africa with three countries—India, China and Nigeria—accounting for 35 per cent of the total increase in global urban population from 2018 to 2050.[29] These countries are expected to add 416 million, 255 million and 189 million new urban dwellers, respectively.

Table 1.1: Urban population and level of urbanization (2000-2035)

	Urban population (million)								Percentage urban							
Region	2000	2005	2010	2015	2020	2025	2030	2035	2000	2005	2010	2015	2020	2025	2030	2035
World	2868	3216	3595	3981	4379	4775	5167	5556	46.7	49.2	51.7	53.9	56.2	58.3	60.4	62.5
High-Income Countries	822	870	919	955	989	1019	1049	1076	76.8	78.6	80	80.9	81.9	82.8	83.9	85.0
Middle-Income Countries	1935	2211	2511	2825	3145	3456	3757	4045	41.6	44.7	47.9	50.8	53.7	56.5	59	61.5
Low-Income Countries	109	133	162	199	243	296	359	432	25.7	27.2	28.9	30.9	33.2	35.7	38.3	41.2
Africa	286	341	409	492	588	698	824	966	35	36.9	38.9	41.2	43.5	45.9	48.4	50.9
Asia	1400	1631	1877	2120	2361	2590	2802	2999	37.5	41.2	44.8	48	51.1	54	56.7	59.2
Europe	517	525	538	547	557	565	573	580	71.1	71.9	72.9	73.9	74.9	76.1	77.5	79.0
Latin America and the Caribbean	397	433	470	505	539	571	600	627	75.5	77.1	78.6	79.9	81.2	82.4	83.6	84.7
Northern America	247	262	277	291	305	320	335	349	79.1	80	80.8	81.6	82.6	83.6	84.7	85.8
Oceania	21	23	25	27	29	31	33	35	68.3	68	68.1	68.1	68.2	68.5	68.9	69.4

Source: United Nations, 2018b.

With 2.3 billion people living in cities, Asia has the highest number of urban dwellers worldwide; the region is 50.1 per cent urbanized and accounts for 54 per cent of the world's urban population.[30] The process of urbanization in Asia, especially South-East Asia, is strongly linked to economic transition and greater integration into the global economy, as many cities have become the recipients of foreign direct investment, mainly in the form of the outsourcing of manufacturing of consumer goods by parent companies in developed countries. Urbanization in South-East Asia is leading to an economic transformation across the region as workers increasingly gravitate to the service sector.[31] Indeed, the economic hubs of Asia are almost entirely urban-based as its cities thrive with investments, infrastructure, innovation and competitiveness.

Urban growth rates vary remarkably across the world. The highest growth rates are in the developing regions, with Africa having urbanized the most rapidly at 3.7 per cent annually between 2010 and 2015 (Table 1.2); this figure is projected to have declined marginally to 3.57 per cent between 2015 and 2020, but still remains the highest of any region. Africa's rapid urbanization is driven mainly by natural increase, rural-urban migration, spatial expansion of urban settlements through annexation and the reclassification of rural areas.

Compared to other developing regions, Africa shows much lower income levels than other regions at similar levels of urbanization.[32] This discrepancy means that Africa is not reaping all of the potential economic development benefits of urbanization. By contrast, countries in East Asia and the Pacific surpassed the 50 per cent level or urbanization in 2009 with an average GDP per capita of US$5,300. The Middle East and North Africa region became at least half urban in 1981 with an average GDP per capita of US$3,700 and Latin America and the Caribbean region crossed the 50 per cent threshold in 1961 with an average GDP per capita of US$2,300. Meanwhile, Sub-Saharan Africa is currently 41.4 per cent urban with an average GDP per capita of US$1,574 (2018).[33]

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MindTheStep project in Sao Paulo Brazil. © UN-Habitat

The world's urban population of 4.3 billion is unevenly distributed among human settlements of different sizes. The world has witnessed an increasing concentration of people in highly urbanized areas, especially megacities or those metropolitan areas with at least 10 million people. There are 33 megacities worldwide, which accounted for 13 per cent of the world's urban population in 2018, up from 9 per cent in 2000. Latin America leads the charge in this regard with 18 per cent of its urban population residing in megacities. While megacities are notable for their size, concentration of economic activities and influence in the global economy, they are not the fastest growing type of city, nor do they represent most of the urban population. Indeed, the fastest growing cities are the small and medium "intermediate" or "secondary" cities with less than 1 million inhabitants, which account for 59 per cent of the world's urban population and a majority of the urban population in every region.[34] The growth of intermediate cities will help foster better urban-rural linkages and relieve some of the quality of life strain, such as rampant informal housing, environmental degradation and long commutes, that can be endemic to megacities.

Despite the demographic importance and potential role of intermediate cities, urban planning in developing countries has focused disproportionately on the problems of large metropolitan areas, thereby further fuelling the problem of urban primacy. If small and medium cities are to fulfil their potential, then they should form part of the urban planning agenda for developing countries in the twenty-first century.[35] In this regard, the NUA calls for strengthening the role of small and intermediate cities and towns in providing access to sustainable, affordable, adequate, resilient and safe housing, infrastructure and services as well as facilitating effective trade links across the urban-rural continuum.

While megacities are notable for their size, concentration of economic activities and influence in the global economy, they are not the fastest growing type of city

Gender, youth and older persons

Urbanization provides unique momentum to advance gender equality, as it is often associated with greater access to education and employment opportunities, lower fertility rates and increased independence. Yet, women's equal "right to the city" is still far from being realized, especially among lower-income women.[36] The growing number of women-headed households in cities and the participation of women in the labour market imposes new requirements on the location of homes vis-à-vis places of employment and urban services, as well as to the layout and management of transportation systems.[37]

Table 1.2: Urban rate of change 2000-2035

Region/Area	Average Annual Rate of Change of the Urban Population							Entire Period
	2000-2005	2005-2010	2010-2015	2015-2020	2020-2025	2025-2030	2030-2035	2000-2035
World	2.29%	2.23%	2.04%	1.90%	1.73%	1.58%	1.45%	1.89%
High-Income Countries	1.13%	1.11%	0.76%	0.69%	0.61%	0.57%	0.51%	0.77%
Middle-Income Countries	2.67%	2.54%	2.36%	2.14%	1.89%	1.67%	1.48%	2.11%
Low-Income Countries	3.90%	3.98%	4.08%	4.03%	3.96%	3.85%	3.70%	3.93%
Africa	3.52%	3.61%	3.70%	3.58%	3.44%	3.32%	3.19%	3.48%
Asia	3.06%	2.80%	2.43%	2.16%	1.84%	1.58%	1.35%	2.18%
Europe	0.33%	0.46%	0.35%	0.35%	0.30%	0.28%	0.26%	0.33%
Latin America & the Caribbean	1.74%	1.61%	1.47%	1.30%	1.15%	1.00%	0.85%	1.30%
Northern America	1.13%	1.13%	0.95%	0.95%	0.96%	0.92%	0.84%	0.98%
Oceania	1.35%	1.78%	1.54%	1.42%	1.30%	1.24%	1.18%	1.40%

Source: United Nations, 2018b

Men, women, boys and girls experience cities in very different ways on account of gendered social rules, norms and culture; subtle discrimination against women such as micro-aggressions; institutionalized gender bias; and the structural asymmetrical distribution of power and resources between men and women. These different experiences suggest that the value attached to urbanization will also be different depending on one's gender (Chapter 2). Public transport can be liberating for a man to affordably experience urban life, but petrifying for a woman who suffers from a lack of personal safety. For example, over 65 per cent of women using public transportation in Mexico City have experienced sexual harassment while travelling.[38] Public space can offer a livelihood for men to sell street food, but not offer the same guarantee to women. For example, 92 per cent of women in Rabat, Morocco and 68 per cent of women in Quito, Ecuador have experienced sexual harassment in public spaces.[39] These disparities also manifest in areas like limited land and property ownership (women account only for 25 per cent of the landowners in Latin America).[40]

An important demographic trend that has implications for urban areas, particularly in developing countries, is the relatively large proportion of the youth population aged 15 to 24

An important demographic trend that has implications for urban areas, particularly in developing countries, is the relatively large proportion of the youth population aged 15 to 24. The world youth population is projected to rise to 1.3 billion by 2030.[41] In many developing countries, the decline in infant mortality and increase in fertility over several decades has created a youth population boom. In Africa, youth comprise almost 20 per cent of the population and 35 per cent of the global youth population.[42] While a youthful population can present challenges for ensuring education and employment, it could be an advantage against the devastating impacts of COVID-19 (see section 1.4.7). In Latin America and the Caribbean, South Asia and West Asia, youths account for between 17 and 19 per cent of the population. In some regions, the energy of a youthful population has been harnessed to nefarious ends. The high levels of youth unemployment in Latin America and the Caribbean is associated with the proliferation of youth gangs and high rates of urban crime and violence.[43]

Currently, youth and children collectively account for nearly 40 per cent of the world's population. It is predicted that by 2030, 60 per cent of urban dwellers in developing countries will be under the age of 18.[44] A large youthful population presents the challenge of youth unemployment, which is two to three times higher than adult unemployment. The provision of training and employment opportunities, as well as investments in sports and recreational facilities will make cities more attractive and healthier for youth while encouraging pro-social behaviour. UN-Habitat's One Stop

Box 1.2: Providing for youth in Wau, South Sudan

In South Sudan, the world's youngest country, young people in the north-western city of Wau now have a place to relax, learn and come together following the opening of the One Stop Youth Centre with funding from Japan. The new centre provides a space for conflict resolution forums as well as opportunities for vocational and computer training, recreational activities, job placement and entrepreneurial skills development. It is a model that UN-Habitat has pioneered to promote youth development across East Africa.

The centre has already trained 72 young men and women in conflict resolution and trauma healing and 170 youth have enrolled in computer, tailoring and English courses. Up to 100 young people use the sports facilities daily and the centre has attracted youth from all over the state, including internally displaced people.

During the inauguration, the Japanese Ambassador to South Sudan handed equipment for basketball, volleyball and handball to the centre in the presence of the Governor, the national Minister of Culture, Youth and Sports and the Wau State Minister of Information, Culture, Youth and Sports. The Japanese Ambassador called on the youth to dream big and develop the country noting that: "The next responsibility for the development of South Sudan lies with you, young people."

Source: UN-Habitat, 2019b.

Youth Centres in East Africa provide meeting places for young people to access information and resources critical to youth-led development programmes (Box 1.2).

Population ageing has been described as one of the demographic megatrends that hold important implications for economic and social development and for environmental sustainability.[45] The so-called "global greying" is emerging as one of the most significant social transformations of the twenty-first century, with implications for financial and labour markets as workers retire. This demographic wave will impact the demand for goods and services such as housing, transportation and social protection, all of which are strongly linked to urban areas. In 2018, for the first time in history, persons aged 65 years or over worldwide outnumbered children under age five.[46] Ageing of the population is occurring in all countries all over the world, with the population aged 65 and over being the fastest growing age group—increasing from 6.9 per cent in 2000[47] to 9.1 per cent in 2019.[48] The proportion of older persons in the world is projected to reach nearly 11.7 per cent in 2030 and 15.9 per cent in 2050. The increase in the ageing population has been occasioned by declining fertility rates and improvements in life expectancy over the latter half of the twentieth century.

Ageing and its consequences, such as too few workers to support a large population of pensioners and the need for housing designed to meet the physical needs of older persons, appear gradually and predictably. As such, policymakers have time to address these issues before they become acute problems.[49] It is imperative that countries plan for population ageing, safeguard the wellbeing of older persons and ensure that they are not left behind by protecting their human rights and economic security as well as by ensuring access to age-appropriate healthcare services, built environment facilities, lifelong learning opportunities, and formal and informal support networks. The recent outbreak of COVID-19 poses a major threat to older persons as those aged 65 years and over account for 80 per cent of fatalities, making countries with a sizeable ageing population particularly vulnerable.

An important demographic trend that has implications for urban areas, particularly in developing countries, is the relatively large proportion of the youth population aged 15 to 24

1.4.2. Urban footprints growing faster than urban population

Urban sprawl, a spatial phenomenon initially used to describe the suburbanization of land-rich developed countries of North America and Australia, is now occurring in cities in all over the world.[50] Whether horizontal spreading, dispersed urbanization or peri-urbanization, the physical extent of urban areas is growing much faster than their population, thereby consuming more land for urban development. The unbridled expansion of urban areas has profound implications for energy consumption, greenhouse gas emissions, climate change and environmental degradation. Findings from a global sample of 200 cities with over 100,000 inhabitants show that between 1990 and 2015, cities in developed countries increased their urban land area by 1.8-fold while the urban population increased by 1.2-fold; thus, implying that the expansion of urban areas in relation to urban population growth increased by a ratio of 1.5.[51]

In the case of developing countries, over the same period, urban land use increased 3.5-fold, while the urban population increased one-fold or doubled. This suggests that urban expansion increased 3.5 times in relation to urban population growth. Further findings suggest that the expansion of urban areas in developed and developing countries is projected to grow by a factor of 1.9 and 3.7, respectively, between 2015 and 2050.[52] However, if urban areas are effectively planned, managed and governed, then the urban expansion in both developing and developed countries will grow at a projected factor of 1.1 and 2.5, respectively. Elsewhere, it has been estimated that by 2030, cities are expected to cover three times as much land as they did in 2000, with much of the expansion occurring in relatively undisturbed key biodiversity hotspots.[53] These projections indicate the quantitative value of well-planned urbanization, which can preserve excess land from peri-urban redevelopment.

Table 1.3 provides an indication of the expansion of urban areas in different regions. Despite the rapid rate of growth of the urban population in developing regions, the expansion

Table 1.3: Growth in urban expansion and urban population

Geographic Regions	Average of Urban Extent Annual Change 2000-2015	Average of Urban Extent Population Annual Change 2000-2015	Ratio of Urban Extent to Urban Population
Sub-Saharan Africa	5.1%	4.2%	1.20
North Africa and Western Asia	4.0%	2.7%	1.45
North Africa	4.5%	3.1%	1.43
Western Asia	3.5%	2.4%	1.46
Central and Southern Asia	4.3%	3.0%	1.46
Central Asia	5.1%	4.3%	1.18
Southern Asia	4.3%	2.8%	1.50
East and South-East Asia	6.9%	4.2%	1.65
East Asia	7.2%	4.1%	1.77
South-East Asia	5.7%	4.4%	1.31
Latin America and the Caribbean	2.1%	1.9%	1.12
Caribbean*	0.3%	0.8%	0.35
Central America	2.6%	2.3%	1.14
South America	2.0%	1.8%	1.13
Oceania	1.2%	1.4%	0.86
Australia and New Zealand **	1.1%	1.7%	0.67
Oceania [excl. Australia and New Zealand] ***	1.3%	0.8%	1.64
Europe and North America	2.1%	1.0%	2.06
North America	2.0%	1.5%	1.32
Europe	2.1%	0.7%	2.88
Average Global Sample Cities	4.3%	2.8%	1.52

**One city (Holguin)*
***Two cities (Sidney and Auckland)*
****One city(Suva)*
Source: Based on UN-Habitat, 2016b

of urban areas is occurring even faster. For instance, urban areas in Sub-Saharan Africa expanded at an annual rate of 5.1 per cent between 2000 and 2015, behind East Asia and South-East Asia, where the expansion of urban areas grew at annual average rates of 7.2 per cent and 5.7 per cent, respectively. The rate of urban expansion in these regions is higher than the global average of 4.3 per cent.

The expansion of African cities, characterized by the spreading out of large cities at a remarkable pace, has been difficult to manage.[54] In the process, these cities engulf surrounding rural land and adjacent towns, leading to continuous belts of settlements.[55] This process of peri-urbanization, which is largely informal, is driven by the efforts of low-income households to secure affordable land in a reasonable location. It has led to the emergence of new settlement forms, which current planning and regulatory frameworks are unable to address effectively. These sprawling urban peripheries are often disconnected from the main urban fabric. They lack the necessary road connections for efficient urban travel and increase the cost of providing municipal services. The failure to effectively plan and manage the expansion of urban areas has led to serious resilience challenges, such as housing affordability, traffic congestion, poor access to labour markets and public space, natural hazard risk to communities, loss of natural environment and ecosystems and lack of basic services such as water, sanitation and electricity.[56] The absence of basic services increases the vulnerability of these areas to the coronavirus disease, as is currently the case.

Although the ratio of the rate of urban expansion to urban population growth is low in Sub-Saharan African cities (1.2) when compared to East Asia (1.77) and Europe

and North America (2.06), cities in these regions have been able to offset the reduction of densities through innovative planning that contains sprawl and enhances connectivity, such as urban growth boundaries and urban infill policies.[57] The inadequate planning structures in the sprawling areas of African cities hinders the development of agglomeration economies and the efficient provision of public goods and services. Since most of the infrastructure to accommodate rapidly expanding urban areas in Africa is yet to be built, planning for urban expansion provides an auspicious opportunity to plan city growth in a manner that generates social and economic returns and enhances inclusive prosperity.

In the US, 80 per cent of metropolitan areas have become less dense since 2010 (Box 1.3). Even as jobs have shifted to urban centres, US residents continue to exhibit preferences for a suburban lifestyle while those who would prefer to live in cities must contend with extreme housing unaffordability as desirable cities have not permitted sufficient new housing construction to keep up with demand. This trend has contributed to the country's high rate of car ownership, distances travelled for work, length of paved roads, overall fuel consumption and high personal carbon footprint.

The spatial expansion of cities is an inevitable consequence of urban population growth and other contextual factors. The challenge for planning is to devise mechanisms for directing or controlling the timing, rate and location of urban growth. Urban sprawl—whether suburbanization in North America, peri-urbanization in Africa or metropolitanization in Asia and Latin America—are all products of either inappropriate or ineffective planning regulations. All of these types of sprawl necessitate the adoption of more sustainable urban growth management policies where both planned expansion and planned infill play key roles.

1.4.3. Migration: Opportunity and challenge for inclusive cities

Migration is one of the main factors driving the global increase in urbanization, and in the process it is making cities into more diverse places.[58] Currently, there are 763 million internal migrants[59] and 272 million international migrants in the world,[60] which means that every seventh person in the world is a migrant. In many developing countries, internal rural-to-urban migration in search of economic opportunity has historically been a key driver of urban growth.[61] Safe, orderly and regular migration can be a powerful tool for lifting people out of poverty, reducing inequality and

Box 1.3: Seattle climbs but Austin sprawls: The myth of the return to cities

Be skeptical when you hear about the return to glory of the American city—that idealized vision of rising skyscrapers and bustling, dense downtowns. Contrary to perception, the nation is continuing to become more suburban, and at an accelerating pace. The prevailing pattern is growing out, not up, although with notable exceptions.

Rural areas are lagging metropolitan areas in numerous measures, but *within* metro areas the suburbs are growing faster in both population and jobs. On the other hand, as anyone who has tried to rent an apartment or buy a condo in a big city knows, housing prices are climbing faster in urban neighbourhoods than in the suburbs. And urban neighbourhoods are younger and richer than they used to be, with more educated residents and fewer school-age children. Higher-wage jobs are increasingly in city centres, with urban retail catering to these well-paid workers and residents.

This combination of faster population growth in outlying areas and bigger price increases in cities points to limited housing supply as a curb on urban growth, pushing people out to the suburbs. It is a reminder that where people live reflects not only what they want—but also what is available and what it costs. However, these broad national trends hide divergent local ones. A few large metro areas did, in fact, become more urban between 2010 and 2016. Of the 51 metro areas with more than one million people, average neighbourhood density rose in 10 and fell in 41, according to census population data and United States Postal Service counts of occupied housing units. That is, four-fifths of large metro areas have become more suburban since 2010, while only one-fifth have become more urban.

Source: Kolko, 2017.

Refugees migrate to Europe. © Fishman64/Shutterstock

contributing to sustainable development in both place of origin and destination.[62] At the same time, policies that address the negative drivers of migration such as poverty, unemployment and insecurity can make remaining in one's country more viable for potential migrants.

Most migrants are found in urban areas. International migrants represents over one-third of the population in global cities that have become magnets for foreign talent, from students to professionals, like Toronto, Los Angeles, Sydney, London, Melbourne, Vancouver, San Francisco, Malmö, Montréal, Brisbane, The Hague and New York. In certain international hubs like Brussels, Dubai and Miami, they significantly outnumber the local population.[63] International migration accounts for about one-third of urban growth in developed countries[64] and is increasingly transforming urban areas into heterogenous, multi-ethnic, multicultural and multilingual spaces with cities large and small reacting accordingly to accommodate these newcomers. Such cultural diversity contributes to the vibrancy, prosperity, inclusiveness, competitiveness, attractiveness, positive perception and overall development of cities, all of which will enhance their intangible value (Chapter 5). It has been shown that culturally diverse cities are more innovative given that they benefit from a wider range of international knowledge links, idea generation, problem-solving, diverse decision-making and ability to attract a more innovative workforce.[65]

Rising migration brings both opportunities and challenges for the migrants, communities and governments concerned. The rise in international migration calls for policies to integrate migrants into cities in an inclusive manner. In this regard, the United Nations adopted the New York Declaration for Refugees and Migrants in 2016[66] as well as the Global Compact for Safe, Orderly and Regular Migration and the Global Compact on Refugees in 2018 in response to large movements of refugees and

protracted refugee situations as well as to define processes for shared responsibilities.[67] The 2030 Agenda recognizes that international migration is a multidimensional reality of major relevance for the development of countries of origin, transit and destination, which requires coherent and comprehensive responses. These global frameworks reinforce the role of local authorities as central to the integration of refugees and migrants insofar as cities are the frontline recipients of migrants. In the absence of effective integration policies, migration can lead to the formation of marginalized communities, which could serve as breeding grounds for exclusion, disenchantment, vulnerability and even radicalization.[68]

Cities are also on the frontlines of irregular migration, defined as movement that takes place outside the regulatory norms of the sending, transit and receiving country.[69] There were 58 million irregular migrants in 2017, up from 50 million in 2009.[70] At the core of irregular migration are restrictive policy regimes both at the countries of origin and destination that not only reduce the opportunities for regular migration but also deflect migrants toward irregular migration channels.[71] When avenues for regular migration are lacking, intending migrants are inclined to venture into irregular channels which are often costly, fraught with risks and potentially come with lower benefits for both the migrants and host communities. Even as migration boosts urban economic prospects, the increase in both regular and irregular migration over the last decade has triggered a xenophobic populist backlash fuelled by events like alleged sexual assaults against women in public spaces in Germany on New Year's Eve 2016[72] and fears of a "migrant caravan" from Central America to the US in 2018.[73] The resulting political climate seeks to restrict immigration, especially from poorer countries and often from countries of origin with different racial, ethnic or religious backgrounds than the country of destination. Border closures as a response to the COVID-19 pandemic have accelerated this trend.[74]

Cities are also on the frontlines of irregular migration, defined as movement that takes place outside the regulatory norms of the sending, transit and receiving country

Irregular migrants are often exploited for economic gain. In 2016, 2.5 million irregular migrants were smuggled for an economic return of US$5.5–7 billion.[75] They are also subjected to various forms of risks, severe hardship and physical danger as they traverse dangerous terrains such as oceans and deserts, which often result in the fatalities. The discovery in October 2019 of the bodies of 39 migrants in a refrigerated trailer in Essex, UK is just one gruesome example that highlights the risks of irregular migration.[76]

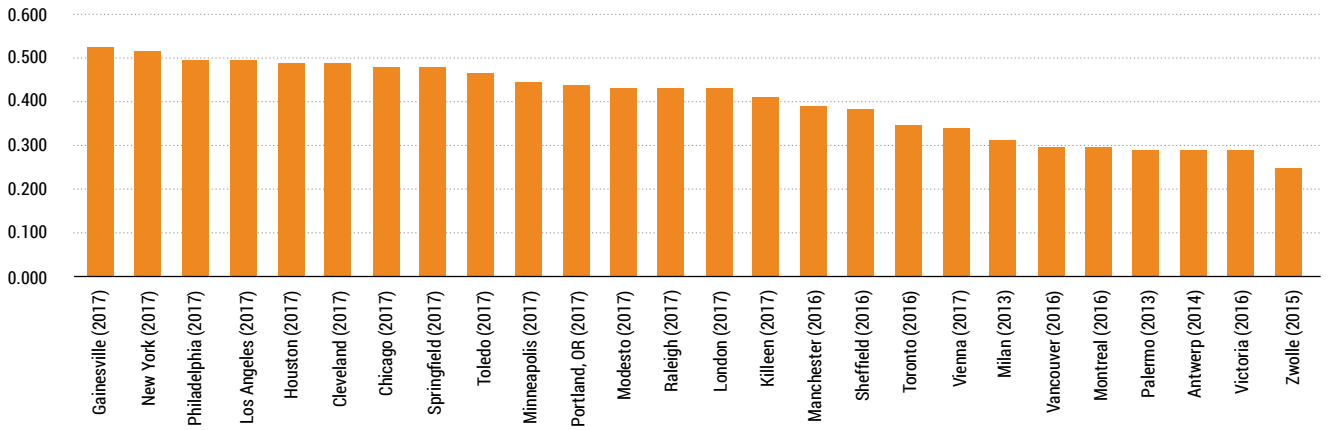
In seeking a better future, migrants brave harsh practices designed to deter, prevent and punish irregular entry. Yet even if they do arrive safely, the difficulties faced by migrants in host countries can entrench poverty, stereotypes, racism and realities so different from the rewards initially anticipated. Irregular migrants face legal barriers and difficulties in integration, poor living and working conditions, limited access to services including social protection systems and the inability to make full use of their education and skills leading to deskilling or "brain waste."[77]

1.4.4. Rising levels of inequality in cities

Growing levels of inequality and exclusion are becoming persistent trends in urban areas where most of the world's population growth will occur over the next 30 years.[78] For more than two-thirds of the world's urban population, income inequality has increased since 1980.[79] This widening gap means that about 2.9 billion people are living in cities where income inequalities are currently more pronounced than they were a generation ago. In a rapidly urbanizing world, the nature of inequality will largely depend on what happens in urban areas. Inequality within cities has economic, social and spatial manifestations and is characterized by differentiated access to income, consumption, opportunities, employment, health, education, technology, public spaces, municipal services and private goods.

Inequalities are reflected in the way urban space is produced and consumed, with remarkable concentration of disadvantages in specific locations. More than ever, cities are demarcated by visible and invisible divides resulting in various forms of social, cultural and economic exclusion.[80] Inequality strongly affects vulnerable groups like women and girls, older persons, indigenous people, persons with disabilities, migrants, refugees and people living in

Figure 1.1: Gini coefficients for selected cities in Europe and North America



Source: UN-Habitat, Global Indicators Database 2020.

poverty, all of whom are excluded from full participation in economic, political and social life. The outbreak of the COVID-19 pandemic together with the accompanying lockdown measures are exacerbating these inequalities as discussed in section 1.4.7 and Chapter 5.

Generally, levels of inequality in developed countries are lower than in developing countries, which indicates greater access to public goods and services and the existence of institutions that implement more egalitarian polices. Nonetheless, income inequality in developed countries has been widespread and significant since the 1980s and has been blamed for the increasingly polarized politics witnessed in several countries.[81] Consequently, social exclusion, marginalization, urban segregation and persistent pockets of destitution and poverty are increasingly rife in developed cities.

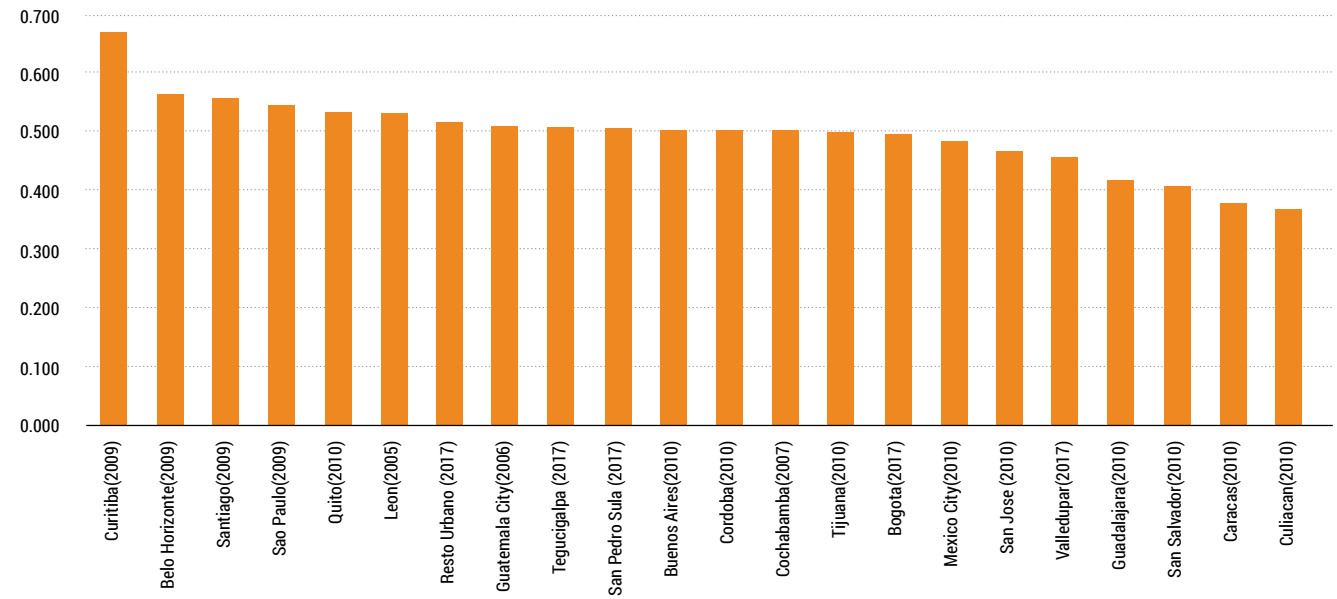
In countries with widening income gaps, urban inequality often outpaces national averages. Many cities in the US have higher Gini coefficients than the national figure of 0.42.[82] For example, New York City, Gainesville, Cleveland, Philadelphia and Chicago have Gini coefficients of 0.51, 0.52, 0.48, 0.50 and 0.48 respectively (Figure 1.1). New York City epitomizes rising economic inequality in the US, where the top one per cent earns over 40 per cent of the city's income, which is double the national share of the top one percent.[83] Cities are often bellwethers of national trends and in this particularly worrisome trend, city authorities working in partnership with national authorities have a key role to play in creating more equal cities and subsequently more equal countries.

The outbreak of the COVID-19 pandemic together with the accompanying lockdown measures are exacerbating these inequalities

Globally, the regions with the highest levels of inequality are Latin America and Sub-Saharan Africa. While Latin American cities have become more egalitarian in the last two decades, income inequality remains high (Figure 1.2). The highest levels of inequality are in Curitiba, Santiago, São Paulo, Guatemala City, Buenos Aires, Córdoba, Cochabamba and Bogotá, where the Gini coefficients vary from 0.50 to 0.67. Between 1990 and 2010, the combined Gini coefficients for urban areas in Latin American dropped from 0.517 in 1990 to 0.494.[84] This improvement can be attributed to redistributive policies in some countries such as *Prospera* in Mexico[85] and *Bolsa Família* in Brazil[86] that were designed to improve the living standards of the urban poor through conditional cash transfers and massive investment in health and education.

Extreme inequalities can lead to social unrest or full-blown conflicts as demonstrated in Santiago, Chile in October 2019. What started off as student-led protests over the

Figure 1.2: Gini coefficients for selected Latin American cities



Source: UN-Habitat, Global Indicators Database 2020.

Health workers wearing protective gear monitor body temperature of people during the health check up camp at a slum in Mumbai, India. © Shutterstock/ Manoej Paateel

Box 1.4: Inequality fuels global discontent in cities

Concern about inequality underlies the pre-pandemic social unrest that sparked on almost every continent in 2019, although tipping points varied from corruption to constitutional breaches to price rises for basic goods and services. Even as global inequality has declined over the past three decades, domestic income inequality has risen in many countries—particularly in advanced economies—and reached historical highs in others. In OECD countries, income inequality is at its highest level of the past half century. Many of the protesters have long been excluded from their country's wealth and share frustration that the elite have captured gains at the expense of others.

In Chile, for example, a three per cent increase in metro fares triggered violent demonstrations, forcing the government to change policy amidst calls for "¡*dignidad!*" (dignity). Chile is one of the fastest growing, wealthiest and most stable Latin American economies. By some measures, it was reducing inequality. While the income share of the richest 10 per cent was 38 per cent in 2015, the poorest 10 per cent earned just 1.7 per cent. Its Gini coefficient—the most widely used measure of income inequality—fell from 0.57 in 1990 to 0.47 in 2017. Nonetheless, it still has the second highest Gini coefficient among OECD members, well above the rich country group's average of 0.32.

In Hong Kong, the recent months-long demonstrations on political issues have also been aggravated by inequality: at 0.54, Hong Kong's Gini coefficient is at its highest level in 45 years, significantly above those of China (0.39) or the United States (0.42). Inequality is a powerful, but oft-ignored, factor underlying the frustrations of Hong Kong's residents over disparities in labour markets, increased levels of poverty especially among ethnic minorities, slow growth in real wages and reduced expenditure on health and social welfare.

In Lebanon, where the Gini coefficient is 0.51, nationwide protests were triggered by the government's decision to impose a tax on the popular communication app WhatsApp. In Iraq, protests began in October—mostly led by people from the disenfranchised working class and middle-income groups—over issues of corruption, unemployment and demands for access to basic public services.

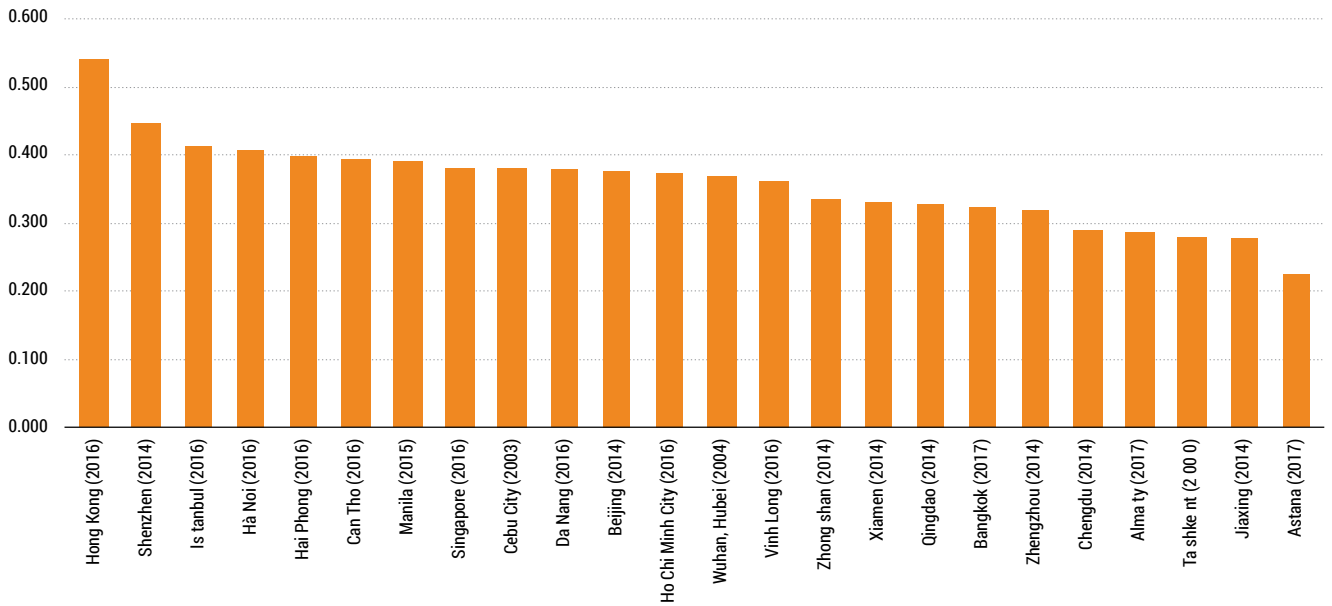
Source: World Economic Forum, 2020a

proposed increase of 30 Chilean pesos (US$0.04) in metro fares escalated into widespread violent demonstrations and vandalism involving over 1 million people; thus revealing deep-seated resentment among ordinary Chileans who feel excluded from the country's economic rise.[87] Similar demonstrations of widespread discontent in response to rising inequality have taken place in different parts of the world (Box 1.4).

Asian cities have the lowest levels of inequality among developing regions. The levels of inequality in Chinese cities vary remarkably (Figure 1.3). Over the last two decades, China experienced rapid economic growth and urbanization, which led to a massive reduction in the number of people living in extreme poverty.[88] However, economic growth and urbanization in China have been accompanied by growing inequality.[89] Empirical analysis shows that the increase in China's urban population from 23 per cent in 1985 to 51 per cent in 2010 resulted in an increase of 20.5 Gini coefficient points.[90] This jump reflects widening inequality in urban areas, brought about by internal migration and the lack of an adequate safety nets for migrants.

Sub-Saharan Africa has the world's second highest level of income inequality after Latin America. Close to three quarters of the cities in Figure 1.4 have high levels of inequality as indicated by Gini coefficients exceeding 0.4, with South African cities being the most unequal in the region; thus, confirming South Africa as the most unequal country in the world on account of its high Gini coefficient

Figure 1.3: Gini coefficients for selected Asian cities



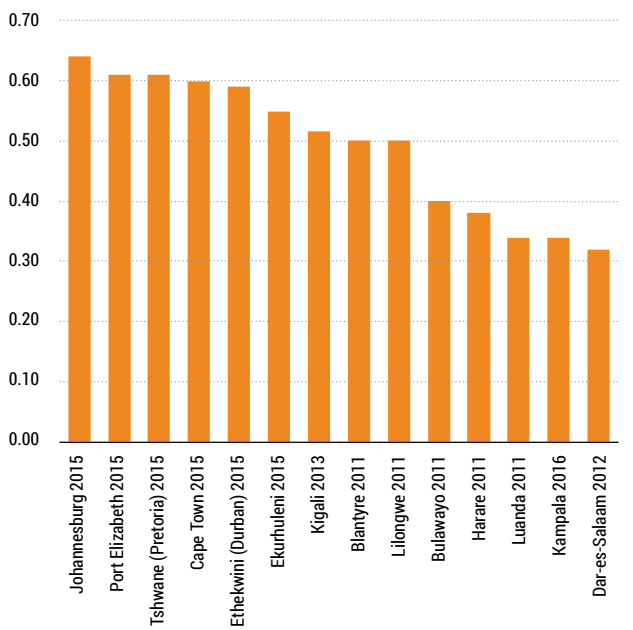
Source: UN-Habitat, Global Indicators Database 2020.

(0.63).[91] The key drivers of inequality in South Africa are inequality of opportunity; high levels of unemployment, which stand at 29.1 per cent nationwide and 58.2 per cent among youth[92]; low economic growth; financial constraints; and a highly polarized labour market characterized by a large wage gap and low intergenerational mobility.[93] The creation of productive employment and improved service delivery as enshrined in the National Development Plan 2030 will go a long way in reducing inequality in South African cities, but this will be severally challenged by the deleterious effects of COVID-19, which led to a 51 per cent contraction of the country's economy in the second quarter of 2020.[94]

1.4.5. Affordable and adequate housing: Still an illusion for many

Housing affordability is a global challenge that affects virtually all households. Globally, prospective homeowners are compelled to save more than five times their annual income to afford the price of a standard house.[95] Renter households often spend more than 25 per cent of their monthly income on rent. High levels of unaffordability mean that inadequate housing and slums remain the only

Figure 1.4: Gini coefficients for selected African cities



Source: UN-Habitat, Global Indicators Database 2020.

People experiencing homelessness are one of the most vulnerable groups to the COVID-19 pandemic

housing option for low-income households. Currently, 1.6 billion people or 20 per cent of the world's population live in inadequate, crowded and unsafe housing.[96]

The private construction industry dominates the housing market in most countries. It has systematically enabled middle-class formal homeownership, but the free market has simultaneously disabled ever-growing numbers of poor citizens from access to adequate and affordable housing. Such residents instead remain confined to single-room or informal housing, if not sheer homelessness, which now accounts for no less than 150 million people, or about two per cent of global population.[97] People experiencing homelessness are one of the most vulnerable groups to the COVID-19 pandemic. They often have underlying health conditions that make them more susceptible to dying from coronavirus and their living conditions make them unable to observe physical distancing and handwashing protocols, although some cities have adopted emergency measures like renting hotel rooms or installing handwashing stations near tent encampments.[98]

While many of the world's richest countries have an oversupply of housing, in Eastern and Central Europe[99] and in developing countries, shortfalls of formal housing tend to be quite large.[100] In South Asia, housing shortfalls amount to a deficit of 38 million dwellings.[101] There is a general acknowledgement that enabling the market has failed to provide affordable, adequate housing for the predominantly low-income households that live in the rapidly urbanizing regions of the world. Neither the public nor the private sector have been able to provide affordable housing for the poor at the scale dictated by the pace of urbanization and household formation.

In much of the developing world, the informal sector accounts for 60–70 per cent of urban housing in Zambia,[102] 70 per cent in Lima, 80 per cent of new housing in Caracas,[103] and up to 90 per cent in Ghana.[104] Without access to housing finance, adherence to building codes or the use of professional labour, such informal housing is often "inadequate," meaning it is in poor physical condition, overcrowded, poorly ventilated, has poor access to municipal services and is located far from employment nodes and basic facilities. Moreover, decades of neglect in public or social housing and inadequate state intervention to regulate the private market and produce adequate and affordable housing for all segments of the population has resulted in urban political polarization, weakening of social cohesion and exacerbation of inequalities.[105]

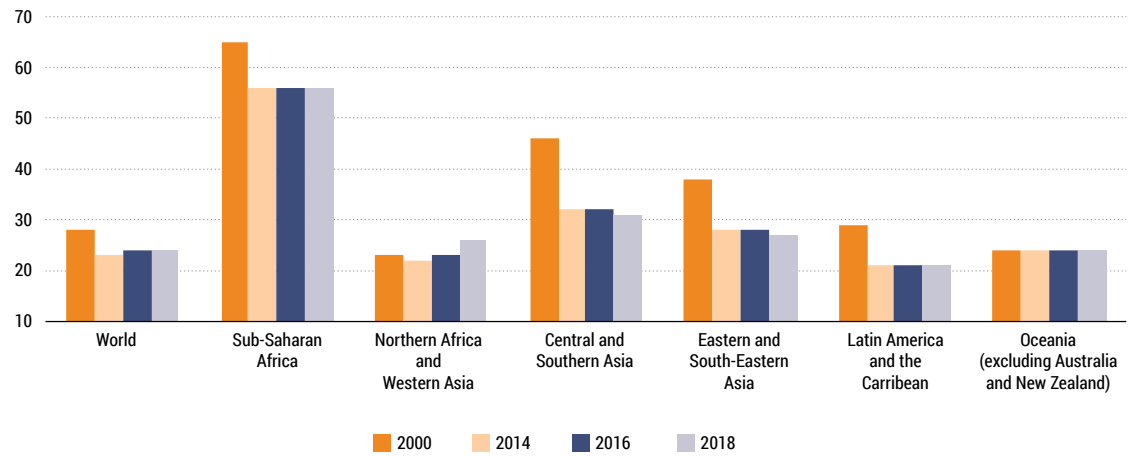
Closely related to housing affordability is the growth of slums and informal urban settlements in developing regions, which forms part of the unfinished business of the urban agenda. Slums represent one of the most enduring faces of poverty, inequality, exclusion and deprivation. Slum dwellers must contend with inadequate access to potable water, poor sanitation, overcrowding, poor-quality housing in hazardous locations, insecure tenure and risk of eviction, food insecurity, malnutrition, poor health, unemployment and stigmatization, all of which make them highly vulnerable to COVID-19 and other pandemics. Under such conditions, physical distancing, self-isolation, handwashing and acceptable levels of hygiene, which are important measures against the disease, are virtually impossible.

While remarkable progress has been made in reducing the proportion of the global urban population living in slums from 28 per cent in 2000 to 24 per cent in 2018 (Figure 1.5), more than 1 billion people still live in such settlements with over half of these in East, South-East, Central and South Asia, and 23 per cent in Sub-Saharan Africa (Table 1.4).

The forces driving the prevalence of slums in developing regions are rapid urbanization; ineffective planning; lack of affordable housing options for low-income households; dysfunctional urban, land and housing policies; a dearth of housing finance; and poverty and low incomes. Empirical analysis shows that a one per cent increase in urban population growth will increase the incidence of slums in Africa and Asia by 2.3 per cent and 5.3 per cent respectively.[106] This correlation indicates that in some parts of these regions,

Slums represent one of the most enduring faces of poverty, inequality, exclusion and deprivation

Figure 1.5: Percentage of urban populating living in slums



Source: UN-Habitat, Global Indicators Database 2020.

Table 1.4: Urban population living in slums

	Urban population living in slums (millions)			
Region	2000	2014	2016	2018
World	803.126	897.651	1003.083	1033.546
Sub-Saharan Africa	131.716	202.042	228.936	237.840
Northern Africa & Western Asia	46.335	63.814	71.720	82.123
Central and Southern Asia	205.661	206.704	223.643	221.092
Eastern and South-Eastern Asia	317.123	349.409	364.684	368.898
Latin America and the Caribbean	115.148	104.652	112.602	109.946
Oceania (excluding Australia and New Zealand)	0.234	0.602	0.648	0.643
Australia and New Zealand	0.03	0.03	0.01	0.01
Europe and Northern America	0.764	0.833	0.842	1.022

Source: UN-Habitat, Global Indicators Database 2020.

urbanization continues to occur unplanned, and within the context of much lower levels of income, rising poverty, worsening unemployment, weak and under-resourced municipalities, poor governance structures and the absence of coherent urban planning and housing policies. Under such conditions, rapid urban growth would serve as a recipe for the proliferation of slums.

When well-planned and manged, urbanization can be a catalyst for socioeconomic transformation and improved quality of life for all. However, slum dwellers will be left behind in this process if their concerns are not integrated into urban planning, urban policy, housing, legislation and financing frameworks. If the concerns of the urban poor and marginalized remain ignored, then the goal to "make cities and human settlements inclusive, safe, resilient and sustainable" will only be achieved partially, and in the process, deny millions the benefits of urbanization. The challenge is posed by the continuous increase in slums, especially in Sub-Sharan Africa and in East, South-East, Central and South Asia. Without concerted action on the part of governments at all levels including civil society and development partners, the numbers of slum dwellers will continue to increase in most developing countries.

1.4.6. Climate change: An enduring threat to cities

With its wide range of consequences, climate change is one of the most pervasive challenges facing cities. Urban areas are both the source of the majority of the world's carbon emissions and home to the majority of the world's population that will be the victims of climate change. Urbanization has been identified as one of the mega-trends that needs to be addressed to achieve the target of limiting mean global temperature increase to 1.5ºC.[107] Cities, especially those in warm climates or low-lying coastal areas, face existential threats due to the risks and impacts of climate change and natural hazards, such as increased extreme heat events in New Delhi and pervasive flooding in Jakarta.

If the current rate of global warming continues, the world could be 1.5ºC warmer by 2030.[108] Regional warming could be twice the global average in certain places, which means that at least 136 coastal cities will be at risk from flooding, and in the process, affect 280 million people including many informal settlements.[109] Given that half of the world's population lives within three kilometres of a surface freshwater body, and over 40 per cent reside in coastal areas, these populations would be at risk from sea-level rise and extreme weather events associated with climate change.[110] Urbanization, especially in low-lying coastal areas, seems to ignore climate change and its potential impacts, rapidly increasing vulnerabilities and exposure to hazards (Chapter 4).

With its wide range of consequences, climate change is one of the most pervasive challenges facing cities

The combined threat of rising sea levels and storm surge in coastal cities could result in the loss of more than one trillion dollars each year by 2050.[111] Destruction of existing infrastructure, property and assets caused by tropical cyclones or flooding are among the most visible impacts of such losses, but the damage caused by the secondary threats of disease, displacement, increased crime and civil unrest should not be discounted.

The effects of climate change can exacerbate urban challenges and make it more difficult to tackle the persistent issues that cities already face, such as poverty, inequality, infrastructure deficits and housing, among others.[112] These challenges could make it difficult to achieve

Traffic on flooded roads of the city, Houston, USA. © IrinaK/Shutterstock

The combined threat of rising sea levels and storm surge in coastal cities could result in the loss of more than one trillion dollars each year by 2050

certain SDGs, especially those relating to poverty, hunger, health, water and sanitation, and ecosystems, as noted in Chapter 4. In developing countries, the long-term effects of climate change could combine with the short-term impact of the COVID-19 pandemic to further reverse global gains by pushing 100 million people into poverty.[113] Rapidly urbanizing cities in Africa and Asia are more vulnerable to climate change and least able to respond to its effects. They are hampered by limited financial, human and technical resources as well as weak institutions and governance structures relating to disaster mitigation and preparedness. At the same time, these cities contribute very little to global warming, making their suffering disproportionate.

Urbanization offers many opportunities to develop mitigation and adaptation strategies that limit the average global temperature increase to 1.5°C, especially through urban planning and design. In this regard, 105 cities, mostly in North America and Europe, have undertaken emissions inventories and adopted emissions reduction targets using various policy levers.[114] Urban innovation, economies of scale and concentration of enterprises make it possible for cities to take actions to minimize both emissions and climate hazards.[115] Cities that have adopted compact and mixed land uses are able to reduce per capita rates of resource use and greenhouse gas emissions. Cities have significant opportunities for disaster risk reduction, accelerated response and recovery through land use planning, building codes and regulations, risk assessments, monitoring and early warning, and building-back-better response and reconstruction approaches (Chapter 4). More importantly, when they incorporate nature-based solutions into their design and management, urban systems can benefit from multiple ecosystem services including carbon sequestration, local climate regulation, storm-water capture and water and air purification.[116]

The most recent IPCC report states that to stay under 1.5°C and address the effects of global warming, drastic measures are required to transform the way cities and human settlements are built and managed. Building more resilient and equitable cities should entail mainstreaming information on climate risks in the planning and delivery of urban services while strengthening local capacity; harnessing the power of nature to respond to both water and heat risks; building climate resilience by upgrading living conditions in vulnerable communities and informal settlements while drawing on community knowledge; increasing climate-resilient investments; and capturing value from adaptation benefits.[117]

In order to drastically reduce greenhouse emissions and adapt to global warming, a cost-benefit analysis by the Global Commission on Adaptation shows that the world will need to invest US$1.8 trillion over the next decade in climate resilience strategies in five areas: strengthening early warning systems; making new infrastructure resilient; improving dryland agriculture; restoring and protecting mangroves; and water resources management.[118] Investments in these areas could generate US$7.1 trillion in total net benefits and will contribute to a "triple dividend" of preventing future losses; generating economic benefits through reducing risk, increasing productivity and driving innovation; and delivering social and environmental benefits.

Urbanization offers many opportunities to develop mitigation and adaptation strategies that limit the average global temperature increase to 1.5°C, especially through urban planning and design

In recent times, young people have been at the forefront of galvanizing global action against climate change. This energy can be seen in the growing number of individuals and youth organizations engaged in intergovernmental climate change processes and conferences. In addition, young people have mobilized a new social movement around climate change organized online but enacted in public. In August 2018, teenage Swedish activist Greta Thunberg held up a sign outside the Swedish parliament in Stockholm reading "*Skolstrejk för klimatet*" ("School strike for climate"). Her gesture sparked the Fridays for Future movement of weekly school strikes around the world. That movement grew to encompass a global climate strike to coincide with

In recent times, young people have been at the forefront of galvanizing global action against climate change

the United Nations Climate Action Summit in September 2019, marking the largest demonstration yet against climate change. Youths organized and led climate change demonstrations spanning 185 countries and involving 7.3 million people, 73 trade unions, 3,024 businesses and 820 NGOs.[119] Youth demonstrations echo one message: to bring about a renewed sense of urgency and protest governmental and business inaction on climate change by the generation that must live with the consequences.

The formal withdrawal of the US from the Paris Agreement, which commenced on November 4, 2019, poses a major blow to addressing the challenges of climate change. As the world's largest economy, the US is not only a leader in global environmental governance, but also accounts for about 15 per cent of global carbon emissions and is a significant source of finance and technology for developing countries in their efforts to address global warming.[120] The US withdrawal provides an opportunity for other countries like Canada, China, the EU and India to take enhanced leadership roles.[121] In turn, US mayors and state governors reaffirmed their commitment to the Paris Agreement and have pledged to stay on track, highlighting the importance of subnational levels of governments in tackling climate change.[122] Nevertheless, the US withdrawal will not only weaken enforcement of strategies and policies, it has emboldened the anti-climate change movement in some countries dependent on fossil fuels and eager to expand their natural resource extractive industries.[123] The US, Russia and Saudi Arabia watered down language on climate science at the United Nations Climate Change Conference in 2018 (COP 24).[124]

These decisions run counter to the spirit of cooperation and consensus that produced the Paris Agreement in 2015. They are a stark reminder of the limits of local action in the context of multilateral agreements forged by national governments. Even as youth march in the streets and local authorities try to rein in carbon emissions, some national governments continue to set energy policies reliant on fossil fuels.

1.4.7. Cities as crucibles of crises: The coronavirus pandemic

Cities all over the world are increasingly exposed to new and pervasive risks such as terrorism, violence, crime, different forms of conflict, urban warfare, heightened securitization and the spread of diseases. The globalized nature of cities has added new levels of urban health risks, the most recent being SARS-CoV-2, the novel coronavirus responsible for COVID-19, which first emerged in Wuhan, China in December 2019 and spread rapidly to virtually every country in the world. It has since severely overwhelmed healthcare services and paralyzed economies. Seven months after the World Health Organization declared COVID-19 a pandemic on March 11, 2020[125], the world recorded over 40 million confirmed cases and over one million fatalities.[126] Virtually all countries of the world have been affected; the hardest hit countries in terms of the number of confirmed cases have been the US, India, Brazil and Russia.

Cities all over the world are increasingly exposed to new and pervasive risks such as terrorism, violence, crime, different forms of conflict, urban warfare, heightened securitization and the spread of diseases

Since the outbreak in Wuhan, the epicentre of the virus has consistently shifted from Europe to the US to Latin America, with India emerging as the newest epicentre. Given the speed, scale of the spread and severity of its societal and economic disruption, COVID-19 is one of the most unprecedented challenges facing humanity in modern history.[127]

Urban areas bear the brunt of COVID-19

While COVID-19 is a global health crisis, it has far-reaching implications for urban areas. With over 90 per cent of confirmed cases coming from urban areas, cities have been the epicentres of COVID-19.[128] The concentration of COVID-19 cases in urban areas is confirmed by a sample of countries in Table 1.5. Among African countries, between 77 and 89 per cent of confirmed cases are concentrated in the capital city and four major cities, with the highest being in South Africa, which has been the epicentre of COVID-19 in Africa. In Latin America, the coronavirus

Table 1.5: Incidence of COVID-19 in urban areas (July 2020)

Country	Number of confirmed cases	Number of cases recorded in capital city and four major cities	Percentage of cases recorded in capital city and four major cities (%)	Number of cities with over 100k population	Number of cities with over 100k population with recorded cases
Algeria	26,764	23,174	87	40	39
Argentina	173,355	163,217	94	30	27
Bangladesh	223,453	174,733	78	30	29
Brazil	2,554,042	1,460,545	57	324	308
Chile	351,575	299,844	85	49	49
China	82,880	76,441	92	401	322
Colombia	257,101	216,196	84	65	65
Egypt	91,583	74,119	81	41	39
Germany	212,331	184,691	87	79	79
Ghana	31,851	24,532	77	13	13
Iraq	110,032	84,662	77	29	29
Italy	248,229	224,381	90	48	48
Mexico	450,570	367,561	82	188	164
Nigeria	39,977	23,661	59	82	82
Peru	389,717	292,833	75	26	24
Qatar	109,305	104,123	95	2	2
Russia	864,948	651,147	75	168	157
Saudi Arabia	266,941	225,971	85	24	24
South Africa	434,200	388,154	89	57	56
Spain	302,814	181,433	60	56	49
United Kingdom	307,256	267,884	87	84	84
United States	4,748,806	3,874,766	82	317	317

Source: UN-Habitat, Global Indicators Database 2020.

cases are mostly concentrated in the major cities of Argentina, Chile, Colombia, and Mexico, and less so in Brazil where 57 per cent of the confirmed cases are in the major cities, possibly signifying a spread to smaller cities and rural areas. A similar pattern of the concentration of COVID-19 cases in major cities is replicated in Europe and the US.

In many developing countries, especially in Africa, the spread of the virus has been from airports to the major cities and then to secondary and third-tier cities.[129] The spread of COVID-19 in urban areas across the world has been amplified by globalization and the interconnectivity of cities, largely facilitated by the ease of air travel. Movement among cities around the world has significantly enabled the spread of COVID-19. This form of spread in part explains why most countries imposed partial or complete border closures to foreign travels. Currently, COVID-19 is spreading largely through community transmission and is moving from major cities to the countryside.

By their nature, cities are built-up agglomerations with concentration of people and high densities, and as such, the impact of pandemics such as COVID-19 increases

Currently, COVID-19 is spreading largely through community transmission and is moving from major cities to the countryside

with crowding of people. If potential crowding is not carefully managed, the dense concentration and large size of cities makes them highly susceptible to disease spread in a pandemic. This risk is evident in the manner that COVID-19 has spread within many major cities around the world, including Milan, New York City, Madrid, São Paulo, London, Lima, Lagos, Paris and Tokyo. In general, more urbanized countries are most likely to experience a rapid spread of COVID-19, which suggests that the way urbanization is managed can play a key role in addressing current and future pandemics.

COVID-19 and the urban economy

The International Monetary Fund predicts that the global economy will contract by three per cent in 2020 on account of the coronavirus pandemic.[130] If that prediction holds true, the virus will have effectively erased US$2.6 trillion from the value of the world economy. This downturn is much deeper than the than the global financial crisis of 2008–2009 and represents the worst recession since the Great Depression. The cumulative loss of global GDP over 2020 and 2021 is estimated at US$9 trillion, which is greater than the economies of Japan and Germany combined.[131] COVID-19 will adversely affect growth in all regions of the world. Both containment measures to combat the illness and negative consumer and business sentiment will stifle demand, leading to a widespread reduction in spending. The decline in economic activities, closure of factories and disruption to supply chains will create supply bottlenecks.[132]

As the world continues to slip into a severe recession, urban areas, which account for more than 80 per cent of global GDP, will be affected in several ways. First, the shrinking of the global economy implies that less funds will be available for urban development projects like water, sanitation, public transport systems, adequate and affordable housing, slum upgrading, poverty eradication and healthcare improvements to respond to both this and future pandemics. The World Bank expects that revenue to local authorities will decline by 15–25 per cent in 2021 and will likely lead to reduced municipal service delivery.[133]

The envisaged decline in revenue is likely to hit developing world cities the hardest even as these are the places where critical infrastructure and health systems are already grossly inadequate. Such revenue shortfalls are likely to hinder progress toward SDG 11 and other global agreements relevant to sustainable urbanization and make it even harder to deliver the annual investment of at least US$2.5 trillion required to achieve the SDGs (Chapter 8).[134]

The coronavirus pandemic has led to widespread job loss, especially in urban areas, with women and young people disproportionately affected. In the early weeks of lockdown measures, 2.7 billion workers, representing 81 per cent of the world's workforce, were affected by recommended or required workplace closures.[135] This figure decreased to 68 per cent in mid-April following the initial lifting of such closures, mainly in China.[136] In the US, in just over a seven-week period ending on May 2, 2020, 33.3 million people representing 20 per cent of the workforce filed for unemployment claims.[137] The US unemployment rate remains high at 8.4 percent as of August 2020, by which point the number of unemployed persons had fallen to 13.6 million.[138] The loss of jobs in the US resulted in loss of health insurance coverage for 5.4 million people between February and March 2020, thereby rendering them more vulnerable and unable to seek medical care without incurring substantial expenses.[139] In the UK, 9.6 million jobs have been furloughed since the government launched a wage subsidy scheme in March,[140] with 2.7 million people claiming unemployment benefits between March and July.[141] The worst affected areas following the COVID-19 induced lockdowns are hospitality, leisure and food and beverage, which was the worst affected sector with 75 per cent job cuts.[142] With urban dwellers fearful of gathering in enclosed spaces, the coronavirus pandemic has been described as an "apocalypse" for restaurants across the world in an industry with notoriously thin margins.[143]

The coronavirus pandemic has led to widespread job loss, especially in urban areas, with women and young people disproportionately affected

The story is even more dire in developing economies. In Bangladesh, 2.3 million workers in the garment industry have either been furloughed or lost their jobs due to the suspension or cancellation of exports worth US$3.2 billion to developed countries.[144] In Latin America and the Caribbean, COVID-19 has led to the loss of 14 million jobs with more than 50 per cent of all workers employed in the commerce and service sectors heavily impacted by the crisis.[145] In Africa, it is predicted that the lockdown, disruption of value chains and fall in commodity prices will result in the loss of nearly 20 million jobs, with the informal sector being most affected as it accounts for up 90 per cent of the labour force in some countries[146], with workers having limited or no access to healthcare services, savings and social protection. In the Gulf countries, tens of thousands of migrant workers in the construction, hospitality, retail and transport sectors have lost their jobs and have been forced to return home. In some developing countries, the economic downturn has sparked an exodus of migrant workers who have lost their jobs and are going back to their rural homes; in the absence of public transport due the lockdown, many embarked on this journey by foot.

While the impact of COVID-19 will be felt across the entire global economy, the hardest hit sectors are wholesale and retailing; vehicle repairs; real estate; business and administrative activities; manufacturing; accommodation and food services; transportation, storage and communication; and arts, entertainment and recreation—all of which account for 49 per cent of global employment or 1.62 billion people.[147] These sectors are closely associated with the economic wellbeing of cities and towns. All over the world, what were once bustling cities remained desolate for much of the months of March to July as hotels, restaurants, bars, entertainment centres, street food stalls, sports stadiums, factories, business hubs, malls and other public spaces were closed due to COVID-19-induced lockdowns. At the peak of the lockdown, the number of people using the New York subway was down by 90 per cent and yellow cabs virtually disappeared from the streets of Manhattan[148]; in Seattle, the demand for Uber services dropped by between 60 and 70 per cent in

Dharavi slum during the government-imposed nationwide lockdown as a preventive measure against the COVID-19, Mumbai/India. © Manoej Paateel/Patel

March 2020.[149] Economic activities are yet to fully pick up in many cities across the world as there have been second waves of the outbreak of the virus, some more serious than the first.[150] The ongoing repercussions of the COVID-19 pandemic have effectively paralyzed economic activities and disrupted livelihoods in cities around the world.

COVID-19 is reinforcing urban inequalities and disproportionately affecting vulnerable groups

Coronavirus-induced lockdowns and physical distancing measures are reinforcing inequalities and laying bare the fault lines that characterize many urban areas. These measures have disproportionately affected low-income households, the poor and vulnerable, the informal sector, and daily wage workers who must leave their homes for subsistence wages. Teleworking or telecommuting increased remarkably due to the coronavirus pandemic; so did online schooling. However, the notion of working from home or remotely is strongly skewed in favour of white-collar, high-income workers who have the necessary amenities, but is impossible for informal sector workers who are in the majority in developing world cities and depend on daily earnings for which a few days of lockdown can make the difference between poverty and starvation.[151] A large informal labour force is a key factor in Peru's high infection rate despite an early and aggressive lockdown.[152] Online schooling applies only to the well off and not low-income families who attend schools in informal settlements or where technologically enabled learning facilities are unlikely to be available. In addition, the housing situation of poor families is often not conducive for effective learning. All of these issues exacerbate the existing inequalities in education among different income groups, which in turn manifests in inequalities of opportunities that are rife in urban areas.

The overcrowded nature of slums and informal settlements, which is the only housing option for up to 60 per cent of the population of some cities[153], together with their shared multi-family living areas, inadequate infrastructure, poor public services and precarious locations, means that self-isolation and physical distancing is an illusion. For instance, how can physical distancing be maintained in the Dharavi slum in Mumbai that has a population density of 270,000 people per square kilometre[154] or in the world's largest refugee camp in Cox's Bazar?[155] It is not surprising that Dharavi, which is home to about one million people and one of the most densely populated areas in the world, has become a major epicentre of COVID-19 in India.[156]

Coronavirus-induced lockdowns and physical distancing measures are reinforcing inequalities and laying bare the fault lines that characterize many urban areas

The notion of working from home or remotely is strongly skewed in favour of white-collar, high-income workers who have the necessary amenities, but is impossible for informal sector workers

Online schooling applies only to the well off and not low-income families who attend schools in informal settlements or where technologically enabled learning facilities are unlikely to be available

Inadequate water, poor sanitation and hygiene in slums and informal settlements, crowded refugee camps and migrant workers hostels[157] means that handwashing as a preventive measure against the transmission of coronavirus is a major challenge. In 2017, three billion people globally had no handwashing facility at home, 1.6 billion had limited facilities lacking soap or water and 1.4 billion had no facility at all.[158] In the least developed countries, close to three-quarters of the population lacked handwashing facilities with soap and water. These inadequacies provide ideal conditions for the rapid transmission of COVID-19 and other diseases.

Older persons and minority groups in urban areas have a higher risk of contracting and dying from COVID-19. Data from the Chinese Centre for Disease Control and Prevention shows that while those aged 60 years and over accounted for 31.2 per cent of all confirmed cases, they accounted for 81 per cent of all COVID-19 deaths.[159] A similar pattern appears in the US, as the Centers for Disease Control and Prevention reported that 80 per cent of COVID-19 deaths

occurred among adults aged over 65 years.[160] In Italy, 83.4 per cent of deaths were among those over 70 years old.[161] This can be attributed to Italy having the second oldest population in the world after Japan, with about 23 per cent of its population aged over 65.[162] The fact that older persons are more likely to die from coronavirus once infected has led to healthcare workers giving preferential medical treatment to younger people who are more likely to survive. This exacerbates negative stereotypes about older persons, who may be perceived as weak, unimportant and a burden to society.[163] In several countries, severe physical distancing measures forced older people to remain indoors or risk being fined. While well-intentioned, if not properly managed, these measures can have the unintended effects of stigmatizing and discriminating against older persons.

Recent data show that ethnic minorities in the US are disproportionately affected by COVID-19; specifically, African Americans account for up to one third of coronavirus deaths but constitute 14 per cent the population.[164] In virtually every city for which data on ethnicity are available, black people account for a greater proportion of COVID-19 deaths in relation to their share of the population. In Chicago, African Americans account for 72 per cent of COVID-19 deaths but make up 30 per cent of the population.[165] In New York City, which was once the US epicentre of the pandemic, African Americans account for one third of the city's deaths, but 22 per cent of the population.[166] Black residents in New York City are twice as likely to die compared to white residents if they contract COVID-19.[167] These differences in part reflect inequality in economic opportunities, access to healthcare, poverty and structural factors, among others. African Americans often earn lower wages, are less likely to have health insurance and are more likely to have pre-existing conditions and/or be employed in service jobs deemed essential during lockdown and thus unable to stay home.[168] African Americans also frequently reside in substandard, overcrowded housing in segregated neighbourhoods and rely on public transport, which makes physical distancing difficult; hence, they are more vulnerable to COVID-19.

COVID-19 exacerbates poverty levels

The contraction of the global economy together with rising unemployment resulting from the various lockdowns, especially in the absence of effective social protection programmes, will lead to an increase in poverty. Recent analysis of the potential increase in poverty due to the pernicious effects of COVID-19 shows that as much as half a billion people or 8 per cent of the world's population could fall into poverty.[169] The most affected regions on the basis of poverty lines of US$1.90 and US$3.2 per day are Sub-Saharan Africa and South Asia, which account for between two-thirds and 85 per cent of the world's total poor.[170] In these regions, the number of people falling into poverty could increase by between 80 and 420 million depending on the contraction of household income or consumption. This scenario will further exacerbate the poverty situation in urban areas in Bangladesh, India, Democratic Republic of Congo, Ethiopia and Nigeria, which already have large numbers of people living in extreme poverty. Regions to be affected at a higher poverty line of US$5.50 per day are East Asia and the Pacific, the Middle East and North Africa, and Latin America and the Caribbean, where the number of those newly living in poverty could rise by between 124 and 580 million.[171] The increase in poverty levels will not be restricted to developing regions as the pandemic has devastated the economy of developed countries, many of which have fallen into recession. However, developed countries have institutionalized social protection programmes that are being deployed to mitigate the adverse effects of COVID-19.

The contraction of the global economy together with rising unemployment resulting from the various lockdowns, especially in the absence of effective social protection programmes, will lead to an increase in poverty

The portended increase marks the first time that global poverty will increase in the last three decades, reversing years of remarkable sustained progress. In 1990, 1.9 billion people or 36 per cent of the world's population lived in extreme poverty.[172] By 2015, this figure had dropped to 736 million people or 10 per cent of the world's population; thereby, implying that close to 1.2 billion people were pulled out of poverty between 1990 and 2015. The reduction in poverty has been driven by strong global growth and increases in prosperity in many developing countries, especially in East Asia, the Pacific and South Asia.[173] China

has been at the forefront in the eradication of poverty; urbanization driven by massive economic growth helped pull 850 million people out of extreme poverty between 1981 and 2015 and reduce the rate of poverty to 7 per cent.[174] COVID-19 could therefore erase the gains made in eradicating global poverty and jeopardize SDG 1 of ending poverty in all its forms everywhere by 2030. This backsliding in turn will adversely affect the attainment of other goals: hunger and improved nutrition; healthy living; and inclusive and equitable education, which to a large extent depend on the eradication of poverty.

COVID-19 could therefore erase the gains made in eradicating global poverty and jeopardize SDG 1 of ending poverty in all its forms everywhere by 2030

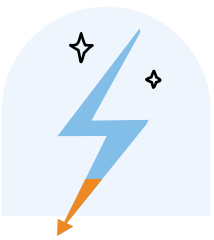
COVID-19: Engendering short-term environmental improvement

The COVID-19-induced lockdown has affected the urban environment in various ways. Global CO_2 emissions are expected to fall by eight per cent or almost 2.6 billion tonnes in 2020.[175] This reduction marks the biggest ever drop in carbon emissions at six times greater than the 400 million tonne reduction in 2009 owing to the global financial crisis. Much of the decline in CO_2 emissions will be experienced in cities, which generate as much as 70 per cent of the human-induced greenhouse gas emissions primarily through the consumption of fossil fuels for energy and transportation.[176] In India, CO_2 emissions fell for the first time in 40 years (15 per cent in March and 30 per cent in April 2020), not only as a consequence of the COVID-19 lockdown, but due to the weakened demand for coal that was declining before the coronavirus outbreak.[177] The reduction in emissions is seen as a silver lining of the pandemic,[178] but is likely to be short-lived and will rebound once the global economy restarts, unless countries deliver on their commitment to sustainable development by investing in cleaner and more resilient forms of energy.[179]

The reduction in CO_2 emissions can be attributed to the various forms of lockdown, which affected economic activities and led to a reduction of energy consumption. Countries in full lockdown experienced an average 25 per cent decline in energy demand per week, while those in partial lockdown experienced an average 18 per cent decline.[180] COVID-19 literally brought the world to a halt; in a matter of weeks, planes disappeared from the skies, local and national borders were closed, factories ceased production, businesses stopped functioning, global supply chains ground to a halt and tens of millions of jobs were lost. The oil industry, a key driver of CO_2 emissions, was hard hit by mobility restrictions and the drop in aviation demand, which account for about 60 per cent global oil consumption.[181] By the end of March 2020, global road transport activity was almost 50 per cent below the 2019 average and aviation 60 per cent below.[182]

In China, CO_2 emissions fell by 25 per cent or more in January 2020 when compared to the same period in 2019; this was driven mainly by a 37 per cent decline in coal consumption and crude oil use.[183] In March 2020, New York City experienced a 5–10 per cent drop in CO_2 emissions and a 50 per cent fall in carbon monoxide emissions attributed mainly to a 35 per cent decline in traffic levels.[184] Similar downward trends for carbon monoxide emissions were observed in Wuhan and Beijing (Chapter 4). In Latin American and Caribbean cities, traffic congestion declined by between 47 and 97 per cent in March 2020, while the use of public transport fell by at least 60 per cent in Guadalajara, São Paulo, Curitiba, Belo Horizonte and Brasília and by over 80 per cent in Lima, Bogotá, Mexico City, Buenos Aires and Santiago[185], both of which must have contributed to lower levels of CO_2 emissions and improved air quality.

In just two months following COVID-19-related lockdowns, remarkable improvements in air pollution were observed in different parts of the world. Satellite imagery for Hubei province in China shows significant decline in the levels of PM2.5 nitrate following the imposition of

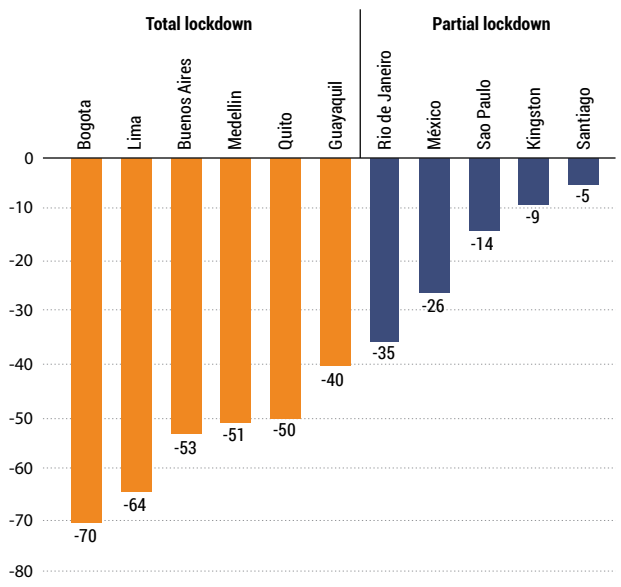


Countries in full lockdown experienced an average 25 per cent decline in energy demand per week, while those in partial lockdown experienced an average 18 per cent decline

travel restrictions.[186] While wind speed and temperature affect the concentration of nitrogen oxide, the spectacular improvements in air quality in China have been attributed largely to the interventions to contain the COVID-19 outbreak—stringent traffic restrictions and self-quarantine, first in Wuhan and neighbouring cities and later in all provinces in China.[187] Similar trends were observed in Republic of Korea, Italy, Spain, the UK, India, Saudi Arabia and the UAE leading to improved air quality.[188]

Cities in Latin America and the Caribbean also witnessed reduction in the levels of nitrogen oxide in the wake of the lockdowns. As shown in Figure 1.6, between the last ten days and first ten days in March 2020, the percentage change in nitrogen dioxide in the atmosphere declined by between 40–70 per cent in Bogotá, Lima, Buenos Aires, Medellín, Quito and Guayaquil, all of which were under total lockdown; and by between 5 and 35 per cent in Rio de Janeiro, Mexico City, São Paulo, Kingston and Santiago, which were all under partial lockdown. These contrasts suggest that the imposition of more stringent lockdowns can lead to greater improvements in air quality.

Figure 1.6: Change in Nitrogen Dioxide (NO_2) concentration in the atmosphere for selected metropolitan in Latin America and the Caribbean (percentage change)



Source IADB, 2020.

Sweeping investment in clean technologies such as renewable energy are the most cost-effective way to boost economies hit by COVID-19 while reducing emissions

Echoing the view of eminent economists, short-term reductions in emissions and pollutants resulting from lockdowns will themselves have very little long-term effects and will not change the trajectory of global greenhouse emissions unless they facilitate deeper and longer-term human, business and institutional changes.[189] Sweeping investment in clean technologies such as renewable energy are the most cost-effective way to boost economies hit by COVID-19 while reducing emissions. As in the case of previous crises, unless the wave of investment to restart the economy is dedicated to cleaner and more resilient energy infrastructure, the rebound in emissions may be larger than the decline. China is already experiencing a rebound in emissions where mobility restrictions have been relaxed and factories are reopening.[190] Following the easing of lockdowns and reopening the economy, similar trajectories are being played out in cities across the world, as more people in a bid to avoid contracting COVID-19 are opting to drive rather than take public transit—a decision contributing to greater emissions and congestion.[191]

The critical question is whether the seeming environmental gains accompanying the lockdown can be sustained. The success of lockdowns across cities in flattening the curve of coronavirus infections also provides urban dwellers with a vision of behavioural change where they travel more by non-motorized modes and consume less carbon. Whether the environmental gains induced by COVID-19 can be sustained when the global economy returns to normalcy will depend on how human behaviour is effectively managed, whether there is a desire for a return to business as usual or to resume pre-pandemic lifestyle choices like inexpensive short-haul air travel. Ultimately what the pandemic shows is peoples' willingness to alter their behaviour in the face of adversity and in service of the collective good. This experience points to the need to alter the narratives surrounding climate change to one of emergency brought about by human activities. For behaviour to shift, the message must be effective and

What the pandemic shows is peoples' willingness to alter their behaviour in the face of adversity and in service of the collective good

targeted at all stakeholders. If climate change is tackled with the same vigour as COVID-19, it will be possible to restore the regenerative integrity of the natural environment towards mitigating and adapting to climate change and its attendant effects.

1.4.8. Deployment of Innovation and Technology in Urban Areas

As city dwellers under lockdown increasingly relied on technology to access their workplaces, order food, shop for groceries and communicate with loved ones, recent technological advances in urban areas seemed poised to accelerate. Even before the pandemic, cities were increasingly characterized by the deployment of innovation and technology in order to fuel a big data revolution to inform public and private sector decision-making.[192] Often referred to as disruptive technologies[193], this trend signifies a move towards a knowledge-based economy that relies more on analytical capabilities than physical inputs. This fourth industrial revolution[194] is characterized by innovation and technological breakthroughs like automation, robotics, artificial intelligence, the use of drones and the Internet of Things.

Advances in technology enhance the productivity and prosperity of cities as they facilitate innovation, efficiency and effective service delivery. Such innovations can contribute to making cities more sustainable and provide solutions to a wide range of challenges, such as water management, sustainable mobility, security, solid waste management, green city development, renewable energy and urban agriculture.[195] The application of these cutting-edge technologies is ultimately revolutionizing the way cities are planned, governed, managed and analysed.

Technological innovation is redefining urban labour markets and blurring the conventional lines between tradeable (manufacturing-based) employment and non-tradeable (service-based) employment in the process. This disruption has profound effects on the employment structure of the city in that huge non-tradeable or service jobs have become tradeable with relocations occurring within and across regions. While this possibility creates new forms of employment in some cities, it is also deepening unemployment and job insecurity in others.[196] By 2025, it is reckoned that almost half of both new and replacement employment within the European Union will be highly skilled employment, forcing even higher rates of mobility across Europe.[197] These disruptive technologies have also created a new class of independent worker who participates in the "gig economy" by working per job via digital platforms. Such work offers flexibility and a low barrier to entry, but also lacks traditional worker protections, although some cities are enacting legislation to require technology companies to treat their independent contractors as employees. Despite the hype around the gig economy, the World Bank estimates less than 0.5 per cent of the global labour force works in such an arrangement.[198]

The ever-increasing application of data is driving the phenomenon of smart cities (Chapter 6). This concept describes the innovative application of information and technology to improve quality of life, efficiency of urban operations and services, and competitiveness in cities.[199] Smart cities can guide better decision-making with respect to prosperity, sustainability, resilience, emergency management or effective and equitable service delivery. The global demand for smart cities is growing rapidly at almost 19 per cent, from US$622 billion in 2017 to US$1 trillion in 2019, and is expected to reach US$3.48 trillion by 2026.[200] This push is driven mainly by governments investing in technology to meet the demands of a rapidly urbanizing world.

The development of smart cities has in part been facilitated by the increasing penetration of digital technology as more than 50 per cent of the world's population is now online with two-thirds owning a mobile device.[201] Singapore has been at the forefront of the smart city movement; its Smart Nation Programme seeks to harness ICT, networks and data

Advances in technology enhance the productivity and prosperity of cities as they facilitate innovation, efficiency and effective service delivery

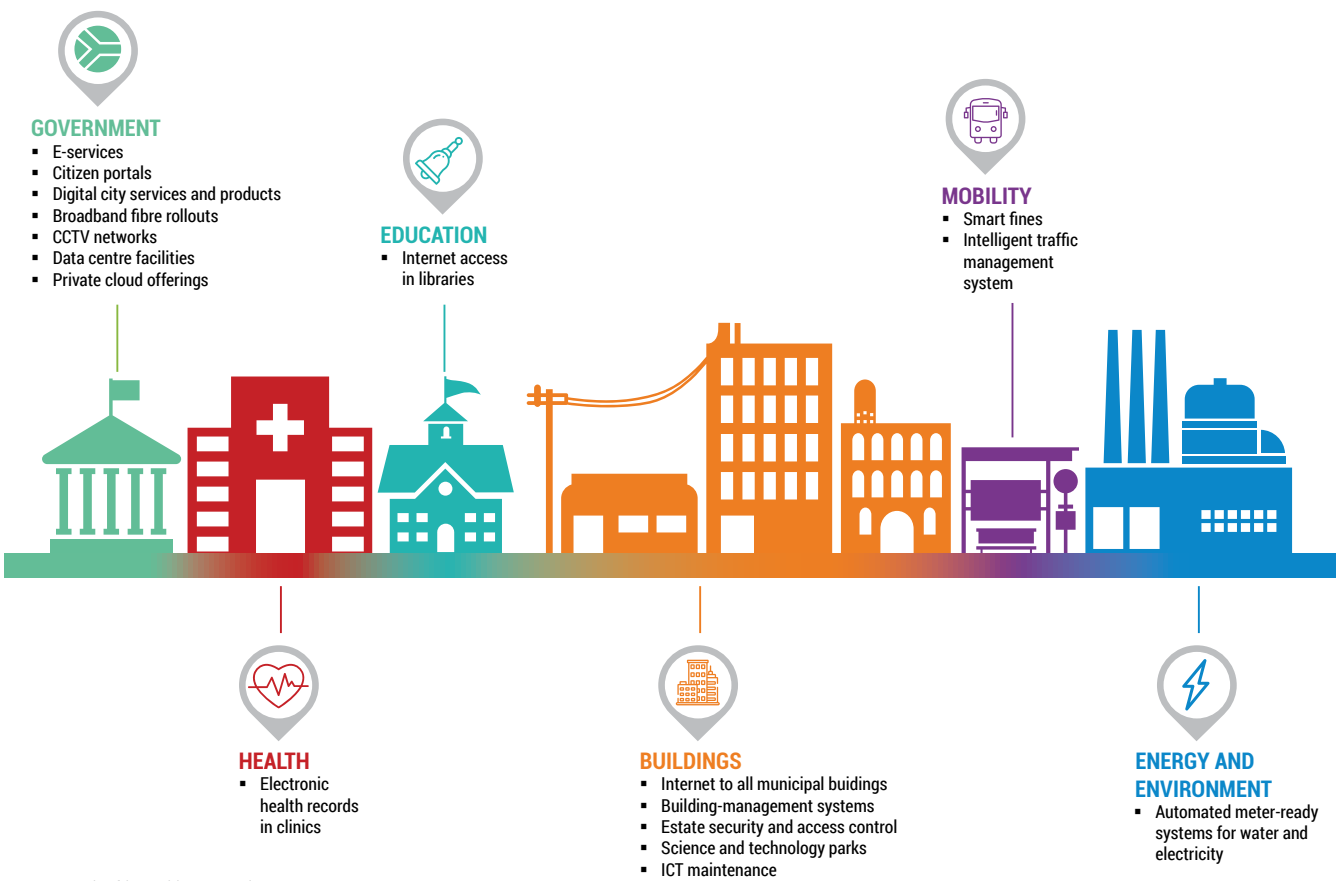
UAV drone delivery delivering big brown post package. © Flystock/Shutterstock

to bolster better quality of life, create more opportunities and support stronger communities.[202] While smart cities are still in their nascent stages in African countries, South African cities have shown how digital technology can be deployed to improve urban management and governance, as well as citizen engagement (Figure 1.7).[203]

Not all smart city initiatives have been successful, such as the unkept promises of India's 100 Smart Cities Mission.[204] There are also pitfalls to investing public resources in smart city tools (Chapter 6). The technology and digital platforms that underlie smart cites are often developed and marketed by private sector actors, which in turn can lock cities into using a certain technology and thereby skew the long-term investment priorities of national and city governments.[205] Similarly, data ownership issues may arise between local governments and the private sector entity that is supplying technology to collect information.

While cutting-edge technology can enhance economic growth, productivity and social inclusion, when unevenly deployed in cities it can create a digital divide, which can exacerbate inequality. Such a divide is characterized by well-connected affluent neighbourhoods and business districts coexisting with under-serviced and under-connected low-income neighbourhoods. The affluent tend to have greater access to these technologies and ICT can often serve to extend their reach and control while curbing that of the more socioeconomically marginalized residents (Chapter 6). To realize the potential of innovation and technology in achieving sustainable urbanization, an enabling environment must be created with the appropriate institutions to ensure inclusion.

Figure 1.7: Application of digital technology in South African cities



Source: South African Cities Network, 2018a.

While cutting-edge technology can enhance economic growth, productivity and social inclusion, when unevenly deployed in cities it can create a digital divide, which can exacerbate inequality

1.4.9. Where is the Money: Shortfall in Funding for Urban Development?

The NUA and other development agendas related to sustainable urbanization are being implemented within the context of a shortfall in the funding available for urban development programmes. This shortfall is likely to be exacerbated by the effects of the coronavirus pandemic. Chapter 8 shows that achieving the SDGs requires a huge financial outlay. Conservative estimates provided by the United Nations and World Bank show that it will cost US$3.9 trillion dollars a year to achieve the SDGs.[206] Some other agencies provide higher estimates of between US$4 and US$7 trillion annually.[207] All of these estimates are far higher than the development assistance currently available for urban development. With the current annual investment in the SDGs being just US$1.4 trillion, the shortfall of at least US$2.5 trillion will have to be financed through various sources identified in Chapter 8 if the goals of the 2030 Agenda are to be met.

There is an increasing need to develop and utilize a broad range of alternatives for financing urban development. For example, US$26 trillion currently invested in low-yield financial instruments can potentially be tapped for promising urban projects.[208] Tapping into these resources requires innovation on the part of city leaders to convert their urban challenges into well-defined and financially viable projects capable of bridging and potentially surpassing the US$2.5 trillion SDG investment gap.[209] Other possibilities that can be explored are municipal bonds, strengthening the revenue capacity of local governments, improving central-local fiscal transfers, mobilizing resources from land-based finance, strengthening the financial capacities of public service utilities, expanding and deepening capital market provision of housing and real estate financing and making more effective use of public financing (e.g. smart and well-targeted subsidies) to leverage private financing.

The NUA and other development agendas related to sustainable urbanization are being implemented within the context of a shortfall in the funding available for urban development programmes

In responding to climate change, cities must also explore ways to generate local financing for adaptation and resilience investments. Cities in developed countries will need more sophisticated taxation and value-capture measures with relevant insurance schemes; while cities in developing countries must strengthen land management systems and invest strategically in resilient infrastructure for greater returns.[210]

1.5. Concluding Remarks

With the adoption of the New Urban Agenda and 2030 Agenda for Sustainable Development, the international community affirmed that urbanization is a driver of positive change with the genuine aspiration of leaving no one and no place behind. The New Urban Agenda is the framework to integrate and elevate the vital role that cities must play in decision-making and realizing development transformations.

While countries have made progress in the implementation of the New Urban Agenda and urban components of the Sustainable Development Goals, there are challenges that need to be addressed

While countries have made progress in the implementation of the New Urban Agenda and urban components of the Sustainable Development Goals, there are challenges that need to be addressed. These include the low level of awareness of urban-related commitments made in the global development agendas; low institutional and fiscal capacity; and weak multilevel governance structures and multi-stakeholder partnerships, among others. As seen in Chapter 7, the implementation of the New Urban Agenda demands local actions. This requires an institutional, organizational policy and financial capacity at the local level, which is often lacking or poorly developed in many countries. The

capacity to strengthen devolution and local autonomy in many countries is low and many cities continue to lack the resources to manage challenges related to urbanization.

Notwithstanding these challenges, sustainable urbanization has a key role to play in the Decade of Action for accelerating sustainable solutions to all the world's biggest challenges by serving as an entry point for ensuring progress across multiple goals of Agenda 2030. When well-planned and managed, urbanization can serve as a catalyst for the realization of many urban-related SDGs: eradicating poverty, reducing inequality, addressing climate change, enhancing gender equality, providing productive employment, driving economic growth and facilitating sustainable consumption and production patterns. While COVID-19 literally brought the world to a halt, disrupting and paralysing urban economies in numerous ways, it provides the opportunity for cities to build back better in the long term and build up resilience against future pandemics. Cities, in collaboration with their development partners, should wholeheartedly embrace this opportunity.

While COVID-19 literally brought the world to a halt, disrupting and paralysing urban economies in numerous ways, it provides the opportunity for cities to build back better in the long term and build up resilience against future pandemics. Cities, in collaboration with their development partners, should wholeheartedly embrace

COVID-19 prevention in Mathare, Nairobi, Kenya. © UN-Habitat/Kirsten Milhahn

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