Cities and Pandemics: Towards a More Just, Green and Healthy Future

UN-HABITAT
FOR A BETTER URBAN FUTURE

Cover Photo: Keeping social distance during COVID-19 pandemic in Bellwoods park, Toronto, Canada. © Shutterstock

Cities and Pandemics: Towards a More Just, Green and Healthy Future

UN HABITAT

Cities and Pandemics: Towards a More Just, Green and Healthy Future

First published 2021 by United Nations Human Settlements Programme (UN-Habitat)
Revised edition, May 2021

United Nations Human Settlements Programme (UN-Habitat)
P.O. Box 30030, Nairobi, Kenya
Website: www.unhabitat.org

DISCLAIMER

The designations employed and the presentation of the material in this report do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning delimitation of its frontiers or boundaries, or regarding its economic system or degree of development. The views expressed in this publication do not necessarily reflect the views of the United Nations Human Settlements Programme or its Executive Board.

The Report is produced with official data provided by governments and additional information gathered by the UN-Habitat researchers. Cities and countries are invited to update data relevant to them. It is important to acknowledge that data varies according to definition and sources. While UN-Habitat checks data provided to the fullest extent possible, the responsibility for the accuracy of the information lies with the original providers of the data. Information contained in this Report is provided without warranty of any kind, either express or implied, including, without limitation, warranties of merchantability, fitness for a particular purpose and non-infringement. UN-Habitat specifically does not make any warranties or representations as to the accuracy or completeness of any such data. Under no circumstances shall UN-Habitat be liable for any loss, damage, liability or expense incurred or suffered that is claimed to have resulted from the use of this Report, including, without limitation, any fault, error, omission with respect thereto. The use of this Report is at the User's sole risk. Under no circumstances, including, but not limited to negligence, shall UN-Habitat or its affiliates be liable for any direct, indirect, incidental, special or consequential damages, even if UN-Habitat has been advised of the possibility of such damages.

HS Number: HS/058/20E
ISBN Number: 978-92-1-132877-6

Foreword

Seen from an urban perspective, the COVID-19 pandemic has revealed the extent of global vulnerabilities and inequalities. Cities have been at the forefront of the crisis, as indicated by the scenes of enormous suffering, job losses and adversity. How they emerge will have an enormous impact on public health, social cohesion, prosperity and our prospects for achieving the Sustainable Development Goals.

Fortunately, cities tend to be highly resilient. In response to past health crises, they radically overhauled systems of sanitation and waste. Indeed, cities were among the first to embrace the very notion of public health. Early indications from today's emergency indicate that another reset is under way. Cities are rethinking urban space, not only from the perspective of health, but also ecology. They are recognizing the need to promote inclusive planning and to take regional dimensions into account. And, as in past health crises, cities today are striving to revitalize public sector institutions and reinforce local government.

Cities are engines of dynamism and innovation, and can help us overcome development deficits. They can spearhead reforms towards a New Social Contract to tackle poverty, strengthen social protection, restore public trust and reach people who are on the margins or who face discrimination. And they can help to build a new urban economy that invests in sustainable infrastructure, reduces disaster risk, uses nature-based solutions to address climate change and ensures digital access, health coverage, schooling and housing for all.

The COVID-19 pandemic has demonstrated the centrality of local action. I call for the heightened commitment of the cities of the world as we seek to connect the dots, recover better and build a healthier, more inclusive, just, green and gender-equal world for all.

António Guterres
Secretary-General of the United Nations

Preface

A year ago, in March 2020, many cities and communities went into lockdown. The United Nations Human Settlements Programme, working hand-in-hand with the wider UN family, took action by providing immediate support in 17 countries with a focus on the most vulnerable communities. This may seem to be an inauspicious way to start the first year of the implementation of the UN-Habitat Strategic Plan 2020-2023 but twelve months on, we realize that our strategic focus is more relevant than ever.

Building on the Secretary-General's policy statement, the report aims to bring national and local governments together to ensure that policy is followed by practice. *Cities and Pandemics: Towards a More Just, Green and Healthy Future* provides the basis for the much needed local-level action in spatial planning, poverty and inequality, the economy, and governance.

We need to address systemic poverty and inequality in cities head-on, going back to housing, basic services, mobility and connectivity. We also have provided recommendations on how to adopt rights-based principles to recovery. This also means protecting jobs and providing financial support to cities to allow them to create financial resilience.

We must not forget digitalization that has created two realities: one for those online and another for those offline. We provide recommendations on creating greater and more equitable digital opportunities that are ever more important in the "new normal" as we learn to live with pandemics.

Finally, let me stress the importance of greater multilevel coordination between international, national and local governments, especially when investing in and implementing stimulus programmes, so that we can truly build back better, greener and fairer while also protecting our communities. This report provides recommendations on how to do this at regional, city, neighbourhood and building scales. These recommendations provide the basis for better integrated spatial development planning as well as demonstrate the value of multilateralism when tackling a global pandemic locally.

MAIMUNAH MOHD SHARIF
Under-Secretary-General and
Executive Director of UN-Habitat

Acknowledgements

Authors

UN-Habitat Steering Group
Raf Tuts, Christine Knudsen, Eduardo Moreno, Christopher Williams, Neil Khor

UN-Habitat Chapter Coordinators
Manka Bajaj, Gianluca Crispi, Bruno Dercon, Alessandro Ercolani, Alain Grimard, Marco Kamiya, Paulius Kulikauskas, Giulia Lavagna, Robert Lewis-Lettington, Eduardo Moreno, Robert Ndugwa, Paula Pennanen-Rebeiro-Hargrave, Laura Petrella, Herman Pienaar, Srinivasa Popuri, Andrew Rudd, Remy Sietchiping, Christopher Williams

UN-Habitat Thematic Experts
Rashid Abubakar, Parul Agarwala, Ana Cubillo Arias, Donatien Beguy, Hannes Berggren, Bananayo Bonera, Pankti Dalal, Ban Edilbi, Rafael Forero, Iris Frakking, Stefanie Holzwarth, Nele Kapp, Anna Kvashuk, Francesca Lionetti, Joshua Maviti, Charlotte Mohn, Ntandokayise Ndhlovu, Hezekiah Pireh, Wes Purpura, Valentina Ricca, Jaimy Rippe, Mansi Sachdev, Eleonora Serpi, Antara Tandon, Serene Vaid, Jesús Salcedo Villanueva, Helen Yu

UN-Habitat thanks all the staff members who reviewed the draft versions of the report.

UN-Habitat also thanks the institutions and organisations referenced in the report for their valuable data and knowledge contributions.

External Contributors

Virtual Expert Group Meeting June 25, 2020
Michele Acuto, Farouk Braimah, Lia Brum, Maitreyi Das, David Everatt, Sheila Foster, Nicholas Gharbi, Miloon Kothari, Debolina Kundu, Shi Nan, Minerva Novero, Michael Majale, Rose Molokoane, Michael Ayebazibwe, Leilani Farha, Ariana Karamallis, Zilire Luka, Nelson Ncube, Andrew Maki, Robin Rajack, Renata Rubian, Siraj Sait, Sri Sofjan, Sahar Attia, Rogier van den Berg, Maria Buhigas, Dyan Currie, Thomas Elmqvist, Franz Gatzweiler, Oliver Lah, Ronak Patel, Thiego Herick de Sa, Jose Siri, Mark Stevenson, Andy Deaco, Mona Fawaz, Hugo Nopo, Dmitry Pozhidaev, Brian Roberts, Serge Salat

Virtual Stakeholder Consultations
November 24, 2020: Rogier van den Berg, Eugenie Birch, Mari Buhigas, Allain Cain, Mona Fawaz, Fernando de Mello Franco, Thiago Hérick de Sá, Winnie Mitullah, Daniel Montandon, Racquel Rolnik, Yondela Silimela, Jie Song, Faela Sufa
November 25, 2020: Alain Bertaud, Dmitry Pozhidaev, Serge Salat, Annie Woo, Edlam Abera Yemeru, Diego Zavaleta
December 8, 2020: Leilani Farha, Carl Gershenson, Mira Bierbaum, Thomas George, Makiko Tagashira, Partha Mukhopadhyay, Sri Sofjan
December 9, 2020: Nuno da Cruz, Jago Dodson, Nicolas Gharbi, Debolina Kundu

Administrative Support
Esther Osunga, Laure Lefebure

Editorial Consultant
Peter Grant

Communications, Media and Web Team
Susannah Price, Victor Mgendi, Ivy Mutisya, Leon Osong, Erick Otieno, Kristian Kalima

Design and Layout
Peter Cheseret

Contents

Contents

List of Figures, Boxes and Tables

List of Figures

List of Boxes

List of Tables

Cities are rethinking urban space, not only from the perspective of health, but also ecology. They are recognizing the need to promote inclusive planning and to take regional dimensions into account.

Keeping social distance during covid-19 coronavirus pandemic in Dolores Park, San Francisco, USA © Shutterstock

Acronyms and Abbreviations

Can$	Canadian dollar
COVID-19	Coronavirus Disease
FAO	Food and Agriculture Organization
GCRO	Gauteng City-Region Observatory
GDP	Gross Domestic Product
GLTN	Global Land Tool Network
Habitat III	United Nations Conference on Housing and Sustainable Urban Development
HSE	Health, Safety and Environment
IDPs	Internally Displaced Persons
ILO	International Labour Organization
LHSS	Land, Housing and Shelter Section
NUA	New Urban Agenda
OECD	Organisation for Economic Co-operation and Development
SDGs	Sustainable Development Goals
SMEs	Small and Medium Sized Enterprises
STDM	Social Tenure Domain Model
STW	Short-time work
UCLG	United Cities and Local Government
UK	United Kingdom
UNDP	United Nations Development Programme
UN	DESA United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
US	United States
US$	United States dollar
VLRs	Voluntary Local Reviews
VNRs	Voluntary National Reviews
WFP	World Food Programme
WHO	World Health Organization
WSP	Water Service Providers
WSS	Water Supply and Sanitation
4IR	Fourth Industrial Revolution

Introduction

Cities and Pandemics: Towards a More Just, Green and Healthy Future

Since its emergence late in 2019, the coronavirus pandemic has triggered what is considered the worst public health crisis in a century, with outbreaks spreading to virtually every corner of the globe: first, between interconnected metropolises, then through the urban-rural continuum. And as entry points for COVID-19, cities are a critical line of defence in responding to the pandemic.

Yet for many urban areas, even those with well regarded health systems and the wealth to weather the economic uncertainty of lockdown, the pandemic has highlighted a host of shortcomings — from inequitable death rates to basic services stretched to breaking point — that have raised fundamental questions about the justice, security and wellbeing of cities in developed and developing countries alike. But if COVID-19 has laid bare and heightened humanity's most pressing challenges, it has also served to reset and redefine how societies are going about their business. In particular, the current crisis has demonstrated the decisive, potentially agile role of urban areas in the battle for a just and green recovery. Cities offer unique opportunities to respond, recover and build long-term resilience.

Building on the many hard lessons the pandemic has brought to date, as well as the many inspiring and creative responses developed to contain it, this report studies the most important impacts of COVID-19 and explores the forces shaping the future of cities: namely urban form and function, poverty and socioeconomic inequalities, urban economy and governance structures. It also demonstrates that cities, their leaders and communities hold remarkable value for achieving sustainable development. The overall objective of the report is to explore the spatial dimensions of the pandemic and identify the necessary shifts in urban forms that can mitigate the spread of future contagions, reducing their adverse economic, social and environmental impacts while making cities more prosperous, green and fair.

In offering such an analysis, this report seeks to inform urban decision-making and policy formulation. It targets the regional, national, subnational and local levels, to encourage integrated approaches to the four themes of analysis. The report also promotes strategic, scaled responses in urban areas that lever the co-benefits of actions to address climate change, health and inequalities in tandem. Furthermore, the central role of cities in the pandemic and the opportunities they present for recovery is a reminder that multilateral partners should prioritize sustainable urbanization in their development agendas. Lastly, this report questions how future pandemic responses might account for their disproportionate impact on vulnerable groups in cities, further exacerbating inequalities.

The COVID-19 crisis has also forced UN-Habitat to question its past practices and guidance to governments. This report, continuing some of the discussions covered in UN-Habitat's previous *World Cities Report 2020*,[1] is therefore an opportunity for UN-Habitat as an international development organization to provide thought leadership and facilitate a dialogue on complex global issues. Though the pandemic is still unfolding, the insights in this volume will be relevant not only to urban practitioners, city

leaders and decision-makers, but also to professionals from public policy, economy, health and other sectors, as well as members of the general public interested in the future of urban living and sustainability.

This volume also builds on a number of significant studies exploring the connections between the pandemic and cities, in particular the UN Secretary-General's July 2020 Policy Brief, *COVID in an Urban World*.[2] Bracingly, in a context where the attention of many governments was still focused on reaction and survival, it emphasized the importance of promoting "future-ready cities" through a response that not only alleviated the immediate effects of the pandemic but also addressed longstanding social inequalities, resolved acute capacity deficits and ensured the economic recovery was "resilient, inclusive, gender-equal and green".[3] With a range of action points and recommendations, from better data disaggregation and equitable health care to transparent budgeting and participatory governance, it outlined a clear road map that governments, cities and communities could follow to strengthen their resilience. These messages have only been reinforced by the experiences of cities in the long months since the brief's publication — but they are also, in telling ways, echoed by the even harsher privations that cities have suffered in the centuries before.

Cities and Pandemics: A Historical Overview

Pandemics have afflicted humanity throughout the course of history. They have had great influence in shaping societal relations, health systems, city development and politics. The earliest recorded pandemic dates from 430 BCE in Athens during the Peloponnesian war and there are also records of isolation of infected populations in China in 221 BCE. However, smallpox, one of the greatest scourges in human history, appeared in agricultural settlements in northeastern Africa in around 10,000 BCE, spreading from Egypt to India, and in subsequent centuries ravaging Europe, Asia and Africa. Near the end of the eighteenth century, the disease in Europe accounted for nearly 400,000 deaths every year, and of those who survived, one-third were blinded. The worldwide death toll was staggering and continued well into the twentieth century, with an estimated 300 to 500 million people dead. This number vastly exceeds the combined deaths of all the world wars. The discovery of a vaccination in the late eighteenth century was one of the greatest achievements in human history, and smallpox remains one of the few human diseases eradicated by inoculation mechanisms.

The deadliest pandemic recorded in human history is the Black Death, a form of bubonic plague believed to have spread from Asia into Europe in the mid-fourteenth century. This virulent and highly deadly disease was responsible for the death of around a third of Europe's population — at least 25 million people. Some of the worst hit cities, such as Florence, may have lost as much as 60 per cent of their inhabitants.[4] The decimation of the population wrought profound political, economic and social change on Europe, and there were further outbreaks over the course of the next few centuries in cities, including the Great Plague of London (1665-66).

The patterns of disease transmission have always paralleled wars, people's travel and migration routes, and as urbanization accelerated it also exacerbated the emergence of infectious diseases. This was particularly true of diseases whose prevalence was correlated with ecological imbalance, high development differentials, poor hygiene and sanitation systems, and vast social and economic inequalities. While epidemics and plagues were often considered by society at the time as a sign of poor moral and spiritual conditions, even as forms of divine punishment, public efforts to contain the spread of the diseases at a communal level and promote healthy living conditions were practiced in Europe even before the arrival of bubonic plague. Records of regulations and procedures to contain the spread of disease include quarantines in the

fourteenth century, lockdowns in the fifteenth, contact tracing in the seventeenth century and laboratory tests for diagnosis of infectious diseases in the nineteenth century. Isolation and quarantine of travelers were also common at that time.

Procedures, instructions, dedicated authorities and institutions were established and enacted in many cities. These actions encompassed a plethora of spatial, functional and societal measures, and by the Middle Ages there were a variety of public work officials in different demarcations. The promotion of public health and disease prevention at the communal level also became more widespread.[5] The example of the city of Lucca, and its focus on the creation of regulations, institutions and social communication channels still has surprising resonance almost 700 years on, with some important lessons for the situation the world faces today (Box 1).

By the late seventeenth century, a number of European cities had appointed public authorities to put in place measures to identify and isolate ill people infected with disease. In subsequent years, society developed a keen interest in public health mechanisms, particularly in cities where the population was most concentrated. Governments and citizens developed a broad variety of measures to ensure control and preparedness to health disasters, including regulation codes. Social and public practices included spatial restrictions, separation of functions and hazardous activities, concentration of populations and isolation of infected members of society, forms of quarantine for cross-border movements and facilitating access to traditional remedies in specialized markets.

The nineteenth century marked a great advance in public health that has been described as the "great sanitary awakening".[7] With the rapid growth of cities, a large industrial working class was concentrated in squalid, life-threatening conditions in slums as smallpox, cholera, typhoid and tuberculosis became widespread and infant mortality rates soared. It was clear that previous strategies to manage and contain disease were no longer sufficient, giving way to the beginning of modern public health — a recognition that there were important social and environmental dimensions to sickness and contagions, even if moralistic interpretations persisted alongside this new framework. As a result, "public health became a societal goal and protecting health a public activity"[8] – a concern that seems to have gradually faded during the last few decades in the absence of any major global pandemic outbreaks. Throughout the middle of the nineteenth century, the focus in industrialized countries such as the United Kingdom was the improvement of urban environments through

Box 1: The beginning of a public health approach in the mediaeval city of Lucca, Italy

Political tensions likely drove urban governments in places like the Italian city of Lucca in Tuscany to develop public health policies even before the onset of the Black Death in 1347. Nevertheless, its arrival is often seen as a pivotal moment in accelerating this change. The development of quarantine measures, the resumption of extramural burials (a practice far more common in antiquity than the Middle Ages) and the establishment of health boards all occurred as responses to the outbreak of plagues.

According to city records, statutes and court proceedings, regulations on order and cleanliness were actively communicated to Lucca's citizens and public ordinances underscored the universal responsibility of local residents, citizens and foreign visitors for maintaining the city's hygienic standards. Every Saturday and feast vigil, residents had to clean the street in front of their houses. The texts repeatedly concluded by stating that anyone could denounce environmental offenders, in which case the accuser's testimony would be considered more credible by default and they would be rewarded a certain part of the value of the imposed penalty should the prosecution be successful.

These statutes offer a glimpse of a premodern society cognizant of its own need to identify and detect health hazards at the population level and the mechanisms it developed to obviate or at least reduce them. Whatever the limitations of its success from a modern preventative point of view, Lucca's governors espoused public health as a priority and social commitment that everyone in the city could contribute to.[6]

Box 2: How tuberculosis transformed public space in the United States

During the Industrial Revolution, as cities became more congested, anxieties around overcrowding and the dangers of "bad air" grew. As a result, by the close of the nineteenth century, there was an overwhelming demand for housing and public spaces that provided plentiful fresh air and natural light. In the United States, this led to the development of numerous urban green spaces, from Boston's Emerald Necklace to New York's Central Park, as escapes from the crowded city centres.[13] Tuberculosis also left a lasting impact on architectural design: the construction of whitewashed, glass-walled sanatoria in turn inspired the "hygienic" style of the modernist movement and its celebration of sunlight and open space.[14]

planning, evolving in the late nineteenth and early twentieth centuries to a more nuanced approach to public health that acknowledged the crucial role of poverty and inequality. Consequently, public health interventions expanded to encompass issues like housing, sewerage, clean water provision and nutrition.[9] Throughout this period, urban areas were themselves shaped by these new theories and understandings: for instance, as public health became more fixated on the spread of disease through exposure, cities like New York configured complex zoning restrictions and networks of health centres to reduce the threat of disease.[10] The impact that tuberculosis had on the development of public spaces and housing in the United States illustrates the efforts made to align urban planning with public health concerns (Box 2).

Despite this hard won progress, the arrival in 1918 of a devastating influenza pandemic popularly known as the Spanish flu left at least 50 million people dead worldwide.[11] With no diagnostic test available to confirm infection, no influenza vaccine, no antiviral medications and very poor intensive care support such as mechanical ventilators, the mortality rate of the disease was high and included many young, previously healthy individuals. The disease was accompanied by waves of stigma and scapegoating of ethnic minorities, immigrants and health care workers. In the United States, many cities imposed a raft of measures and restrictions, such as bans on mass gatherings, mask wearing and disinfection of shared spaces such as public transport.[12] In this regard, for all the social and technological change that has occurred since, the measures in place today are strikingly similar to those imposed a century ago.

Increasingly, there was a shift towards preventive medicine and health promotion, informed by the clear connection between social justice on the one hand (in particular, the right to adequate housing) and public health on the other. By the end of the 1970s, health authorities in the United States were not only focusing on neighbourhood environments and the heightened threat of issues such as respiratory illness and lead poisoning associated with poor living conditions, but also to the social and psychological impacts of housing resettlement and community displacement. By the 1980s, the importance of connecting city planning and public health through a holistic "healthy cities" approach was being championed globally by WHO.[15]

This brief overview of the history of pandemics and cities is a reminder that public health has always been a key concern of territorial and urban governance, and that the response of officials, urban designers and citizens to emerging health crises have created new approaches, institutions and regulations. Since ancient times, the development of physical planning, basic infrastructure provision and adequate housing has gone hand in hand with rules, ordinances and restrictions to prevent the spread of contagion. And while trade, connections and the concentrated activity of cities have often left them exposed to pandemics and other crises, their resources and ingenuity have repeatedly offered

solutions to these challenges — something that is more true now than ever as the world navigates a path to recovery from COVID-19.

A Global Urban Database on COVID-19

Monitoring local COVID-19 impacts, patterns of contagion and mortality rates has been a crucial part of the pandemic response: this makes it possible for local and national leaders to identify and respond to hotspots of the virus spread. Moreover, local leaders needs better data to take more informed decisions to safeguard local democracy, protection of human rights and the continued and improved provision of public services throughout the crisis. At a moment that requires governments at all levels to play a significant role, the city and local authorities are at the forefront of the fight against the pandemic, meaning the development of new capacities and actions is critical. Investments in real-time data and other evidence that allow local leaders to accurately track COVID-19 responses in their constituencies are vital in reducing the direct and indirect impacts of the pandemic.

Cities' preparedness and responses to the pandemic mostly rely on the direction and support provided by national governments, as well as the strength of the urban economy, institutional capacity, political will and other locally determined factors. However, as this report shows, how cities track, cope, react and respond to the crisis is also critical for the health and economic wellbeing of their regions, towns and interlinked rural hinterlands surrounding them. The local response also sets the scene for future resilience and sustainable recovery.

Unfortunately, urban data produced at the global and country levels is still scarce, despite the important role that cities can play. To help local governments prepare an adequate response, UN-Habitat and CitiIQ launched a joint platform, the COVID-19 Readiness and Response Tracker, that uses global metrics to assess the daily capacities and actions against the pandemic in 1,700 cities around the world (Box 3).[16]

Box 3: UN-Habitat and CityIQ's COVID-19 Readiness and Response Tracker

UN-Habitat and CitiIQ's COVID-19 Readiness and Response Tracker captures daily city counts and prepares scores on the platform based on the availability of data. All capital cities and regional capitals in some countries are included in a selection of urban centres that are assessed on a weekly basis. The information is presented and illustrated using colour coding on a world map, allowing an accessible view of the continuously changing dynamics in different cities.

In addition to the city data scores, the platform presents a Readiness Score, based on five core indicators — public health capacity, societal strength, economic ability, infrastructure and national collaborative will — compiled from detailed data sources. There is also a Responsiveness Score, drawing on four core indicators: spread response, treatment response, economic response and supply chain response. The data sources that contribute to the development of these indicators are also normalized to provide city-to-city comparison and detailed information on the key dimensions of their individual COVID-19 response.

The capacity of the CitiIQ tracker platform to understand and to some extent predict the trajectory of the disease is evident when analysing the upward trend in many European countries resulting from the second wave of COVID-19 in late 2020. Numerous cities made difficult decisions to try and reverse the rate of infections by implementing lockdowns and other measures, the results of which the platform was able to clearly demonstrate a few weeks after the measures were taken. Similarly, the resurgence of infections in the United States and Canada was reflected by more cities experiencing an increase in cases, indicated in red on the website.

People working on the frontlines of the pandemic, conducting testing and treatment, are usually very aware of a local surge in infections. However, for government officials and policy makers who may lack this direct insight but be nevertheless required to make vital decisions on how to respond, this database is an invaluable resource. By providing a continuously updated picture of the pandemic's development over time, it allows cities to develop timely actions and make strategic adjustments. Given the many benefits the platform offers, UN-Habitat and partners are planning to expand the city coverage from 1,700 to 3,000 cities and local governments in 2021.

The Limited Availability of Data on COVID-19 in Cities

Most cities have employed a variety of strategies and COVID-19 responses, but these often have had limited success due to the lack of evidence on what works and the balance of costs and benefits that each measure brings. Yet in urban areas, data and analytics are vital for early outbreak detection and response — allowing the formulation of predictive scenarios, early warnings and reactive local strategies in contexts where resources are frequently scarce. Furthermore, reliable and up-to-date information is needed to inform long-term policies and actions, from neighbourhood and city initiatives to national strategies and multilateral cooperation. Ensuring that the urban dimension of the pandemic is clearly outlined within this broader scale ensures that responses to COVID-19 in cities complement and contribute to progressive multi-sector and multilevel agendas, including climate change, sustainable development and financing frameworks. However, the present scarcity of information and reporting at the subnational level poses significant challenges for targeted response efforts, and is in stark contrast to the rich variety of data and analytics technologies available.

Considering the challenges of availability, consistency and accessibility of local information, this report attempts to present a global overview of the current trends and future implications of the COVID-19 pandemic, drawing examples from a variety of geographical areas while refraining from prescribing blanket solutions to the very different challenges each city faces. Nevertheless, given the lack of consistent and accessible data in many contexts, it is still not possible to present a fully balanced picture of the situation worldwide. What data is available is skewed disproportionately towards cities in Europe and North America, and those urban areas most visible to governments and local authorities — often to the exclusion of informal settlements, refugee camps and other spaces.

Furthermore, it is worth noting that the report relies on COVID-19 recorded cases globally. However, not all data is residence-based and cases from small cities or rural areas may in some cases have been reported as being from larger agglomerations because that is where treatment and/or death occurred. Furthermore, in many developing countries, the data remains opaque due to limited testing facilities and the high costs for residents to get tested. As such, data is not available everywhere equally, even within the same country, limiting the ability to make direct comparisons. In addition, in many countries and cites data is not disaggregated by gender or ethnicity, making it difficult to assess the incidence among specific groups. In other countries this information, if collected, is not made officially available.

The COVID-19 crisis has made very clear that data and information on the prevalence of the disease, the incidence in different groups and locations, the evolution over time and specific human settlements, the severity and vulnerability at home, workplace and the mobility of people is critical to adopt a public health policy that permeates all forms of decision-making about urban areas. Accurate, timely and disaggregated data is more than numbers and it takes the form of a fundamental public good, which is needed to face possible future pandemics and prepare a sustainable recovery.

Thematic Focus of the Report

To add to the existing evidence base on the relations between pandemics and urban areas, as well as pathways to inclusive recovery and rebuilding, the report's analysis focuses on forces that are central to shaping cities and their functions. UN-Habitat's *World Cities Report 2020 – the Value of Sustainable Urbanization*[17] demonstrated that cities generate economic value when they are shaped and functioning well, while the Secretary-General's Policy Brief[18] highlighted how the innovation and resilience of cities allow them to adapt by incorporating new shapes and functions. Yet for cities to realize these opportunities, authorities at all levels need

to be granted adequate powers and resources to formulate integrated, locally appropriate policies that transform the current crisis into a future development opportunity.

To guide those policy decisions, this report focuses on four timely priorities for the recovery and futureproofing of cities:

- *Rethinking the Form and Function of the City:* In particular, how the urban morphologies and systems can be reconfigured at different scales to not only enhance their resilience to the effects of the pandemic, but also make them more sustainable and productive in the long term through inclusive planning.

- *Addressing Systemic Poverty and Inequality in Cities:* Designing targeted interventions that mitigate the disproportionate impacts of COVID-19 and related restrictions on poor and vulnerable groups through emergency assistance and service provision, while also taking steps to address the underlying causes of their exclusion.

- *Rebuilding a 'New Normal' Urban Economy:* Developing a suite of tailored economic support and relief packages to help smaller businesses, informal workers and at-risk sectors to survive the crisis, with an emphasis on "building back better" by promoting the transition to greener, more equitable urban economies.

- *Clarifying Urban Legislation and Governance Arrangements:* Recognizing the need for more integrated, cooperative multi-level governance between national, regional and municipal governments, with an emphasis on developing more flexible and innovative institutional and financial frameworks for cities to respond effectively to the unfolding crisis.

The multisectoral research and data analysis provided across these four themes will provide a comprehensive overview of the impacts of COVID-19 on the many sustainability challenges faced by urban areas at regional and local scales. Acting locally, complemented with a well-structured governance strategy at the national level, it is possible to respond to the pandemic with new, pandemic-resilient urban development models.

The first area of thematic focus of the report, the form and function in cities in the face of the pandemic, lies at the core of UN-Habitat's mandate. Ongoing debates on the health dimensions of spatial expressions such as urban density, morphology, public space, housing and urban services reveal the growing interest of the public in the challenges and opportunities facing urban areas.

After one year of the pandemic, it has indeed become evident that space truly matters in the response, recovery and rebuilding. But rather than density, overcrowding and access to adequate services, including health facilities, have emerged as the predominant drivers of — and critical antidote to containing — the pandemic spread in cities. This report's spatial analysis, across a range of scales from regions and cities to neighbourhoods and buildings, brings out the significance of place-based responses in creating economic prosperity, reducing health risks and advancing sustainable development and resilience.

The second theme of the report, systemic poverty and inequality in cities, evidences the uneven impacts of the pandemic and its containment measures in urban areas, with already marginalized groups such as women, migrants and slum dwellers left even more isolated in the wake of COVID-19. Besides exacerbating immediate needs for adequate housing, sanitation and food assistance, the current crisis is expected to reverse decades of progress on poverty reduction.

An analysis of urban inequalities from a spatial and economic perspective reveals some key aspects contributing to the overall vulnerability to pandemics of slums, inadequate housing and informality. Examples include the growing digital

divide between urban spaces, communities and different types of employment. Nonetheless, the COVID-19 mitigation measures put in place by authorities have shown that governments are capable of rapid transformation when compelled to do so. This report reviews unique windows that the crisis has opened for resolving some long-standing urban social problems and structural inequalities by strengthening the human rights and resilience of marginalized groups.

Meanwhile the analysis of rebuilding a 'new normal' urban economy addresses the ongoing discussion on the fragility of local economies in the face of pandemic. Accounting for some 80 per cent of global GDP,[19] urban economies play a major role in global development and prosperity. However, jobs, markets and the urban economy at large have been heavily impacted by the pandemic and the restrictions of lockdown, leading to the possibility of a major recession. The report explores how a shift to a 'new normal' local financing models for stronger resilience to multisector stresses. The integrated analysis of local economy models alongside spatial mechanisms adds value to potential visions of economic recovery — such as the intersection between productive capacities, regional economies, the market, communities and density. These can increase the co-benefits of economic sustainability, social equality, green growth and climate action as well as urban governance through recovery and rebuilding.

Finally, an analysis of urban legislation and governance arrangements across the world proves that cities are playing a fundamental role as frontline responders to mitigate the pandemic's immediate effects and build long-term recovery. One year on since COVID-19 struck, it seems clear that the severity of the pandemic, its geographic dynamics and the associated crisis requires localized and multilevel governance responses. Although the pandemic is incredibly complex by nature and at this early stage it is not possible to determine the eventual outcomes, there are indications that governance systems that work well regarding critical health actions tend to coordinate and communicate their functions quickly and effectively both vertically and across sectors. In addition, they typically ensure that vulnerable groups are included in any social, economic and area-based responses.

Furthermore, an analysis of governance responses indicates that governments who have enabled flexibility by introducing specific mandates, new structures and accessible e-governance services have managed by and large to stay on the safer side of the pandemic. Alongside these measures, the availability of reliable multiscale data has been essential to enable decision-making and impact monitoring, as well as popular confidence in the actions taken and policies enacted by the authorities.

One of the most important lessons from the pandemic is that global agendas and universal human rights obligations must undergird not just public health governance, but the governance of all sectors. As the world surveys the damage wrought by COVID-19 and the dysfunction, inequality and exclusion it has brought into the open, the question is not so much why a pandemic on this scale has happened but rather why many more crises of this nature had not already occurred. The current global predicament underlines the importance of vigilance and the need to ensure that any recovery sustains the benefits of urban health for all in cities and societies that are more inclusive and sustainable. This is essential not only to surviving the current pandemic, but also the others that may come in future.

Endnotes

1. UN-Habitat, 2020.
2. UN, 2020.
3. UN, 2020.
4. Howard, 2020; Wade, 2020.
5. Geltner, 2019.
6. Geltner, 2019.
7. Institute of Medicine (US) Committee for the Study of the Future of Public Health, 1988.
8. Institute of Medicine (US) Committee for the Study of the Future of Public Health, 1988.
9. Hallas, 2014.
10. Hallas, 2014.
11. Centers for Disease Control and Prevention, undated.
12. Sissons, 2020.
13. Arntsen, 2019.
14. Yuko, 2018.
15. Hallas, 2014.
16. The platform can be viewed here: https://unhabitat.citiiq.com/
17. UN-Habitat, 2020.
18. UN, 2020.
19. World Bank, 2020.

Bibliography

Arntsen, E. (2019) 'Six epidemics from American history show how urban design affects our health', *Northeastern University*, 8 August, https://news.northeastern.edu/2019/08/08/six-epidemics-from-american-history-show-how-urban-design-affects-our-health/

Centers for Disease Control and Prevention (undated) 'History of 1918 flu pandemic', https://www.cdc.gov/flu/pandemic-resources/1918-commemoration/1918-pandemic-history.htm

Geltner, G. (2019) *Roads to Health: Infrastructure and Urban Wellbeing in Later Medieval Italy*, University of Pennsylvania Press, Philadelphia

Hallas, V. (2014) 'The history of public health: A literature review', *Medium*, 25 May, https://medium.com/a-new-era-of-urban-planning/the-history-of-public-health-1f816bae38ab

Howard, J. (2020) 'Plague was one of history's deadliest diseases—then we found a cure', *National Geographic*, 20 July, https://www.nationalgeographic.co.uk/history-and-civilisation/2020/07/plague-was-one-of-historys-deadliest-diseases-then-we-found-a-cure

Institute of Medicine (US) Committee for the Study of the Future of Public Health (1988) *The Future of Public Health*, National Academies Press, Washington, D.C

Sissons, P. (2020) 'What the 1918 pandemic can teach cities about public spaces today', Curbed, 18 March, https://archive.curbed.com/2020/3/18/21178053/coronavirus-pandemic-public-space-influenza-history

UN (2020) 'Policy brief: COVID-19 in an urban world', July, https://unsdg.un.org/sites/default/files/2020-07/sg_policy_brief_covid_urban_world.pdf

UN-Habitat (2020), *World Cities Report 2020: The Value of Sustainable Urbanization*, UN-Habitat, Nairobi

Wade, L. (2020) 'From Black Death to fatal flu, past pandemics show why people on the margins suffer most', *Science*, 14 May, https://www.sciencemag.org/news/2020/05/black-death-fatal-flu-past-pandemics-show-why-people-margins-suffer-most

World Bank (2020), 'Urban Development', https://www.worldbank.org/en/topic/urbandevelopment/overview

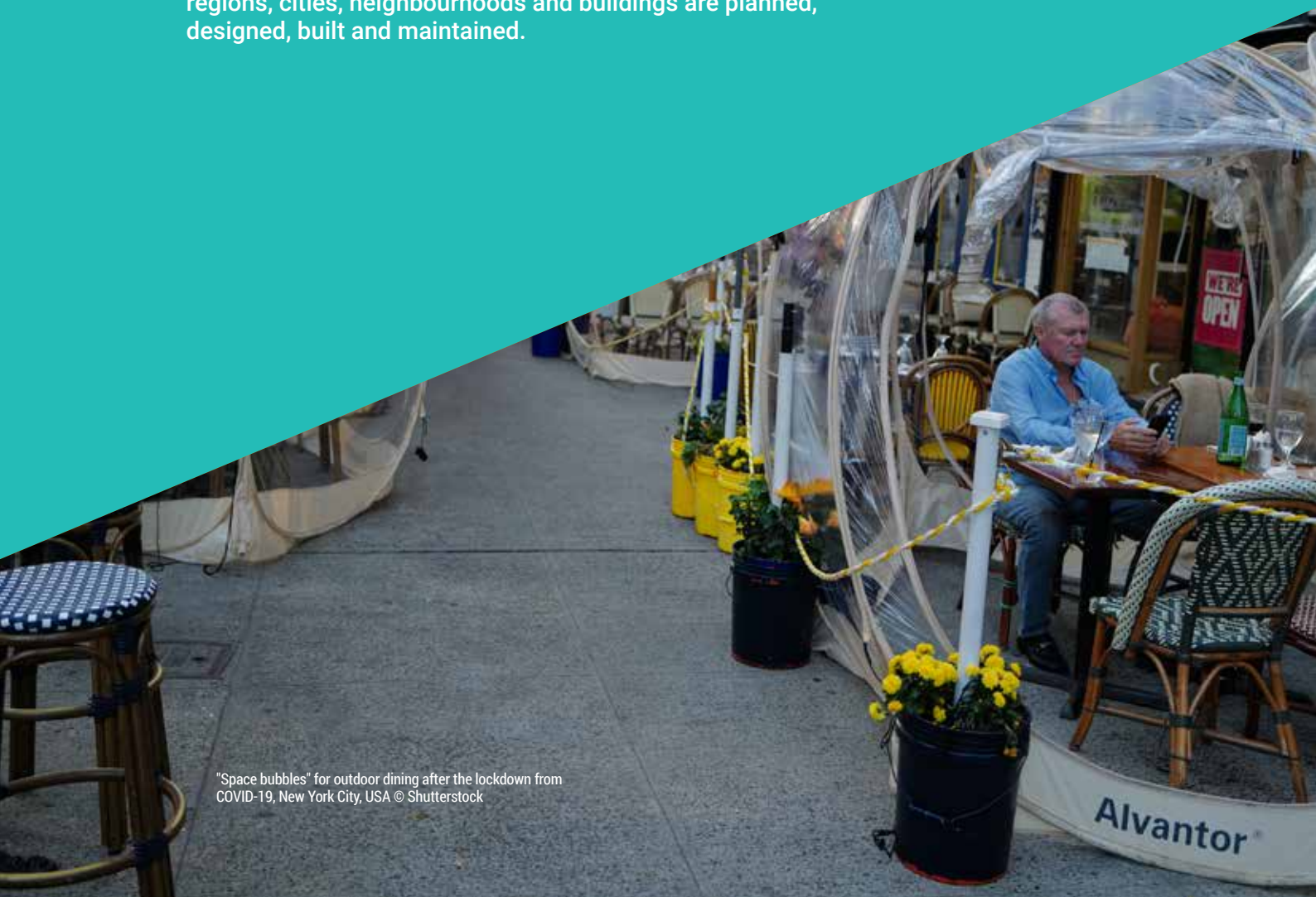
Yuko, E. (2018) 'How the tuberculosis epidemic influenced modernist architecture', *Bloomberg CityLab*, 30 October, https://www.bloomberg.com/news/articles/2018-10-30/what-architecture-learned-from-tb-hospitals

Social distancing, a measure to curb the spread of COVID-19, Düsseldorf, Germany © Shutterstock

1

Rethinking the Form and Function of the City

As COVID-19 continues to wreak havoc on cities and communities, the world is learning new ways to meet the challenges at hand and mitigate the potential effects of pandemics in the future. Now is the time to re-examine how regions, cities, neighbourhoods and buildings are planned, designed, built and maintained.



"Space bubbles" for outdoor dining after the lockdown from COVID-19, New York City, USA © Shutterstock

Historically, the physical form of cities — urban ecology, sanitation systems, public parks, street design and housing regulations — has repeatedly been transformed in the wake of pandemics and other public health crises, drastically altering the way people inhabit and interact within them. Although technological innovations and human ingenuity continue to modify the way cities look and function, it has been evident that a paradigm shift is required to overcome some of the biggest challenges of our time, including widening inequity, discrimination and the climate crisis. These issues are inter-related, and measures adopted to overcome this pandemic will have multiple and cross-cutting benefits – not only driving recovery but also creating healthier communities and a more sustainable planet.

Narratives around the cause and spread of the COVID-19 pandemic are challenging core components of cities such as density, mixed land use and global interconnectedness that have led to their success as engines of economic prosperity, drivers of social mobility and hotbeds for research, innovation and creativity. However, there is little evidence to relate higher density with greater transmission or mortality rates. Rather, lack of access to services and overcrowded conditions make certain populations or regions more vulnerable and at higher risk of contracting the virus, while limiting the ability of decision makers to implement effective response and recovery measures.

While the pandemic has transformed almost every aspect of urban living, it is still the case that well-planned, contextually supported density remains a precondition for cost effective, environmentally sound service provision. Moreover, while the world continues to navigate the pandemic and the various repercussions it has brought in its wake, urban planning principles that espouse sustainability and equitability are still relevant and critical for coping with the current pandemic and preparing for future health crises. After decades of neglect, it is imperative that built environment practitioners, along with experts in other disciplines, consider health as a key dimension of urban living to decrease the spread and burden of communicable and non-communicable diseases. This entails promoting healthy lifestyles and a better understanding of the interface between humans and our surrounding ecologies. Given the complexity of blue-green networks, public space, food systems, mobility, shelter and access to basic services, it is high time planners, designers and decision makers prioritize shaping urban morphologies that are better integrated with innovation, technology, public health and natural systems. This is an essential step to ensure that cities are able to adapt more agilely in future to emerging opportunities as well as threats.

The world is now at a critical moment. Decision-makers must not only examine how urban environments have both contributed to and been affected by COVID-19 transmission, emergency responses and recovery measures, but also consider how best to prepare for future health crises while accommodating rapid population growth and urbanization. Between 2019 and 2050, it is estimated that an additional 2.36 billion people will be living in urban areas, adding up to approximately 6.66 billion people or 68.4 per cent of the total estimated global population who will need to be accommodated in and around cities.[1]

With that in mind, this chapter explores the relationship between COVID-19 and urban form to date, charting how COVID-19 response and recovery measures have affected the built and natural environment of cities and regions, as well as the ways COVID-19 transmission and mortality rates have or have not been affected by the spatial composition of cities and regions. Rather than toss out existing principles for sustainable urban planning, decision-makers, policy experts and designers must now take the time to reflect on how key planning principles have been incorporated or rejected in cities to determine the efficiency, effectiveness and equitability of present city forms and systems. New and existing tools must be revisited and

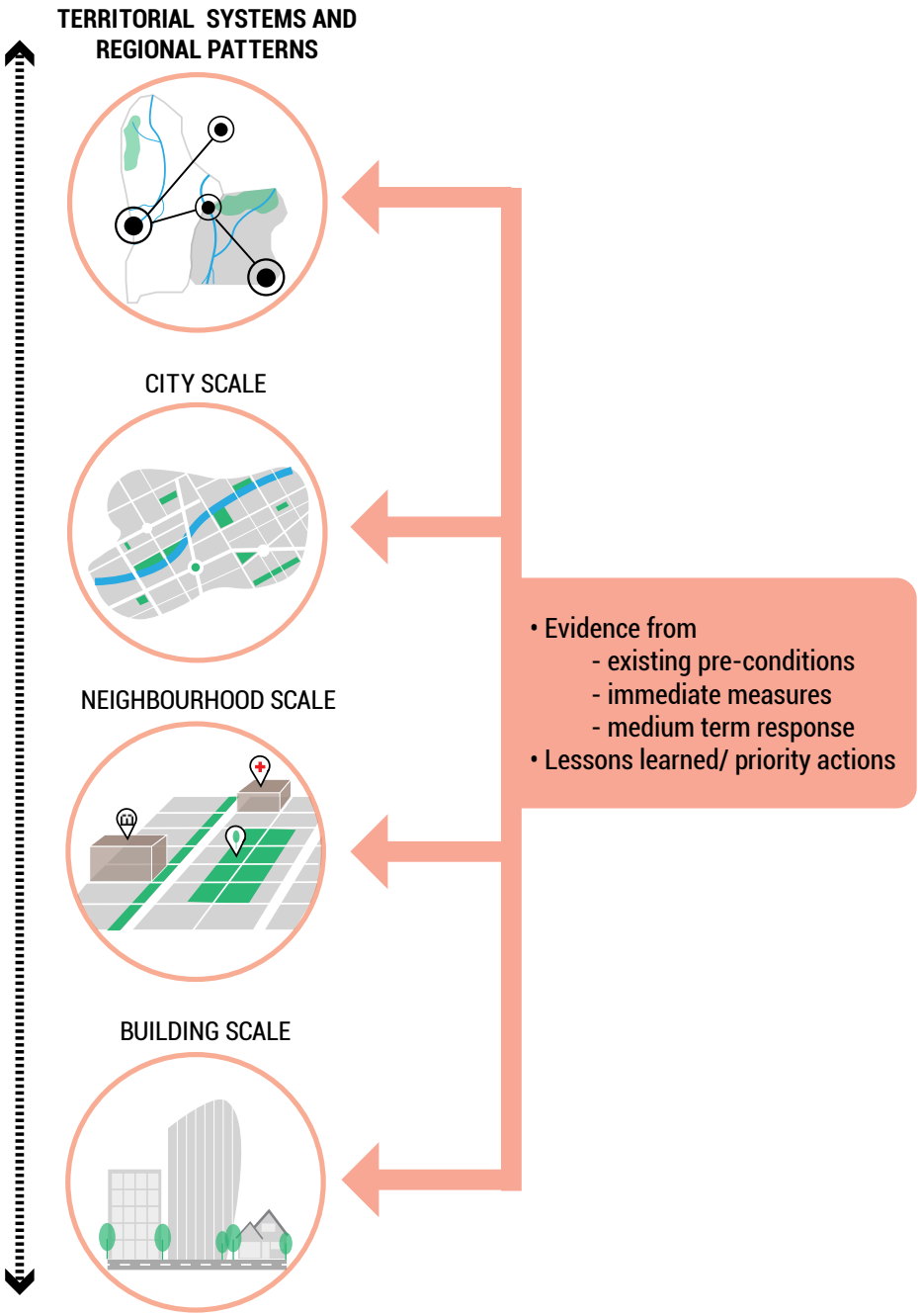
Urban planning principles that espouse sustainability and equitability are still relevant and critical for coping with the current pandemic and preparing for future health crises

redefined to support cities to become healthier, more inclusive, sustainable and resilient.

The following sections explore these dimensions from four different scales — regions, cities, neighbourhoods and buildings — emphasizing the need to effectively integrate them through a comprehensive approach to urban planning that is sensitive to local contexts while recognizing the connections that link households and communities to urban, national and global systems.

New and existing tools must be revisited and redefined to support cities to become healthier, more inclusive, sustainable and resilient

Figure 1.1: Structure of the chapter



1.1. Reconfiguring Regions: The Need For More Sustainable and Integrated Systems

The COVID-19 pandemic has laid bare the risks that climate change, habitat destruction and our own consumer and travel behaviours pose not only to environmental health, but to public health as well. Animal species and zoonotic diseases that might have been contained to a specific locality in the past have proven, in today's globalized world, to leave no one untouched.

Our extensive dependence on global supply chains, from sourcing and manufacturing to production and consumption, has been similarly exposed. Many regions of the hyper-globalized world were brought to a standstill with border closures, city lockdowns and work-from-home directives. Not only are these trade links and movement patterns critical to keep urban systems functioning, but they are also the raison d'être for cities as centres of sustainable growth and new opportunities. Finding an appropriate balance between global connectivity and more regional or local linkages and provisions will be key to building the resilience of cities.

Three of the most important considerations in relation to city regions, both affected by and impacting on urban form, include:

- *Environmental systems:* Planning efforts at the regional scale aimed at controlling humans' built footprint through the design of compact urban form, protected natural habitats and areas of biodiversity, can strengthen blue-green networks and improve air quality. These efforts are not only valuable in improving public health outcomes, but also in combating the adverse effects of climate change and improving life for all species.

- *Connectivity:* The complex networks connecting cities and regional linkages, spanning transportation, logistics and freight, are crucial to their successful functioning. However, in the context of COVID-19, regional connectivity played a key role in the initial spread of the virus within China and then to other parts of the world.

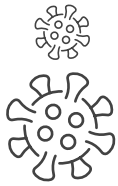
- *Agriculture and food systems:* Even highly developed urban centres are intimately tied to the regional agriculture and food production systems that sustain them. Restrictions to movement and lockdowns imposed in response to the pandemic revealed that supply chains, particularly essential goods including food, are impacted by the organization of cities within regions and their connections and dependence on other cities, peri-urban and rural areas.

This section begins to unpack these linkages – between cities and regions and between urban and rural networks – in order to better equip decision makers to respond appropriately to future pandemics. A crucial element in this is the rollout of medium- to long-term recovery measures that cause minimum disruption to the functioning of complex systems and the livelihoods associated with them.

Approaches that consider climate change in COVID-19 responses can support the emergency phase, accelerate recovery and shape how we will live in the future

In conjunction with these three regional considerations, climate change is cross-cutting: approaches that consider climate change in COVID-19 responses can support the emergency phase, accelerate recovery and shape how we will live in the future. On the flip side, if climate change is not treated as a global emergency, and adaptation and mitigation measures are not adopted across scales immediately, its impacts will continue to disrupt weather, ecosystems, air quality, water and food supply, threatening human health as well as human security worldwide.

This scale, representing urban agglomerations and regional entities, is challenging because it is rarely reflected in clear political jurisdictions with the necessary power and resources to develop a coherent, overarching set of policies. Nevertheless, it is critical to mobilize across municipal boundaries because of the non-linear, intersecting ways that trade and migration patterns as well as air, water, pollen, seeds, pollutants and non-human



The root cause of recent pandemics can be traced to the compounded stress humans have inflicted on natural processes and ecological systems

species move. The limited evidence on how territorial regions responded to the pandemic attests to the weak organizational structures at this scale. Without the political capacity and will to unite these agglomerated parts, policies continue to be fragmented and ad hoc, as addressed in Chapter 4. However, subnational governance structures and their potential to affect change in land use planning, management and construction patterns at the territorial scale are key to strengthening resilience and balancing urbanization, as explored in the sections that follow.

While cities can be more energy and resource efficient per capita due to economies of scale, compact urban form and dense infrastructure, recent trends show that "the physical extents of urban areas are expanding faster than urban populations."[2] This is especially disconcerting at the regional scale, where the change in land use for urbanization is primarily characterized by peri-urbanization – the consumption or conversion of rural areas into extended metropolitan regions – which tends to degrade natural resources and agricultural uses while falling short of the density needed to reap urban benefits. As institutions look for ways to "build back better" in response to COVID-19, the form and spatial distribution of building additional accommodation for the growing number of urban dwellers will also prove vital. In order to fetter the negative impacts of urban population growth on environmental systems, not to mention the inequitable burdens borne by society's most vulnerable due to the destruction of those systems, decision-making structures and enforcement mechanisms at the subnational scale will have to define urban growth boundaries and manage land use more sustainably.

While urban growth boundaries may not be a major challenge to define, regulating and enforcing greenfield construction and natural resource use at all scales will continue to be an obstacle partly due to land value dynamics. In these contexts, the true cost of environmental destruction is often overlooked in favour of the short term financial returns that development might bring. This could be alleviated, however, by the design of a more comprehensive metric that reflects the unacknowledged economic costs that accompany the degradation of habitats and ecosystems. A recent review of the "economics of biodiversity", sponsored by the UK Treasury in advance of the UN Climate Change Conference in Glasgow in November 2021, advocates for "an inclusive measure of wealth" including natural assets to reflect that "we — and our economies — our 'embedded' within Nature, not external to it."[3]

1.1.1. Environmental systems

The climate crisis caused by unchecked human activities, including unsustainable urban development, is the greatest challenge the planet faces in the 21st century. To a significant extent, the root cause of recent pandemics can be traced to the compounded stress humans have inflicted on natural processes and ecological systems. The spread of viruses and infections in the last few decades has been enhanced and accelerated by rapid, unsustainable and often chaotic urbanization, biodiversity loss, increased human-wildlife contact and the prevalence of unregulated live animal "wet markets" within unhygienic food and water systems. The deterioration of vegetation cover as metropolitan areas extend beyond urban boundaries have led to habitat loss and the intermingling of animal and human environments, contributing to an increase in zoonotic diseases, where viruses are transmitted from animal species to humans.[4] Long before the appearance of COVID-19, studies had already confirmed how land use change, extraction activities and migration altered and fragmented natural habitats, broadening the interface for human-wildlife interactions and increasing the chances of novel infectious diseases.[5]

At the same time, the impacts of climate change and other environmental pressures on public health are already being felt. Global warming, pollution, intensive farming and other harmful developments have played a critical

role in creating the predicaments of the present pandemic: "It is very clear that the spread of novel infectious diseases like COVID-19 is an outcome of a growing global population and overexploitation of natural environments".[6] Exposure to such toxic environments has resulted in an increasing number of new vulnerable populations suffering from chronic deficiencies in food, water and energy, making them more susceptible to other medical conditions.[7]

Air quality has emerged as one predictor of the effects of COVID-19. Respiratory diseases caused by air pollution appear to be a major risk factor and can worsen the course of the disease once contracted. While the exact scientific relation between air pollution and death rates is still being explored, some existing research suggests a correlation. One study of Italian cities found a significant link between chronic exposure to air pollution and the number of severe COVID-19 cases.[8] Health experts have warned that poorer households breathe some of the world's dirtiest air, leaving them disproportionately at risk of dying from the virus.[9] A recent study by the European Society of Cardiology estimates that exposure to air pollution increases COVID-19 deaths by 15 per cent worldwide, directly or indirectly, as pollution may also aggravate other health conditions that increase the likelihood of a fatal outcome from the virus. Estimates for the proportion of deaths that could be attributable to air pollution varied considerably between different countries, from as many as 29 per cent of deaths in the Czech Republic, 27 per cent in China and 26 per cent in Germany to as little as 3 per cent in Australia and 1 per cent in New Zealand.[10]

Respiratory diseases caused by air pollution appear to be a major risk factor and can worsen the course of the disease once contracted

Box 1.1: Correlating air pollution with increased COVID-19 infection rates in the United States

A US nation-wide analysis cross-comparing PM2.5 levels and COVID-19-related deaths found that "higher historical PM2.5 exposures are positively associated with higher county-level COVID-19 mortality rates after accounting for many area-level confounders".[11] **This** correlation shows that a short term adoption of mitigation measures in cities, while welcome, could be of limited effect as continued exposure to emissions can weaken immune systems — underlining the importance of a sustained, long-term strategy to reduce pollution.

Such findings about the importance of preventing chronic exposure to poor air quality serve as an important reminder that limiting atmospheric and environmental pollution should be part of a long-term response that builds resilience against pandemics into urban planning. This can be done by addressing local sources of air pollution such as transport emissions, polluting farming practices, waste burning and polluting industries. Promoting improved urban services and a more compact urban form which decreases reliance on motorized forms of transport and air pollution are crucial first steps that will be covered in more detail in section 1.2. Fighting environmental degradation, ecosystem deterioration and deforestation, as well as actively incorporating blue-green infrastructure into urban areas, are crucial components in ensuring urban health and air quality standards.

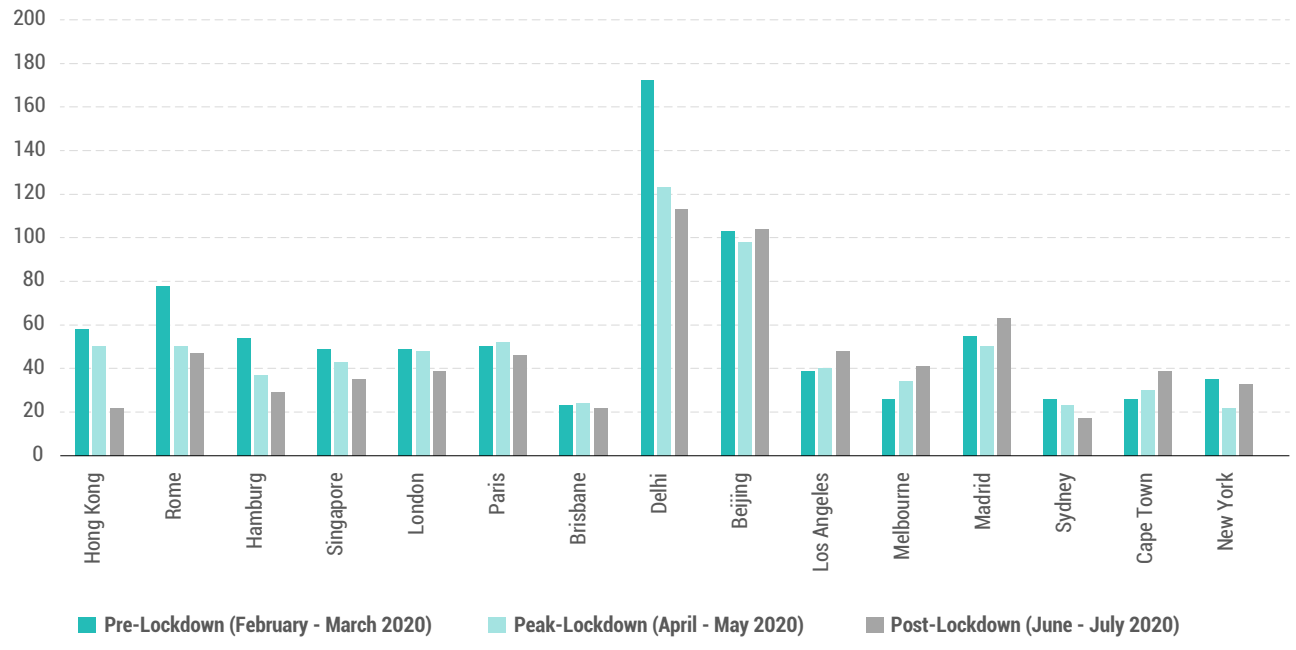
Notwithstanding its many challenges, the first lockdown provided the world with a brief window into the decarbonized, sustainable future environmental advocates have championed for decades. Reduced traffic and a halt in other polluting activities such as industrial manufacturing as a result of stay-at-home provisions led to a marked improvement in air quality. Some of the most polluted cities in the world, such as Delhi, enjoyed the lowest levels of air pollution in years — though these benefits proved short-lived.[12] Following the dramatic decrease in air pollution during lockdowns

between March and May 2020, a surge in air pollution was observed in many cities globally. In a study by Instant Offices, a workspace provider, using data from the World Air Quality Index, air pollution saw an increase in six out of 15 global cities in the immediate months after emerging from lockdown. In particular, New York City saw the biggest increase with a 33 per cent rise in PM2.5 air pollution in June and July, compared to a 59 per cent drop during the lockdown period in April and May. In other cities, however, air pollution levels continued to fall: for instance, Hong Kong (down 16 per cent during lockdown), Sydney (down 13 per cent) and Singapore (down 14 per cent) saw further reductions of 127 per cent, 35 per cent and 23 per cent respectively following lockdown.[13]

The sharp reduction in GHG emissions across the world during lockdown was itself an unanticipated side effect of the restrictions that brought much of the global economy to a halt, with far-reaching impacts on the livelihoods and employment of millions of urban residents. Improved air quality, while positive, was therefore the result of necessary emergency measures rather than a concerted strategy to improve the urban environment. Indeed, there is some evidence to suggest that air pollution in many cities has increased even when economic activity has not fully resumed: for instance, a study by the think tank Centre for Cities found that out of a sample of 49 cities in the UK, in 39 (80 per cent) pollution levels had risen to pre-pandemic levels once lockdown was lifted.[14]

The lower levels of air pollution evident in cities across the world during lockdown is a reminder of what urban residents should expect as the norm, rather than the exception. The Mayor of London, Sadiq Khan, noting how the city's air quality had improved significantly in the first weeks of lockdown, went on to add: "But this cleaner air should not just be temporary, as Londoners deserve clean air at all times."[15] These remarks resonate with a common opinion heard throughout political, environmental and multi-lateral circles during the pandemic. In the words

Figure 1.2: Comparison of PM2.5 levels in major cities before, during and after lockdown restrictions imposed by governments



Source: Instant Offices, 2020. Scale: 0-50: good, 51-100: moderate, 101-150: unhealthy for sensitive groups, 151-200: unhealthy, 201-300: very unhealthy, 301-500: hazardous.

of Petteri Taalas, Secretary-General of the World Meteorological Organization: "The world needs to demonstrate the same unity and commitment to climate action and cutting greenhouse gas emissions as to containing the Coronavirus pandemic. Failure in climate change mitigation could lead to greater human life and economic losses during the coming decades."[16] To learn from these experiences and maintain lower pollution levels in the future, a long-term strategy to promote non-motorized modes of transport and compact, mixed-use neighbourhoods should be encouraged, as discussed in sections 1.2 and 1.3 on the city and neighbourhood scales.

The spread of viruses and infections recently has been accelerated by unsustainable urbanization, including "rapid intensification of agriculture, socioeconomic change and ecological fragmentation."[17] More stringent environmental standards, including more holistic resource management, pollution reductions and increased area for the preservation of habitats and biodiversity through the establishment of urban growth boundaries should be prioritized: these measures will reduce both the emergence of new pandemics and help mitigate human-induced climate change. Response and relief funding should also be earmarked for nature-based solutions and ecosystem services that integrate blue, green and grey infrastructure into regional open space and basic service networks, helping regions enhance their climate resilience and advance their socio-economic recovery.[18]

The linkages between wildlife, domestic animals and the sources, spread and amplifiers of pandemics are critical, but so is "the interconnectedness with issues such as air and water quality, food security and nutrition, and mental and physical health."[19] Pathogens shared with animals – both domestic and wild – make up close to two out of every three diseases infectious to humans.[20] This means that animal habitats are a key factor in the emergence of zoonotic diseases, with 50 per cent of all zoonotic diseases estimated to have emerged since 1940, corresponding with a period of enormous forest loss and encroachment.[21] Physical changes to the environment can have

Animal habitats are a key factor in the emergence of zoonotic diseases, with 50 per cent of all zoonotic diseases estimated to have emerged since 1940, corresponding with a period of enormous forest loss and encroachment

Monkeys walk freely in the city streets. Lopburi, Thailand © Shutterstock

Many nature-based solutions to improve urban environments are effective strategies to address both the immediate challenges of COVID-19 and the long-term threats posed by climate change

profound impacts on how zoonotic diseases originate and proliferate. For example, a study conducted in the Peruvian Amazon demonstrated that the rate at which the local malaria mosquito bit humans "was proportional to the area of land use modification and inversely proportional to the area of remaining forest."[22] In fact, samples taken in sites that had been deforested and developed in association with road construction demonstrated that mosquitoes had a biting rate over 278 times higher than in forested areas.[23]

While infrastructure is critical for socio-economic development, then, it needs to be planned with minimal disturbance to natural habitats and ecosystems. Protecting natural conservation zones, compact urban development and condensing the acreage of areas of extraction and cultivation, as well as reducing air, water and soil pollution, could help reduce the likelihood of contagion in the future. UNEP identified the "unsustainable utilization of natural resources accelerated by urbanization, land use change and extractive industries" as one of the seven human-mediated drivers of zoonotic disease transmission.[24] In addition to limiting habitat destruction and fragmentation, there is a need for health stakeholders to recognize and respond to environmental dimensions within health practices.[25] This should include a better understanding of the complexity of human, wildlife and domestic animal interactions, as well as an emphasis on the design, planning and conservation of natural and built systems that facilitate healthy interactions and sustainable land use.

The management of water resources is also extremely pertinent at the regional scale in its relation to climate change, human and environmental health. In the face of increasing climate instability, natural disasters will continue to grow in scale and unpredictability, wreaking havoc on already weak urban utilities in many parts of the world. While the links between health and urban basic services is discussed in more detail in section 1.2, the effects of climate change on human health vis-à-vis water supply, management and treatment should also be both examined and addressed from a territorial perspective. Water supply, which is often piped into cities from rural locations, can be disrupted by natural disasters. The increasing frequency of droughts also threatens food and water security, compounding problems posed by the pandemic. Alternatively, in regions with seasonal flooding or monsoons, unprecedented precipitation and extreme temperatures due to climate change coupled with rapid urbanization can overload inadequate drainage and sewage systems, catalyzing the spread of waterborne diseases and infections. Due to natural drainage patterns, analysis at the watershed scale is critical for designing effective storm management systems. The management of water resources beyond municipal boundaries – including how the provision of basic services compete with other sectors and how unplanned growth can destroy natural water systems and habitats – will require cities, regions and small nation-states to work collaboratively.

Box 1.2: A collaborative approach to water management in the Pacific

In the Pacific, access to drinking water is a challenge that has led some states, including the Federal States of Micronesia, Palau and the Marshall Islands, to come together to develop a collaborative, sub-regional solution to address fragmented water supply and sanitation (WSS). The programme was launched in 2011 to address sanitation issues, ensure safe water access and mitigate infectious outbreaks in response to climate change. It has been pursued both at the sub-regional and country scale, for example through "national water summits" where participants could "discuss WSS needs, benchmark the state of WSS management, and identify policy gaps", serving as "a first step toward developing national water policies in each country." The World Bank's review of the project reports that the sub-regional and country-specific program approach has been successful in its combination of local knowledge with technical support, training and guidance from Pacific regional agencies to foster integration and collaboration between different levels of government and across sectors such as water, planning and health.[26]

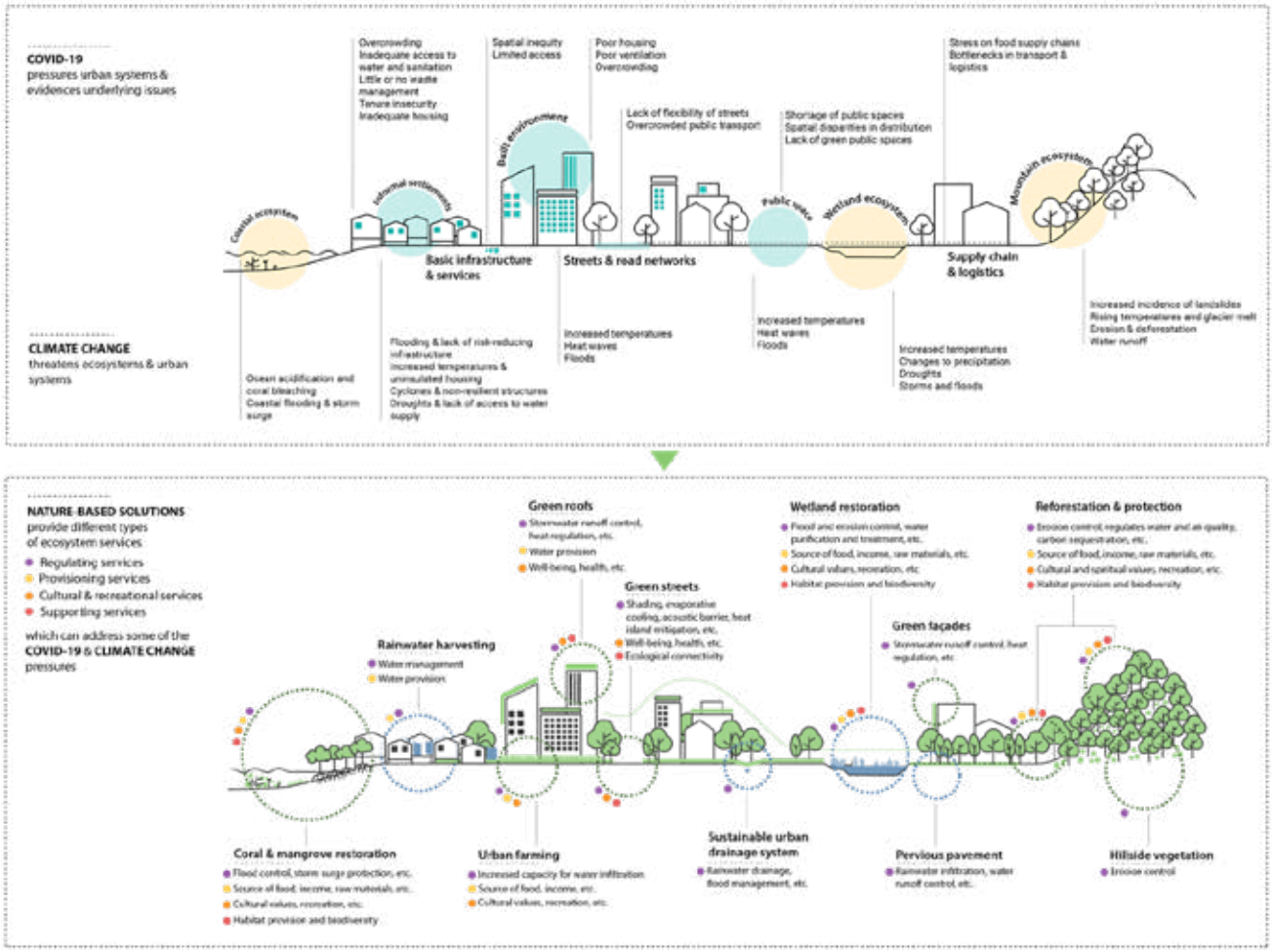
Modern public recreation space in downtown Seoul, South Korea © Shutterstock

To mitigate the emergence and spread of future infectious diseases and enhance long-term health and resilience, emphasis in land use and environmental planning should be put on preserving and restoring blue-green networks[27] and landscape corridors across regions. In addition to helping buffer interactions between humans and wild and domestic animals, blue-green networks have also been shown to improve climate adaptation, health, wellbeing and biodiversity.[28] While many benefits of investing in blue-green networks are yet to be accounted for, "there is evidence that larger, resilient ecosystems with abundant biodiversity increase ecosystem functioning and hence the provision of services."[29]

During pre-pandemic as well as lockdown and recovery periods, local ecosystem services, food production and open space helped maintain communities' physical and mental health. An increased use of green areas as main recreational areas during lockdowns was observed, with one study estimating that "outdoor recreational activity increased by 291 per cent during lockdown relative to a three year average for the same days."[30] According to another study conducted online, based on 5,218 responses from nine countries, "maintaining contact with nature (blue-green spaces) during COVID-19 lockdown was found to reduce the likelihood of reporting symptoms of depression and anxiety."[31] More broadly, the contribution of nature to health and wellbeing in cities was clear long before the current pandemic: trees in urban areas, for example, by removing pollutants, cooling temperatures and capturing carbon, are estimated to provided long-term benefits "more than twice their planting and maintenance costs."[32] As Figure 1.3 shows, many nature-based solutions to improve urban environments are effective strategies to address both the immediate challenges of COVID-19 and the long-term threats posed by climate change.

Investments in blue-green systems, ecosystem services and "low-carbon physical capital"[33]

Figure 1.3: Nature-based solutions as a response to pressures from COVID-19 and climate change



Source: UN-Habitat, 2020

Two residential towers in the district of Porta Nuova, Milan, host hundreds of trees and plants in the balconies, Milan, Italy © Shutterstock

can support livelihoods, curb GHG emissions, store carbon and ultimately help communities transition to a more sustainable future. A letter, signed by 180 representatives including ministers from 10 European countries, 79 EU lawmakers and chief executives of major private firms, stated that: "After the crisis, the time will come to rebuild.... The transition to a climate-neutral economy, the protection of biodiversity and the transformation of agri-food systems have the potential to rapidly deliver jobs, growth... and to contribute to building more resilient societies."[34] Reconsidering sustainable financing models to grant cities, fiscal resilience is further discussed in Chapter 3.

Box 1.3: Greater Melbourne's integrated strategy for land use planning

In the Greater Melbourne area, data on threatened species is incorporated into land use planning in order to help prevent further biodiversity and habitat loss. Using information on 30 threatened fauna species, a tool called Zonation was used to assess species-specific connectivity requirements and prioritize land for conservation planning.[35] By quantitatively comparing the zones identified by the tool to the existing dispersion of conservation areas, the methodology helped land use planners prioritize three main areas that align with the three stages of development activities in Greater Melbourne – strategic, rezoning and development. Strategic areas were identified in places where existing conservation areas could be extended as open space and wildlife corridors; rezoning areas were identified as high-risk areas that were not yet zoned for development; and development areas were identified as areas where Melbourne's urban growth boundary could be extended with the least amount of ecosystem damage.

This systematic approach to conservation planning is one example of how innovative technologies and methodologies can be integrated into existing spatial planning processes. Further to the acknowledgment that conservation planning cannot work in isolation, the study mentions the need to combine development restrictions with "incentive schemes to encourage private landholders to manage biodiversity."[36] Lastly, it is important to note the support provided by the National Strategy for the Conservation of Australia's Biological Diversity. In Australia, federal, state and territorial governments are all signatories to the National Strategy, thus making it the responsibility of all levels of government to protect biodiversity. Without the political will, the enabling policy environment, the acknowledgment of land tenure systems and the integration of ecosystems-based methodologies into urban planning processes, operationalizing spatial planning for blue-green networks runs the risk of failing.

Police mount checks during lockdown to prevent the spread of COVID-19, Jodhpur, Rajashtbn, India © Shutterstock

1.1.2. Connectivity, networks of cities and regional linkages

Cities in the urbanized world are parts of larger networks that depend on resources from other cities or rural areas transported through well laid infrastructure supporting air, water, rail and road transportation routes, power lines and water and oil pipelines. A city's economy is largely dependent on the imports and exports of goods and services. As the confluence for all transactions, cities become critical nodes and are more likely to exchange workers, tourists and businesspeople, thus increasing the threat of cross-border infections.[37] While there is some evidence that physical links and trade ties affected COVID-19 infection rates in some regions, that evidence is not robust enough to weigh the potential causal links between connectivity and COVID-19 against the benefits of city networks and urban-rural linkages.

Box 1.4: Tracking the spread of COVID-19 from Wuhan, China

An early study on Chinese cities found that higher infection rates could be attributed either to their "strong economic connection" with Wuhan (as is the case for Wenzhou, with almost 200,000 residents working in Wuhan despite the considerable distance separating the two cities) or to their "geographical proximity" (hence the high infection rates in Xinyang, Zhumadian, Xinyu and Yueyang, all of which are close to Hubei).[38] Similarly, tracing the initial global spread of the virus reveals that other industrialized parts of the world with close economic connections to China, through business trips and exchange of personnel, were infected before areas without economic links to China. However, it is not clear how those cities have fared over the course of the pandemic in relation to cities without strong economic ties to Wuhan.

Figure 1.4: Selected flights in and out of Wuhan

Source: Storymaps, 2020.

The efficacy of one of Wuhan's early response measures, a cordon sanitaire that resulted in an average delay of COVID-19 spread to other cities by three days, further supports the assertion that close economic and geographical ties increased early spread of the virus. The magnitude of the early epidemic (total number of cases until February 10, 2020) outside of Wuhan is remarkably well predicted by the volume of human movement out of Wuhan alone. Cases exported from Wuhan prior to the cordon sanitaire appear to have contributed to initiating local chains of transmission, both in neighbouring provinces such Henan) and in more distant parts of China.[39]

The initial spread of COVID-19 corresponded to the level of connectivity and the speed at which cities were able to control their borders. Large agglomerations played a role in the initial spread of the infection, but well-established networks of cities also assisted in facilitating a response to it. Cities often served entire regional networks by acting as hubs for healthcare, logistics and emergency support during the pandemic.

At the same time, rural areas also supplied nearby cities with natural resources and agricultural produce, making them critical to food and water security. Given the highly inter-dependant nature of the rural–urban interface and the overarching need to accommodate both rural and urban demands during the emergency and recovery phases of the pandemic, the impacts, vulnerabilities and opportunities in urban, rural and peri-urban areas need to be considered together. Some of these considerations are covered in section 1.1.3 on agriculture/food systems and "Weak spots".

Smaller cities are also beginning to gain prominence as measures taken to prevent the spread of COVID-19 are testing the possibilities and repercussions of remote working arrangements. In some geographical contexts and sectors, since many employees with desk jobs are not required to work in person in their offices, they are no longer tethered to living within a daily commute of their place of work. Although it is too early to know whether remote working will be a temporary or permanent arrangement, so far it has led to noticeable levels of outmigration from some major urban centres, where the cost of living is high, resulting in a redistribution of wealth to smaller cities and towns. Young families in the US are now able to own larger homes in smaller cities with access to basic services that are of equal quality as in larger cities. Such movements have provided a more level playing field for cities to attract new workers, countering the disproportionate concentration of talent in only select major cities. One assessment of rental prices in the US in the wake of the pandemic found that, while six of the 10 highest-rent cities in the country had experienced declines, including New York, Los Angeles and Seattle, rental prices in other more affordable cities nearby appeared to be on the rise.[40]

Cities, particularly second-tier and smaller cities, now have the opportunity to attract remote workers through investing in services desired by high tech remote workers: broadband, healthcare, cultural and entertainment scenes, with a focus on sustainability. The emerging remote working trend of the past decade has accelerated dramatically in the wake of COVID-19. While this trend does not mean that primary and major urban centres will necessarily lose population per se, it does suggest that remote working has given a chance for smaller cities to attract talented workers and economic growth. Nevertheless, it remains to be seen whether many of the remote arrangements made to accommodate physical distancing measures hold after vaccination programmes are rolled out and herd immunity is achieved. While work in certain sectors may remain remote or provide a higher degree of flexibility, other sectors may find that they require the strategic physical and service-oriented infrastructure as well as specific knowledge cultures that global cities provide.

City-city connectivity and regional linkages explored in this section have implications at the city scale, where people often travel to larger cities or metropolitan areas to access employment opportunities during lean agricultural seasons and to avail better facilities in healthcare, education or other sectors. The shift in working styles towards remote and digital technologies, explored in later sections, will also have an impact on these connections when workers might choose to live away from their workplaces and commute less frequently. Finally, the rollout of digital technologies is exposing the inequalities underpinning the digital divide, which is further discussed in Chapters 2 (on inequality) and 3 (on urban economies).

Cities, particularly second-tier and smaller cities, now have the opportunity to attract remote workers through investing in services desired by high tech remote workers: broadband, healthcare, cultural and entertainment scenes, with a focus on sustainabilit

1.1.3. Agriculture and food systems

Box 1.5: A concerted regional response to the pandemic in Kerala State, India

In the first months after the outbreak of COVID-19 in India, Kerala demonstrated a remarkably effective strategy to minimize the spread of the virus through the state. Despite its relatively low per capita income and limited health infrastructure, it was able to mount a successful response by working together with civil society organizations and communities to ensure bottom-up engagement with its strategy. While Kerala's painful experience with the deadly Nipah virus in 2018 ensured that it took the pandemic seriously from the outset, implementing a range of protective measures to support health and livelihoods, it also benefitted from "a long history of decentralized governance and competitive democracy" that underpinned the rapid rollout of community kitchens, migrant camps and food assistance packages through a web of highly responsive local self-government bodies.[41]

Trucks deliver food to a market, Bangalore, India © Shutterstock

Closure of borders and lockdowns in cities had far-reaching impacts that often affected entire regions, impairing mobility and the delivery of vital services and amenities. This was especially the case in relation to food systems. To ensure that such systems are resilient and able to provide food and goods during crises, it is crucial to integrate logistics into urban and transport plans at both city and regional scales. This is also an opportunity to consider the efficiency and reliability of current systems and prioritize plans and policies that favour more sustainable and resilient solutions to the delivery of food and goods in urban areas. This includes both optimizing last-mile logistics and physical distribution of food occurring in the final part of the food supply chain. Initiatives in many parts of the world have ensured an active connection between food supply and distribution during COVID-19, particularly for vulnerable groups.

While inner-city mobility and passenger transport are well integrated into urban and regional planning, urban logistics and freight systems are often neglected. This is especially important considering that trucks, the most common mode of transport for goods in cities, are unsuitable for urban environments. Not only are trucks a source of air and noise pollution in cities, accounting for 22 per cent of global greenhouse gas emissions generated by transportation,[42] but they are also often the wrong size for walkable neighbourhood typologies — blocking sidewalks and cycle lanes to pick-up or drop-off loads. Considering the mode of transport chosen for delivery of goods within cities, as well as the location of storage facilities, could ensure efficiency within the design of urban logistics and freight systems. For example, cargo bicycles have much potential in developed and developing countries for urban goods transport in first-mile and last-mile deliveries, such as the *becak* in Indonesia.[43] Efforts can also be made to integrate less polluting and more energy-efficient vehicles into transport chains, particularly for longer regional trips.

Cities and regions can become more resilient to shocks and stresses that affect the economy and livelihoods by investing in infrastructure and settlement types that support localization, economic diversification and enhance self-sufficiency. Governments should encourage the development of more balanced urban networks and regions. Sustainable subnational development could provide improved resilience to people and the economy, both urban and rural. Subnational development strategies are also likely to respond better to the key trends of the 21st century, in relation to more circular production, more localized production of essential supplies, nutritionally and medically, and real-time local production taking advantage of the (4) Industrial Revolution technologies.

At the city level, these efforts should be balanced with compact developments with adequate densities, freeing up more land for agricultural use and reducing dependence on regions further away. Encouraging urban agriculture through community allotments and rooftop gardens, as well as organizing farmers markets to bring local produce directly to urban consumers, can serve as stopgap solutions during crises. Beyond that, they also help offset demand and encourage shorter supply chains through more localized means of food production – areas that are explored further at the city and neighbourhood scales.

For equitable urban-rural linkages to be built or strengthened, it will also be important to ensure that urban-rural relationships are not exploitative, contributing to the empowerment of local authorities and civil society groups in rural areas to deal with adverse events rather than disenfranchising or marginalizing them.[44] Because urban demands often take precedence over rural ones, interdependent rural and urban resource systems can place nearby rural areas at risk. During conditions of climate stress, rural areas more often suffer resource shortages or other disruptions to sustain resources to cities. For example, under conditions of resource stress associated with climate risk such as drought, urban areas are often at an advantage because of the political, social and economic requirements to maintain service supply to cities, to the detriment of relatively marginal rural sites and settlements.

Governments should encourage the development of more balanced urban networks and regions. Sustainable subnational development could provide improved resilience to people and the economy, both urban and rural. Subnational development strategies are also likely to respond better to the key trends of the 21st century, in relation to more circular production, more localized production of essential supplies, nutritionally and medically, and real-time local production taking advantage of the (4) Industrial Revolution technologies

Box 1.6: Transforming city food systems through local markets

Market Cities, a new initiative by Project for Public Spaces in partnership with HealthBridge and Slow Food, aims to address the threats posed to local food systems by rapid urbanization, centralization and the exclusion of marginalized groups "by creating new infrastructure, policies and investments in public market systems at the citywide, regional or national level." This strategy integrates markets into a wider strategy, establishing networks with an emphasis on inclusive, safe regional food production while also supporting a wide variety of venders and entrepreneurs to flourish.[45]

While the majority of the Market Cities initiatives piloted to date are in cities in the Global North, other programmes are adopting similar principles to address the particular challenges faced by developing world cities. In Quito, Ecuador, the development organization Rikolto is working with a range of stakeholders across the region, from farmer associations to local officials, to promote the development of a more sustainable food strategy that effectively links the municipality and the surrounding region. This is especially urgent given the high levels of malnutrition among city residents and the high dependence on outlying regions for its food supply, with only a fraction of its total consumption grown in the capital or its province, Pichincha.[46]

1.2. Cities in the Face of COVID-19: The Role of Population Size, Density and Urban Form

Throughout the pandemic, cities have played a leading role in the distribution and provision of medical and other essential services. However, the pandemic has also put cities to the test, revealing that even apparently affluent and highly developed urban centres are only as resilient as their most vulnerable areas and communities. Furthermore, COVID-19 has highlighted the urgent need for inclusive access to services and amenities for all urban dwellers: all too often, the current emergency has only made more visible the profound inequalities in health, housing and income that divided many cities long before the pandemic began.

One of the likely causes of larger cities being more susceptible to the pandemic at the initial stages is their greater connectedness

At an individual level, the performance of cities in relation to contagion levels, mortality rates and the effects of emergency and longer-term measures has been varied. With many variables at play, there has been significant debate around the role that the built environment, spatial patterns and population distribution may have played. Questions around access to urban services are themselves deeply intertwined with urban form and function, including issues of density, mobility and connectivity, and the emergence of urban "weak spots".

People wearing face masks in a crowded downtown mexico street Mexico City, Mexico © Shutterstock

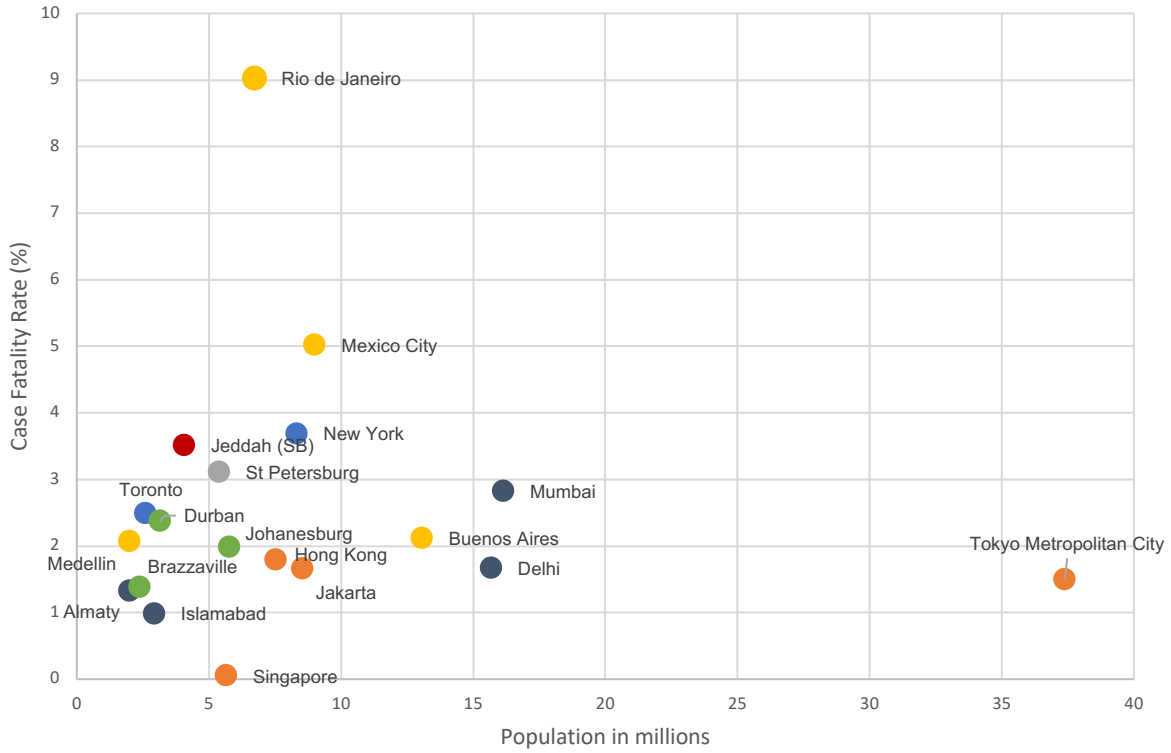
The current evidence suggests that spatially equitable and well-planned cities are more resilient to health crises and other shocks or stresses. Cities with a more equitable and accessible distribution of basic services were better able to limit the number of vulnerable and high-risk communities from the outset. One of the reasons is that spatial inequalities do not just manifest themselves in physical segregation, but also in the form of uneven distribution and access to basic services and infrastructure. These vulnerabilities are easily exacerbated by shocks and stresses such as COVID-19, and can be amplified by gender, income, informality and climate change.

1.2.1. Population size

As cases of COVID-19 rose globally, government officials targeted cities as hotspots for the spread of the virus. This is linked to city size, population and connectivity: larger cities experienced a higher initial growth rate of COVID-19. One of the likely causes of larger cities being more susceptible to the pandemic at the initial stages is their greater connectedness. Large metropolitan areas with a higher number of counties tightly linked together through economic, social and commuting relationships are the most vulnerable to the spreading of pandemic outbreaks. Naturally, the more movement of persons into, out of and across the city, the higher the opportunities and thereby the risk of infection. This further supports the argument earlier in the chapter that connectivity played a larger role than density in the spread of the pandemic.

At the same time, there is some evidence to question an overly simplistic correlation between density and infections rates. For example,

Figure 1.5: Case fatality rates and population of global cities, as of March 2021.



Source: UN-Habitat's CitiIQ platform and UN-Habitat's Global Urban Observatory. A sample of cities have been examined to assess whether population size and case fatality rates are directly related. Apart from available data, cities with a population size greater than 2 million were used, while also ensuring a geographic balance.

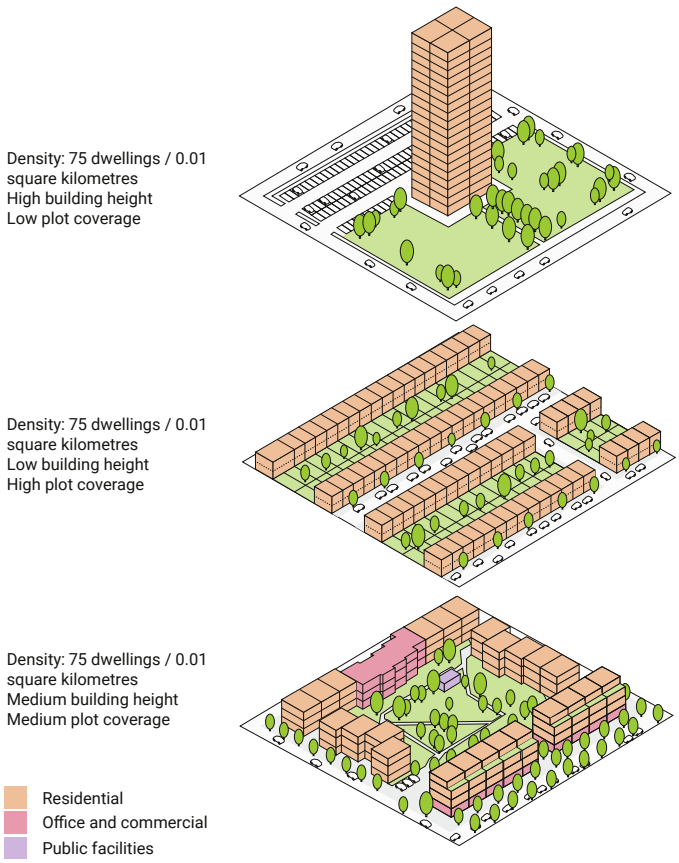
some early data on infection rates in Belgium appeared to suggest that, as the pandemic gradually spread to smaller towns and rural areas, the infection rate per 100,000 people in rural areas became similar or even higher than urban areas.[47] Similarly, a study of the impact of COVID-19 in the United States (US) showed that incidence and mortality rates in some small cities and non-metropolitan counties were equivalent to those in recognized epicentres such as New York City.[48] These counterintuitive findings show that, while density may play a role in certain contexts, there are many other socioeconomic factors at play that also determine the spread of the virus. In contrast, however, cities are far better resourced to deal with recovery measures and curative health responses.

Trends from cities across the world suggest that their population size and mortality rate are not directly related. On average, most cities studied reported a mortality rate of below 4 per cent. Outliers with slightly and in some cases much higher mortality rates were found among cities of all sizes. If population size did not directly determine mortality rates, the question remains as to which others factors played a role. As the evidence continues to grow, these at this point only be hypothesized: the connectedness of cities, the level of access to basic services such as healthcare, the existence of inequalities even in well equipped cities. While definitive conclusions may prove elusive for some time, this incomplete picture does suggest that the relationship between population size and mortality rates is far from linear.

1.2.1. Density

Population density, defined by UN-Habitat as the number of people in a given area and expressed in people per square kilometre, is another important consideration. To promote a high population density and stop the downward

Figure 1.6: Different density configurations in a plot of 0.01 square kilometre



Source: UN-Habitat, 2012

trend of urban sprawl worldwide, UN-Habitat recommends a minimum of 15,000 people per square kilometre.[49] Density can take shape in various forms, as demonstrated in Figure 1.6. Such densities need to be well designed and planned to prevent possible overcrowding, taking into account built form, function and design. For example, 20,000 people living in one square kilometre in a 10-story apartment building will look different compared to the same number of people living in single story shacks in the same area.

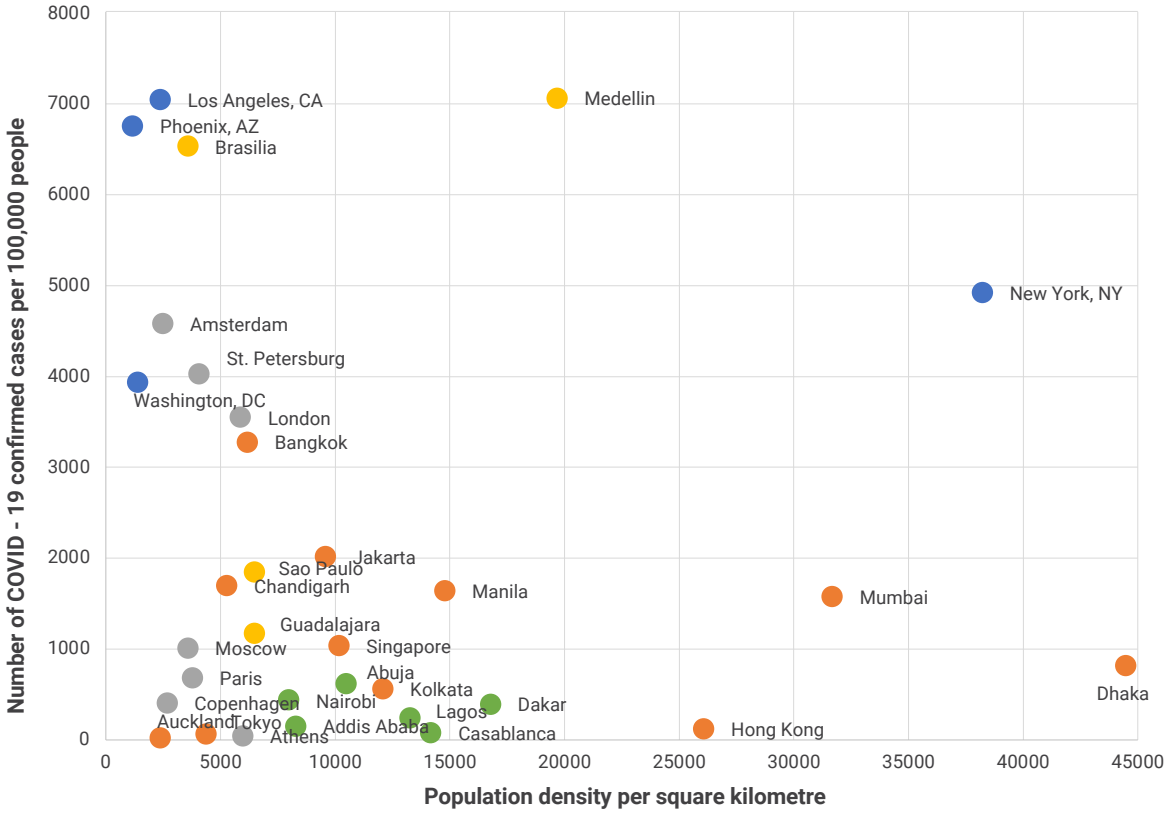
In view of the "social distancing" prescriptions imposed at the beginning of the pandemic, density was targeted in early debates as one key factor for vulnerability. However, as the debate has developed, the appreciation of the role of population density and especially well-designed

Well managed density is very different to overcrowding, a condition primarily connected to social exclusion that has indeed been correlated with increased infection rates and mortality

urban density has changed. Although density per se is not a protective factor against the pandemic, the better access to services and support structures that density often provides has been essential in the response to COVID-19. Furthermore, well managed density is very different to overcrowding, a condition primarily connected to social exclusion that has indeed been correlated with increased infection rates and mortality.

A quick comparison of cities globally in relation to COVID-19 infection rates does not reveal any direct relation between COVID-19 infection rates and population density. The graph below suggests that cities with lower population densities, such as Los Angeles and Brasília, have had much higher infection rates per 100,000 than Mumbai, Dhaka and Hong Kong, despite their much higher population density. It is also important to highlight that some cities in Africa (highlighted in green) and Asia (highlighted in orange) have much lower infection rates per 100,000. While this could be due to socioeconomic measures and governance structures, access to COVID-19 testing in various places is limited and inaccessible for various socioeconomic groups. This hinders the possibility of creating direct comparisons between cities, particularly in different countries and regions, and Figure 1.7 should be seen in this light.

Figure 1.7: Infection rates of coronavirus and population density of global cities, December 2020

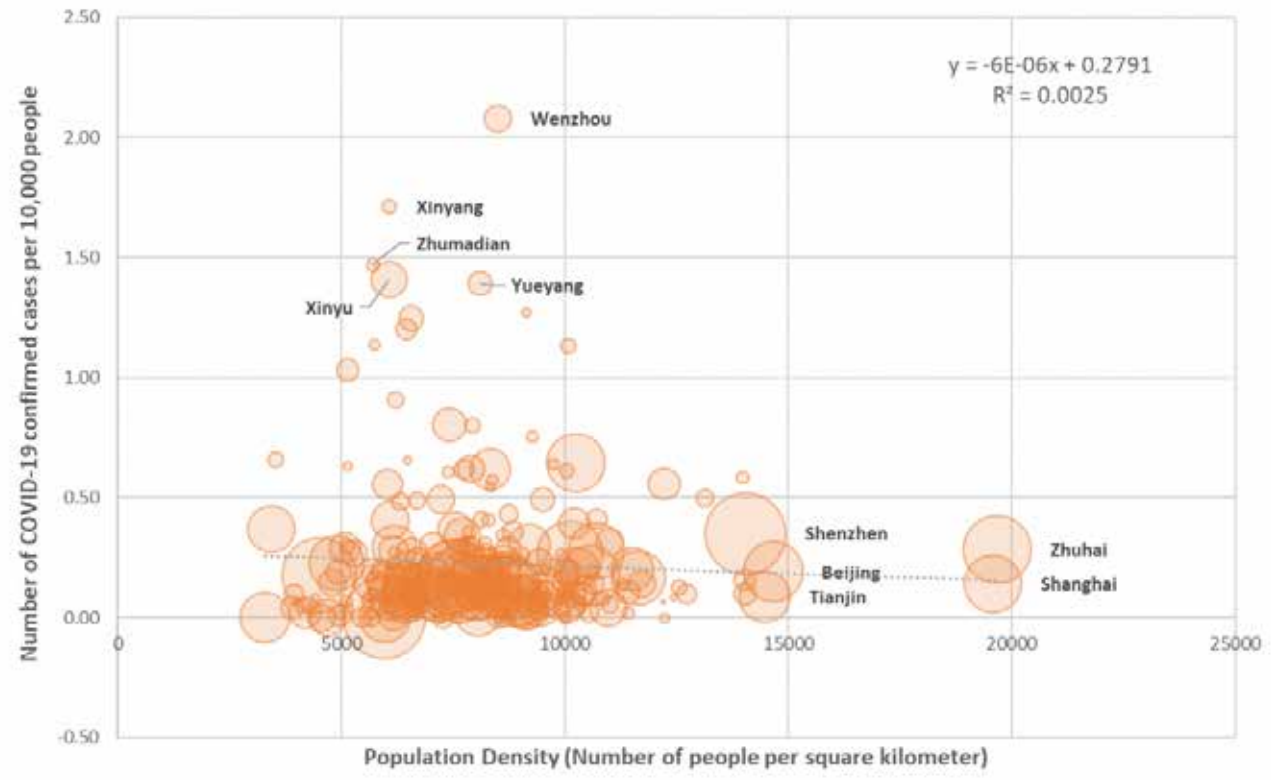


Source: UN-Habitat's CitiIQ platform and UN-Habitat's Global Urban Observatory

A view of Beijing street market, Beijing, China © Shutterstock

However, it is easier to compare cities within countries where there is likely to be less variation in data collection, testing and reporting capacities. One study, covering 284 Chinese cities, demonstrated that urban centres with very high population densities such as Shanghai, Beijing, Shenzhen, Tianjin and Zhuhai had far fewer confirmed cases per 100,000 people. While other contributing factors were also at play, the findings suggest that the correlation between density and infection levels is opaque. More significantly, it was observed that the denser cities were also wealthier, enabling them to channel considerable resources to respond to the pandemic — and so reduce their infection rates.[50]

Figure 1.8: Infection rate of coronavirus and population density of Chinese cities



Source: Fang and Wabha, 2020

Box 1.7: The limited role of density in the spread of COVID-19 in New York

One study in the US covering 913 metro counties found that, while larger metropolitan areas with higher degrees of connectivity were more susceptible to the virus, county density was not itself significantly related to infection rate. Indeed, in terms of actual virus-related mortality rates, counties with higher densities fared significantly better than those with lower densities, potentially as a result of having more effective local health care.[51] More specifically, in New York, another analysis of COVID-19 rates found that the suburban countries surrounding the city were worse hit than the city itself. Of the city's five boroughs, meanwhile, the densest borough — Manhattan — had the lowest infection rates. Staten Island, on the other hand, despite having the lowest density, had the second highest infection rate after the Bronx.[52] This suggests that there are many other factors, particularly relating to inequalities around income, ethnicity and service provision, that may be much more decisive in determining the spread of the virus.

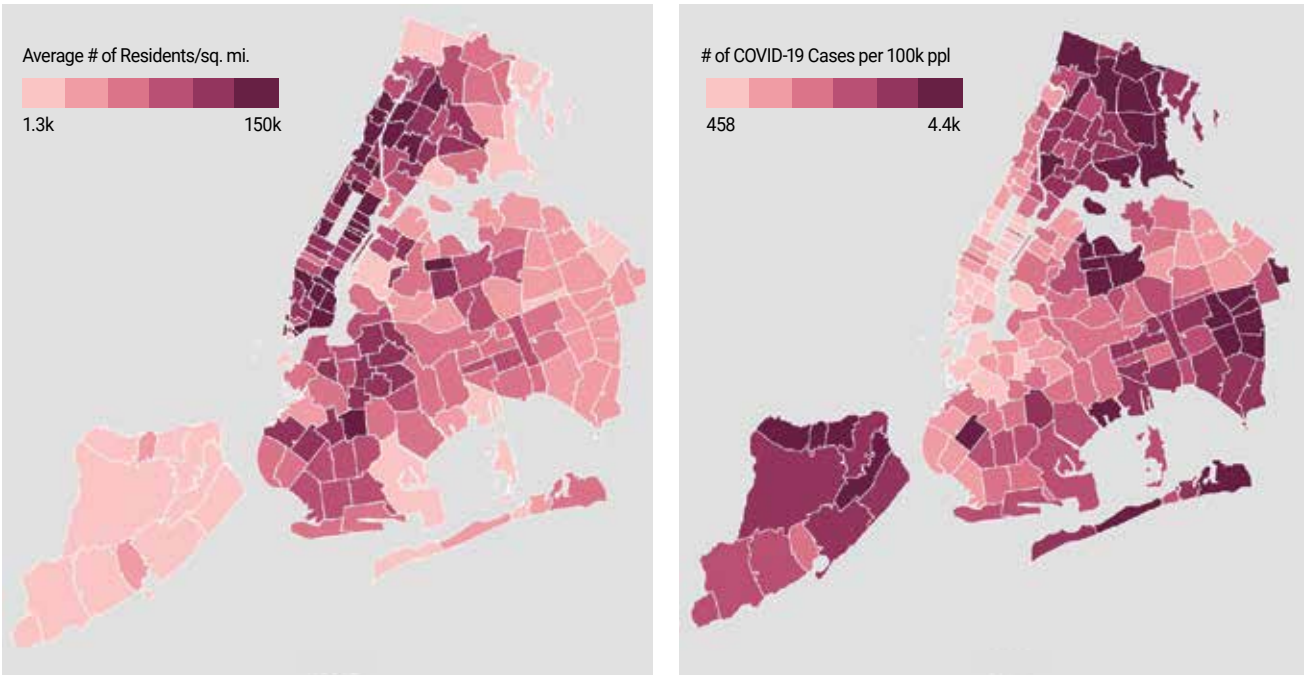
Box 1.8: The potential benefits of well-planned density for cities responding to COVID-19

- Well-planned, dense cities often have better economic performance and more resources for an emergency response. The correlation between density and prosperity of cities is well documented.[53]
- Well-planned population densities support better delivery of health and other essential services, as well as a greater concentration of specialist care and amenities such as hospitals.
- Well-planned, dense settings have stronger experience with collective and organized living and thus have been much more able to adjust to preventive restrictions.
- Well-planned density allows for economies of scale and supports the provision of adequate and affordable basic services for all.

The evidence therefore suggests that the density of cities has not been the decisive factor in increased infection or mortality rates of COVID-19. Rather, access to services, demographics, pre-existing health conditions, social infrastructure and timely response measures determined the scale and impact of the pandemic. Indeed, when supported by good design and adequate service provision, density can enable connectedness and emergency response. For example, through observing the different measures deployed within cities, it is clear that well-designed density aids in mobilizing emergency support, including medical, food and basic services to vulnerable families and the delivery of home-based care during lockdowns that become more manageable at a particular scale.

Density of cities has not been the decisive factor in increased infection or mortality rates of COVID-19. Rather, access to services, demographics, pre-existing health conditions, social infrastructure and timely response measures determined the scale and impact of the pandemic

Figure 1.9: Residential population density compared to COVID-19 case rates by zip code in New York, 18 May 2020

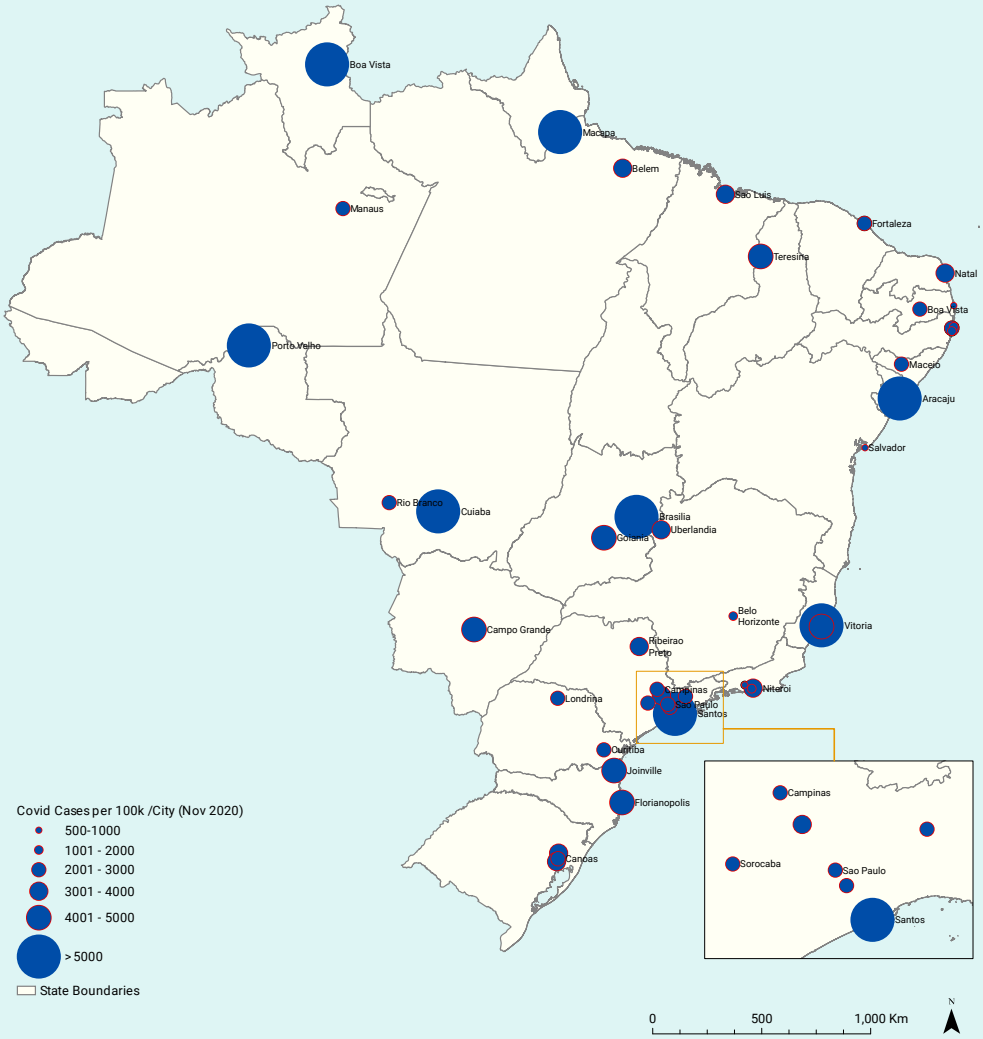


Source: Citizens Housing and Planning Policy, 2020. The comparison highlights that lower density areas have some of the highest case rates in the city. [54]

Box 1.9: The varying impact of COVID-19 in different cities in Brazil

In the case of Brazil, the first confirmed case of COVID-19 in the country dates back to 26 February 2020 in São Paulo. Between the first case and 27 October 2020, there have been more than 5.3 million cases in 5,570 Brazilian cities and around 155,000 deaths, an infection rate of 2,653 per 100,000 inhabitants with a mortality rate of 2.94 per cent. Three cities were selected based on population size and infection rates in order to assess infection and mortality rates and their relation to population size. Comparing COVID-19 case and death numbers in relation to the location and sizes of Brazilian cities, a few observations can be made. São Paulo, located in the southeast of Brazil with a population of 12 million, recorded 305,000 cases and 13,300 deaths. This roughly translates to 1,459 cases per 100,000 inhabitants and a mortality rate of 4.35 per cent. Manaus, the largest city in the Brazilian state of Amazonas, has a population of 2.1 million. Manaus has recorded 56,222 cases and 2,706 deaths, amounting to 2,797 cases per 100,000 and a mortality rate of 4.81 per cent. Finally, Boa Vista, a city in the northwest of Brazil with a population of 375,000, recorded 38,530 cases and 486 deaths — 10,853 cases per 100,000 and a mortality rate of 1.26 per cent.[55]

Figure 1.10: COVID-19 cases in states per 100,000 in Brazil in relation to urban centres and their size



Sources
Brazil State Boundaries: https://gadm.org/download_country_v3.html/Brazil

COVID-19 Cases by city: https://covid.saude.gov.br/ & https://brasil.io/dataset/covid19/caso/

Map Disclaimer: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

While São Paulo has the highest population density (7,216 per square kilometre) of the three cities, followed by Manaus (158 per square kilometre) and then Boa Vista (74 per square kilometre), it is clear that the relationship between density and health outcomes is by no means linear or decisive: despite its lower density, Manaus has a higher rate of infections per 100,000 inhabitants than São Paulo. At the same time Boa Vista, the least dense of the three, also had the lowest infection levels. These disparities could be due to many reasons, such as social behaviour, the nature of work or mobility patterns. There may also be discrepancies in how the figures are estimated. For example, in view of mortality rates, both São Paulo and Manaus have had similar mortality rates that are higher than the country average. While this could be due to multiple factors, it is important to note that the two cities serve nearby suburban and rural areas due to their relatively high number of medical facilities, leading to higher recorded deaths in cities.

In fact, vulnerability is ultimately a more significant determinant than either density or population size. A city-level measurement, the Social Vulnerability Index, has been specifically designed specifically to assess this. Based on 16 indicators looking at three dimensions — urban infrastructure, human capital and income and employment — the scores are represented on a scale between 0 (ideal) and 1 (critical), with a range of indicators (0-0.2: very low, 0.2-0.3: low, 0:3-0.4: average, 0:4-0.5: high, 0.5-1: very high) in between. The higher the index, the greater the vulnerability of a city. The dimension of urban infrastructure is based on access to basic services and urban mobility, as these aspects are related to place of residence and affect quality of life. The dimension of human capital is based on health conditions and access to education as they determine the prospects of an individual. The dimension of income and labour considers families' insufficient income as well unemployment rates, informal occupation and child labour.[56]

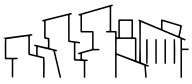
For the cities in this case study, the Social Vulnerability Index was available for both São Paulo (0.291) and Manaus (0.387), but not for Boa Vista. A breakdown of the index based on the three dimensions reveal that not only was urban infrastructure in Manaus more precarious, but also that its human capital was at greater risk than in São Paulo, relating to health conditions and access to education. With the current pandemic, this dimension played a critical role in exacerbating the vulnerability of individuals.

1.2.3. Weak spots

Urban "weak spots" can be understood as parts of metropolitan regions and cities that have a harder time responding to shocks or stresses due to their physical form and the availability of services. A number of characteristics define these settlements, including:

- *Overcrowding:* High population density is not matched by service delivery or adequate living and circulation space.
- *Limited or poor connectivity:* Homes and communities are cut off from neighbouring parts of the city and their accompanying benefits by a lack of public transportation or even physical barriers.
- *Vulnerable locations:* High-risk areas such as floodplains, riverbanks or dumps pose a range of health and environmental hazards for residents living in them.

These are all issues that many informal settlements face, leaving them more exposed to natural disasters, food shortages and other crises, including COVID-19. They are also exposed to a range of other risk factors that accelerate the spread of infection, including overcrowding, inadequate sanitation, lack of access to clean water and other issues. Besides the difficulty of complying with physical distancing at home or on the street in cramped or crowded conditions, many residents have to commute between different parts of the city for work, exposing them to overcrowded public transportation. The multidimensional inequalities faced by informal settlements in terms of poverty levels and lack of service provision, discussed in more detail in Chapter 2, are also reinforced by the spatial dimensions of their exclusion, with many located in peri-urban areas that are far removed from hospitals and other facilities.



Informal settlements are also exposed to a range of other risk factors that accelerate the spread of infection, including overcrowding, inadequate sanitation, lack of access to clean water and other issues

Although not traditionally associated with poverty or lack of services, suburban areas and

their inhabitants can also be at a disadvantage when responding to and recovering from crisis, in part because of their spatial typologies. One reason for this is because they often lack amenities that support alternative use. Because parts of metropolitan areas that are not mixed-use are more prone to relying on private motor vehicle use and usually have only a few types of building and block typologies, flexible street design and adaptive re-use or temporary re-purposing of buildings and public spaces are not as easy to implement as in more heterogeneous urban areas.

Another aspect is that suburban areas patterned after single-family houses with yards might not have the same acreage of public space and infrastructure for public transport and non-motorized transit per person as in urban areas. During lockdown, outdoor recreation and leisure facilities such as public parks, boardwalks and nature reserves were considered safe zones for play, physical activity and psychological reprieve. However, infrastructure for recreation and leisure is often missing or not within walking distance for many suburban families, which, under restrictions to stay within a certain distance of one's home, can make access to such spaces difficult. The importance of designing and advocating for neighbourhoods where most daily needs can be met within a 15-minute walk from home is discussed further in relation to pandemics at the neighbourhood scale in section 1.3.

Access to other functions is also typically limited in suburban areas where low-density single-family homes constitute the primary land use. Whereas in higher-density mixed-use areas, markets, pharmacies, post offices, schools, offices, recreational facilities and open spaces can all be found in the same neighbourhood, single-use areas typically require personal motorized vehicle in order to carry out daily functions. Moreover, because of their auto-centric morphologies, they also direct large groups of consumers to the same destinations. For example, in well-planned cities small markets where neighbourhood residents can purchase basics like milk, rice, bread and beans throughout the day can typically be found at almost every street corner. In areas designed around cars, on the other hand, much larger grocery outlets concentrate hundreds of shoppers in the same space, typically during peak hours, when people find the time to drive out of their way to shop for groceries. Aside from further contributing to road congestion, pollution and a relatively sedentary lifestyle, these suburban development models serve as a "petri dish" for the spread of the virus.[57]

The health implications of living in areas associated with suburban sprawl can also put residents at a disadvantage. Findings from one of the first significant reports on this issue concluded that "the most obvious mechanism through which a sprawling environment affects health is as an opportunity structure that constrains the amount of physical activity that people routinely exert on a daily basis", impacting particularly on the elderly and the poor who may have less access to private vehicles to overcome the spatial challenges of suburban living.[58] By limiting or disincentivizing physical activity, suburbs can have a deleterious effect on physical health.

This is borne out by another survey, conducted by RAND using data from a nationally representative US household phone survey, which found that people living in more sprawling areas had higher rates of hypertension, arthritis, abdominal complaints and headaches, as well as significantly higher rates of breathing difficulties. Crucially, these results held even after other factors such as income and ethnicity were accounted for.[59] Limited street accessibility seemed to be one of the core factors in the decision and ability of respondents to walk, with a significant association noted with elevated hypertension and heart disease. Breathing difficulties, meanwhile, are also likely to be the result of air pollution as a result of increased motorized transport to navigate the low-density, physically dispersed urban form that typically characterizes suburban areas. This is particularly relevant to the current pandemic as both hypertension and respiratory diseases may put

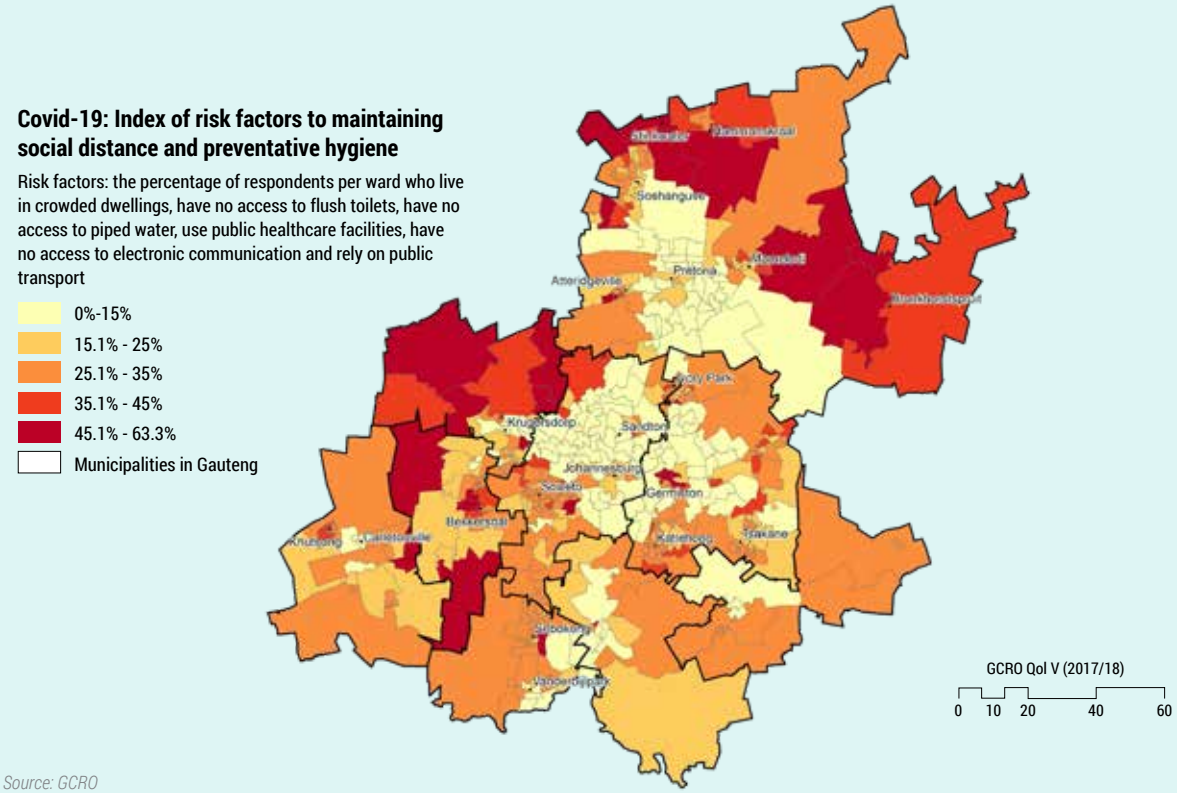
people at an increased risk of severely reacting to COVID-19 or having difficulty recovering from it.[60] This has implications not only in North America, where much of the existing research on the health implications of suburban living has been conducted, but also in cities across Asia, Africa and other regions where rapid growth is increasingly defined by sprawl and suburban development, not to mention poorly managed peri-urbanization.

While accurate infection rates remain difficult to obtain, it is clear that communities living in weak spots are at heightened vulnerability to COVID-19 due to housing conditions, pollution and limited access to health services. At the same time, certain measures employed to curb the virus have also had a disproportionate impact, limiting the capacity of communities to implement a context-specific response while sustaining livelihoods during the pandemic and its accompanying lockdowns. Urgent remedial action, targeted at these weak spots and their most vulnerable populations, is needed to ensure that cities and metropolitan regions have the resilience to make a long-term recovery.

Box 1.10: Identifying weak spots in Gauteng, South Africa

The Gauteng City-Region Observatory (GCRO) has conducted various studies on the spatial and socio-economic factors that make Gauteng's inhabitants more vulnerable to COVID-19. GCRO compiled a total of six risk factors that are considered to be impediments to maintaining preventative hygiene and social distancing: household crowding, shared sanitation, no access to clean running water on site, reliance on public health facilities, lack of access to electronic communication and dependence on public transport. The results reveal that on average the level of risk in townships is significantly higher.[61]

Figure 1.11: COVID-19 index of risk factors to maintain social distance and preventative hygiene



Source: GCRO

Based on the data available from early September, Johannesburg remains the epicentre of Gauteng in terms of overall infection numbers. However, Sedibeng and West Rand have proportionally higher infection per capita rates. The maps below provide a comparison of total infections to date and infection rates per 100,000.

The quality of life assessment conducted by GCRO indicates that informal dwellings are more vulnerable and susceptible to infection. However, spatial evidence based on the data available suggests that there is little correlation with density per ward. Various reasons were provided to explain the findings:

- The population of informal settlements are often relatively youthful, resulting in more asymptomatic cases and lower rates of testing.
- Informal settlements are undeserved by health facilities and therefore do not have access to testing.
- The proportion of private to public testing is more than half, meaning that tests are more readily available to those with financial means to get tested. This means that there is limited testing to those who rely on the public sector — in the case of Gauteng, some 65 per cent of the population.

As such, it is sometimes difficult to assess whether informal settlements have been worst hit with COVID-19 infection. Such limitations are demonstrative of similar trends observed in other geographical contexts and the difficulties of compiling reliable comparative data. Nevertheless, based on what is already known about the virus and the public behaviours needed to prevent its spread, such as regular handwashing, it is clear that governments and local authorities should continue to focus their efforts on improving the current shortfalls in sanitation, health care and other services in these settlements.

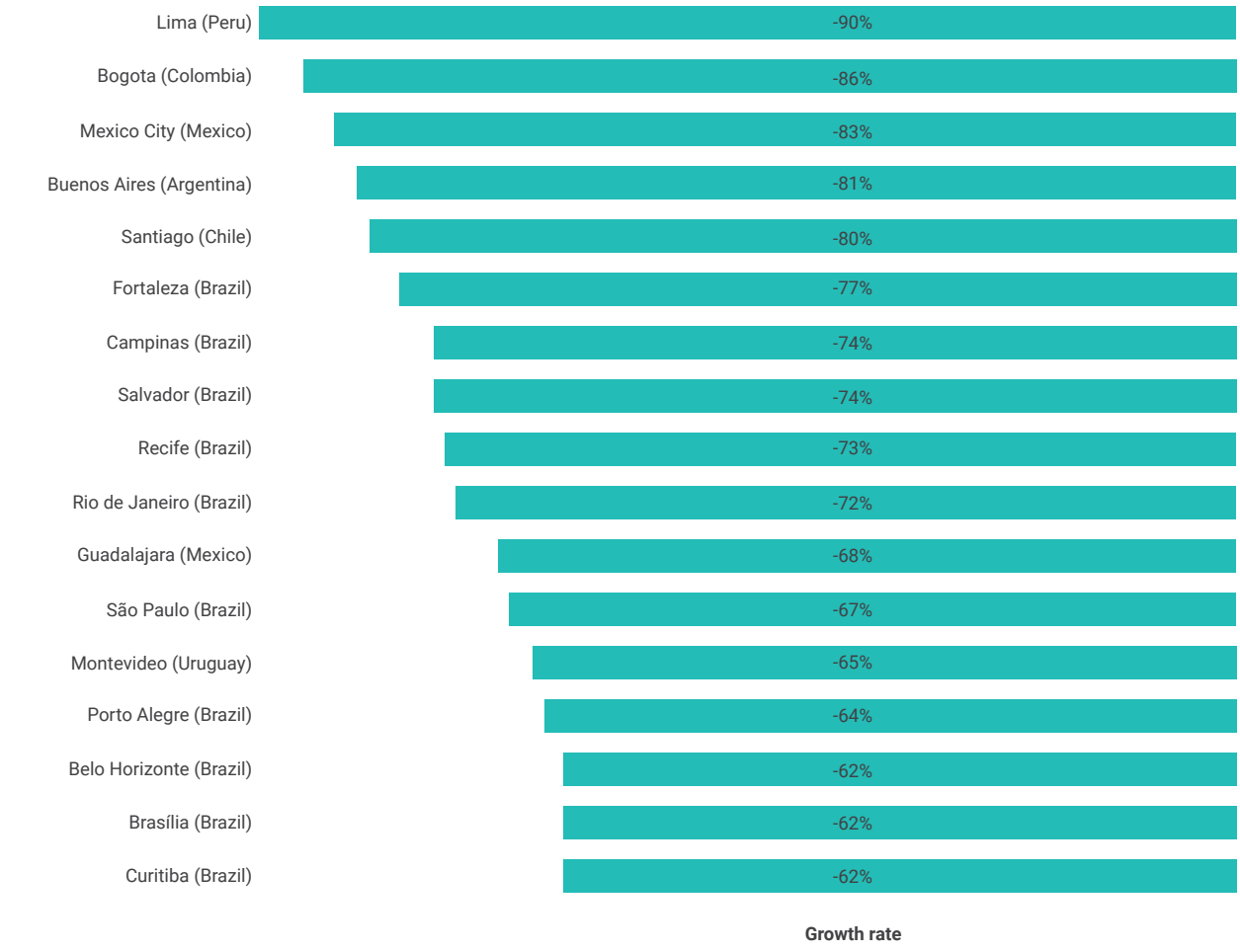
Young woman on her bike with a surgical mask to protect herself from COVID-19 in a street in Paris, France © Shutterstock

COVID-19 brought most of the world to a seemingly abrupt halt. Travel and movement patterns changed drastically at the global, regional and city scales

1.2.4. Urban mobility

COVID-19 brought most of the world to a seemingly abrupt halt. Travel and movement patterns changed drastically at the global, regional and city scales, with potentially some of the most lasting effects evident at the neighbourhood scale. While urban dwellers refocused social, economic and cultural activities to their immediate localities, travel demand reduced in direct response to lockdowns and remote working arrangements. At the same time, cities observed an unprecedented momentum for non-motorized travel such as cycling and walking, while public transport usage — now associated with the potential threat of contagion — plummeted. As a result, while some cities have seen the appearance of new cycle paths and pedestrian pathways, revenues for bus and subway services have reduced dramatically and could leave city transport budgets struggling for years to come. The graph below highlights the extraordinary

Figure 1.12: Changes in public transport demand due to COVID-19 in selected cities in Latin America from 2 March to 12 May 2020

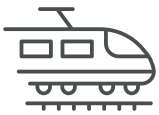


Source: Statista, 2020

decline in public transport use in selected cities in Latin America between 2 March and 12 May 2020, in the first months of the pandemic.

An integrated mobility network that provides safe and affordable public transport, with first and last mile connectivity through non-motorized transport infrastructure, has the potential to make existing as well as newly planned cities and city extensions more resilient. Sustainable travel systems, including public transport and the associated reduction in the use of private motorized vehicles, can deliver a range of benefits: improved urban air quality, a reduction in the number of road accidents and more equitable access to essential services and other opportunities that might otherwise be out of reach for communities in isolated or peripheral settlements.[62] Ensuring that already marginalized communities do not face further barriers to securing employment, health care and other needs during the pandemic must therefore be a priority. Accessible, safe and affordable public transport is central to reducing the negative effects of spatial inequalities and segregation, both in response to the pandemic and in preparation for a secure, lasting recovery from it.

Further research is necessary to fully unpack the true risk of public transport contributing to the spread of a pandemic, and the adequate measures to allow it to continue to function



Accessible, safe and affordable public transport is central to reducing the negative effects of spatial inequalities and segregation

No major outbreaks were linked to mass transportation in Paris.

Under the right conditions, public transport remains one of the safest and most essential means of moving around cities

safely. Nevertheless, many initial studies and policy briefs suggest that, under the right conditions, public transport remains one of the safest and most essential means of moving around cities. Understanding the integral role that public transport plays, for example by enabling essential workers to move easily between their home and workplace, cities have raised hygiene standards to address the risk of infection associated with mass transit. In Moscow, face masks and hand sanitizer were distributed free of charge at metro entrances to persons with disabilities.[63] Other cities, such as Paris and Tokyo, also took steps to manage the potential infection risk in public transport and as a result appeared in the months following the outbreak of the pandemic to have largely avoided COVID-19 clusters on their transit networks.[64] In Germany, where hygiene concepts ensured social distancing and the wearing of face masks, only 0.2 per cent of traceable COVID-19 outbreaks were linked to transport and involved smaller groups of people than those in frequently affected settings.[65] Reduced ridership, stricter hygiene measures, including physical distancing and the use of masks, are likely to have been factors in the prevention of transport-related infection clusters. This provides encouraging signs that, with the appropriate steps, public transport can be used safely during a pandemic.[66] However, city governments will need to make concerted efforts to communicate the measures in place to reassure users and restore confidence in public transport: there was considerable evidence after the first lockdown lifted and movement resumed that large numbers of people were now turning to private vehicles to get around.[67]

However, public transportation systems in many developing countries such as *matatus* (minibuses) in Kenya operate under models that rely on reaching full capacity before departing, making it difficult to distance passengers. Many cities in developing countries have thus faced a double-edged sword: reducing trips and social distancing are acknowledged as being effective measures to curb the spread of COVID-19, but

not seen as realistic and achievable for many developing countries where people's livelihoods depend on face-to-face interactions and are on a hand-to-mouth basis. Private mass transit companies sometimes raised the cost of tickets in order to compensate for revenues lost on empty seats to comply with physical distancing measures. In this case, targeted transport subsidies could assist vulnerable and marginalized populations during the pandemic, but could also be considered as a longer-term strategy in cities where mobility is dependent on mass transit.[68]

Another significant development was the proliferation of non-motorized transport in the wake of COVID-19, triggered by both public regulations and individual responses. In a context where social distancing was suddenly essential, cycling offered the possibility of safe urban transport because of the natural separation it provides between users. These modes also took on more importance in some cities as private motor vehicle use was restricted or discouraged. In Amman and across much of the rest of Jordan, for instance, cars were officially banned for 40 days from driving to reduce the distance that people would travel.[69] In other cities, for example across China, urban dwellers chose to walk and cycle to meet their daily needs within their neighbourhoods, avoiding public transport. Meanwhile in Quito, Ecuador, around 70 kilometres of new bike lanes were constructed and saw an increase of 734 per cent in the number of bike trips during May 2020.[70] In response, in an effort to sustain the behavioural shift towards active travel, a growing number of cities are expanding their non-motorized transit networks. What originally started as temporary measures, including the conversion of road space into pedestrian walkways and cycle lanes, has found widespread support and is leading to permanent infrastructure changes. Across the world, cities such as Berlin, Bogotá, Kampala, Lima, London, Milan, Nairobi and New York have all invested in the expansion of expanded their walking and cycling infrastructure.[71]

Another significant development was the proliferation of non-motorized transport in the wake of COVID-19, triggered by both public regulations and individual responses

Box 1.11: Cities transform their walking and cycling infrastructure in response to COVID-19

In response to the pandemic, the City of Montréal responded with the creation of "Active and Safe Lanes", a network of accessible transportation corridors for pedestrians and cyclists. Implemented as part of the emergency measures to allow the resumption of activities following the first wave of the COVID-19 pandemic, they represented an additional 112 kilometres of cycle paths and pedestrian routes, with further networks rolled out throughout the summer to provide city residents access to parks, schools, essential services and businesses. Planned on a temporary basis during the summer season, these developments were carried out in record time by all the departments of Ville de Montréal and their partners.[72]

In Colombia, Bogotá pursued a creative alternative to trains and buses in response to the pandemic, with the development of 84 kilometres of temporary cycle routes in early 2020 to add the city's extensive *Ciclovía* network. Established as an emergency response to the pandemic, these improved facilities helped boost interest in cycling among residents, with a survey in the summer showing that the number of people who would consider cycling as a means of transport had doubled to 16 per cent. The rollout of this new infrastructure has been accompanied by workshops on social distancing and other preventative measures to keep users safe. The hope is that this strategy will have a lasting impact on the city's transport system in the long term.[73]

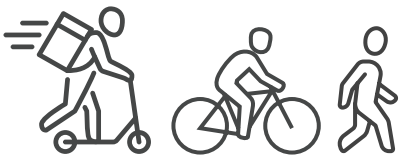
In Europe, too, cities have been reconfiguring their streets to accommodate greater use of non-motorized transport. In Milan, Italy, the city centre will be partly remodelled to allocate some 35 kilometres of road space to cyclists and pedestrians, with reduced speed limits for motor vehicles to ensure their safety. In Brussels, Belgium, where an ambitious pedestrianization plan was already underway before the pandemic hit, the entire city core was transformed into a priority zone for cyclists and pedestrians. In Paris, France, cycle lanes were similarly expanded and a number of planned long-distance cycleways were opened ahead of schedule.[74]

Figure 1.13: Plans for Corso Buenos Aires in Milan, Italy before and after the proposed changes to reduce car use

Source: Laker, 2020

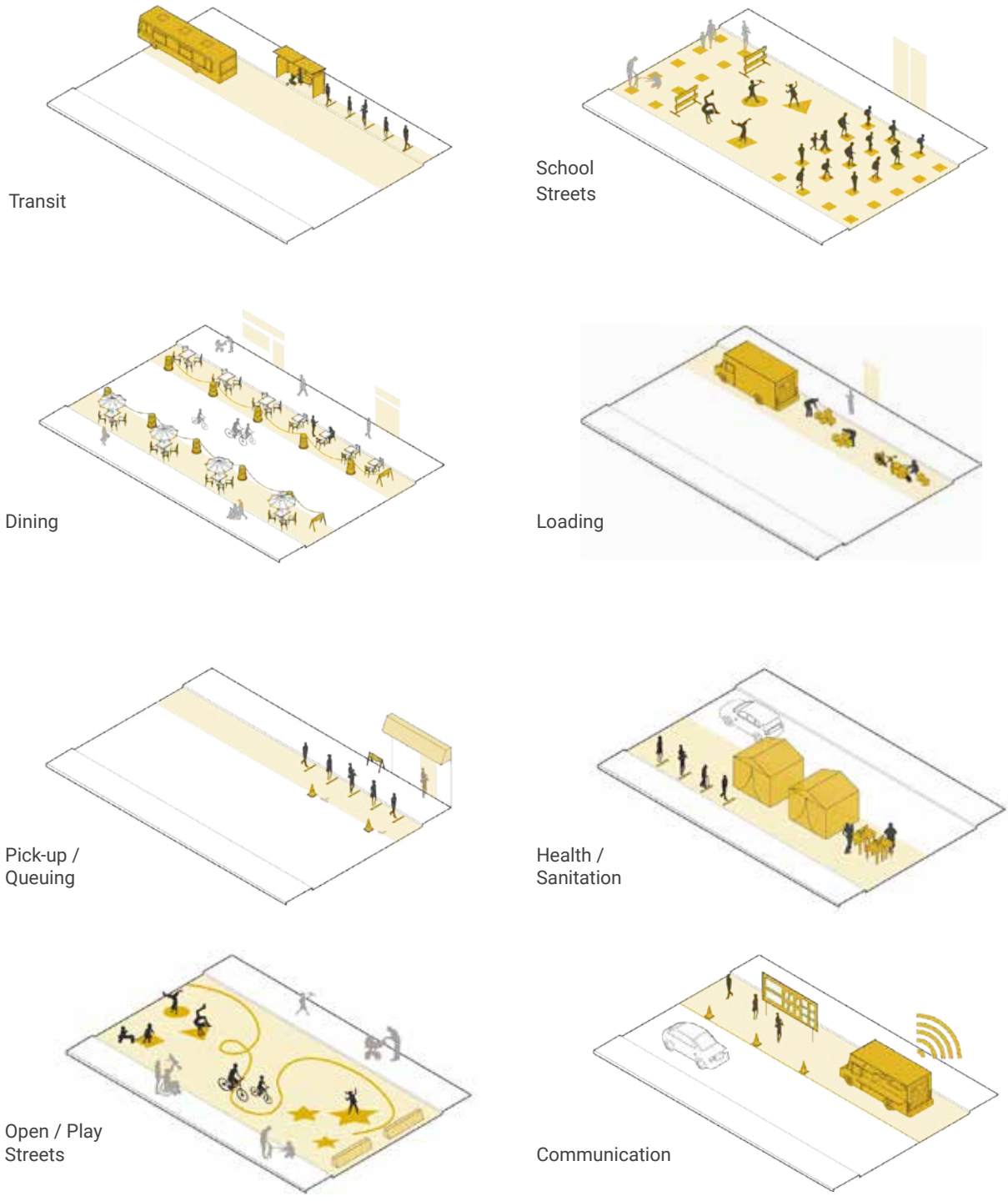
Such permanent changes to the urban infrastructure in favour of active travel can have multi-faceted and widespread benefits. Sustaining the shift towards non-motorized transport has the potential to contribute to active lifestyles that improve personal health and reduce CO2 emissions. Furthermore, improvements to pavements, cycle paths and other infrastructure can increase road safety by reducing conflicts between different modes of transport such as cars and bicycles.

In cities where public transport was no longer operating, walking and cycling proved to be welcome alternatives for many urban dwellers. Initial evidence also suggests that improvements to non-motorized transport infrastructure can reduce infection rates: "walkable, mid-rise developments provide more dispersed pedestrian travel which reduces contagion risks and improves community liveability in many ways".[75] Not only did locally-based lockdowns appear to be more effective than city-wide lockdowns in preventing the spread of COVID-19, but neighbourhoods with robust street networks also appeared to be better able to provide access to essential services during the pandemic. Walkability enabled urban dwellers to reach services and meet their basic needs within short distances of their homes. More compact, mixed-use neighbourhoods, as will be further explored at the neighbourhood scale in section 1.3, combined with a well-designed road network that provides space for active travel, further influence travel patterns in favour of active mobility.



Sustaining the shift towards non-motorized transport has the potential to contribute to active lifestyles that improve personal health and reduce CO_2 emissions

Figure 1.14: Guidelines to redesign and repurpose streets during the pandemic



Source: Nacto, 2020

1.3. Reimagining the Neighbourhood: The Renewed Importance of Local Living

Social distancing rules, movement restrictions, cluster lockdowns and the associated increase in working from home during the COVID-19 pandemic have allowed the neighbourhood to take on renewed importance in urban life. The ways urban dwellers are now using public space and local amenities where they live have changed drastically in many cities – and potentially for the long term.

Public spaces were quickly adapted to support emergency services through the set-up of temporary hospitals, warehouses and other facilities that helped to improve neighbourhood response capacities

In response to the pandemic, public spaces[76] were repurposed for medical as well as social use, while non-motorized travel such as walking and cycling gained momentum. This refocusing of social, economic and cultural activities to the neighbourhood level has led to fresh appreciation of the value of well-designed and compact local areas that contribute to the wellbeing of their residents. For these positive changes to be lasting, however, it is imperative to carefully consider which interventions can and should be sustained over time and which will need to be reversed once the crisis is brought under control.

Affording greater primacy to neighbourhoods may also require a retooling of the conventional top-down approaches that some cities have historically employed in their planning. While citywide strategies clearly have a central role to play in managing complex urban systems coherently, it is important these do not overlook the more granular, contextually sensitive needs and opportunities at play locally. This may require a significant investment in the particular knowledge and skills involved in neighbourhood planning, as well as the development of decentralized participatory platforms to ensure decision making is informed by the views of residents, business owners and community organizations in these areas.

1.3.1. Public space

One of the most immediate and visible spatial responses at the neighbourhood level to the COVID-19 pandemic was the repurposing of public space. Public spaces were quickly adapted to support emergency services through the set-up of temporary hospitals, warehouses and other facilities that helped to improve neighbourhood response capacities. In Wuhan, China, various types of temporary care facilities were erected, including temporary hospitals, isolation sites and community health centres that significantly increased the capacity of the health sector.[77] Experiences such as these confirmed the integral role of public spaces in the emergency adaptation of urban function and spatial structures to disasters.[78]

An emergency field hospital was set up in Central Park in New York City in March 2020. © Lokman Vural | Elibol | Anadolu Agency | Getty Images

Beyond the emergency response, the COVID-19 pandemic also highlighted the importance of public space for community and social resilience, as well as personal wellbeing. Urban parks, at least those that stayed open, were among the few places that saw a surge in footfall during COVID-19 lockdowns. Denmark followed a strategy to allow physical activity, fresh air and socializing at a distance by keeping public spaces open. Physical distancing requirements meant that public spaces served as some of the few safe spaces for urban dwellers to interact at a distance, contributing to community cohesion, alleviating stress and playing an important role in children's development.[79] Public space can also support gender equality: a study in Denmark found that public spaces were used more equally by both males and females during lockdown than previously.[80]

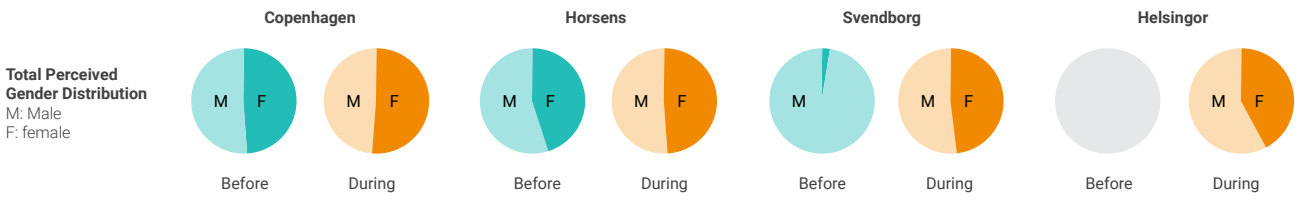
Similarly important is the capacity of public space to serve as a "communal health resort".[81] Pandemics such as COVID-19 can leave persons with underlying conditions such as chronic non-communicable diseases disproportionally vulnerable. Marrying the "right to the city" and the "right to health", a new approach to city planning should support better and more equitable distribution and access to health services, while also promoting healthy and active lifestyles. Neighbourhood design, including the strategic inclusion and design of public space, enforced bicycle lanes, pedestrian-friendly streets and continuous blue-green networks, are central to providing a healthy environment that tackles non-communicable diseases. Incorporating parks and nature into all neighbourhoods is a public health measure with beneficial psychological and physical effects.[82] COVID-19 has highlighted the importance of this aspect as a preventative and responsive aspect to human wellbeing.

For these benefits to be fully realized, however, public space must be accessible and equitable for all: UN-Habitat advocates for the distribution of public space within a five minute walk. Physical accessibility for all, for example through the provision of ramps for persons with mobility impairments or tactile pavement for persons with visual impairment, is one component in this. Equally important is the imperative to make public space socially accessible. In cities like Amman, Jordan, women frequently avoid public space due to cultural threats of being perceived as improper and the risk of verbal harassment by men.[83] In other contexts, seemingly public spaces may in fact be privately owned and managed, leaving open the possibility that some may in practice be excluded, such as rough sleepers, informal street vendors or members of discriminated ethnic minorities.

During COVID-19, the repurposing of public spaces also helped to reduce the trade-off between public and economic health. Not only during the pandemic but in spatial planning more generally, there is both a need and an opportunity to reimagine streets as public space. By creating space for people to exercise, play and access their jobs in proximity to their homes

A new approach to city planning should support better and more equitable distribution and access to health services, while also promoting healthy and active lifestyles

Figure 1.15: Public spaces across cities in Denmark were observed to have a significant gender redistribution during COVID-19



Source: Gehl Architects, 2020

while following physical distancing guidelines, streets are a fundamental tool in a public health approach focused on risk reduction. Similarly, the extra distance that streets can enable between people means that by expanding certain activities beyond the internal confines of a building, places of worship, cultural institutions, libraries and even schools can more safely resume their critical role in society.[84] Beyond extending the classroom to outdoor spaces, in response to the closure of schools, streets can provide WiFi hotspots enabling children remote access to education and adults a means of working from home. By converting indoor into outdoor activities, businesses such as restaurants, cafes, theatres, cinemas and gyms have been able to continue operating, supporting livelihoods and businesses while offering important social and cultural services to the urban community. New concepts, such as Gastro Safe Zones in Europe and Streateries in the US, can allow for the safe return of customers and provide at least some income for restaurants and food vendors. Streets can also provide space for pop-up medical care and testing as well as serve as distribution points for food and potable water.

Box 1.12: The opportunities of public space for dining, retail and leisure

Balancing public health with economic survival has forced many cities to creatively reimagine public spaces to enable some measure of activity to continue despite the pandemic. The requirements of social distancing have meant that previously thriving areas such as markets have had to adapt to ensure their ability to function safely. At the same time, overlooked or inaccessible spaces such as parking lots have also in some cases acquired a new importance once repurposed as areas for dining, recreation or sport.

In Delhi, as the nation-wide lockdown was being gradually lifted, some neighbourhoods began to host pop-up stores of retail shopping brands typically found only in larger markets or malls. These allowed consumers who might be hesitant to resume their visits to central markets to meet their demands within walking distance, while also allowing businesses to generate some revenue.

In Ethiopia, UN-Habitat has been working with support from the government to redesign overcrowded city markets and set up temporary markets to help prevent the spread of COVID-19 in four cities. Markets selling food, vegetables and other commodities are still open and very crowded. Planners from UN-Habitat have proposed new designs to incorporate physical distancing, handwashing stations and the introduction of temporary markets in public spaces to accommodate vendors. In Fara Gebaya market in Hawassa city, the site selected is 8,000 square metres and designed to accommodate 280 vendors.[85]

Melbourne is planning to reconfigure the Central Business District's 'Little Streets' area to create a more lively urban environment for walking, eating and other outdoor activities. This will be achieved by modifying the current design and layout to provide more space for safe and enjoyable use of the area by pedestrians and diners. The city is also exploring ways to support restaurants by opening up parking bays and other spaces for use as dining areas.[86]

Outdoor summer school activities with social distancing measures. Turin, Italy © Shutterstock

The role of accessible public space is even more evident in marginalized areas characterized by informality, overcrowding and a lack of access to services. In contexts where urban livelihoods depend on the informal economy, public spaces often serve as market areas. Shutting down these areas can have devastating effects on urban dwellers who support themselves on a day-by-day basis. As a result, many vendors have had to quickly adapt in the face of new restrictions. In Kisumu, Kenya, for example, after the popular Kibuye market was closed during lockdown, traders built a makeshift alternative to sell their goods.[87]

Instead of only framing public spaces and the economic and social activities that take place in them as a public health risk, city authorities can use these central gathering points to raise health awareness, set-up handwashing stations and distribute emergency and necessary medical supplies, among other functions. In Beirut, Lebanon, for example, UN-Habitat developed communal handwashing stations in four urban neighbourhoods to help prevent the spread of COVID-19, benefitting some 30,000 people including vulnerable residents, refugees and migrants.[88] Public and green spaces also offer room for urban agriculture, which can help bridge food shortages and provide access to fresh produce.

Yet these benefits are only possible if public spaces are distributed equally across neighbourhoods. In many cities, inequitable public space distribution leaves areas with households from lower socio-economic backgrounds worse off and exacerbates existing patterns of exclusion. A recent analysis of 610 cities across 95 countries found that only 47 per cent of the population studied lived within 400 metres walking distance of open public spaces.[89] In an attempt to rectify such spatial inequalities, Vancouver has developed a citywide master plan for parks and recreational areas that aims to address the legacy of discrimination and injustice by prioritizing social inclusion in its design.[90]

1.3.2. Compact, mixed-use development

The initially temporary changes in how urban dwellers interact with their urban environment at the neighbourhood level, particularly regarding public spaces and mobility, have led to the rethinking of how neighbourhoods should be planned to build back better. Concretely, the idea of the "15-minute neighbourhood" — characterized by compactness and the ability to meet daily needs such as shopping, health care, socializing and education within walking distance from home — is gaining growing support, with the Mayor of Paris, Anne Hidalgo, proposing to radically reshape the city around this concept to reduce stress and pollution levels.

Initial evidence suggests that centralized city layouts may lead to increased COVID-19 infection rates, while decentralized layouts can contribute to reducing its spread by allowing for targeted movement restrictions that build on and promote community resilience.[91] These trends suggest that compact, mixed-use neighbourhoods are beneficial for both city-wide resilience by containing the spread of the pandemic, as well as for personal safety by allowing urban dwellers to meet their needs locally and thereby reducing their interactions and exposure to the virus.

Furthermore, targeted movement restrictions are most easily implementable if affected communities can meet their needs locally, despite being disconnected from the larger city. However, where these conditions are not met, neighbourhood or cluster-based lockdowns can disproportionally affect already vulnerable persons and communities by potentially preventing them from meeting their needs and earning their living. An increase in food prices, linked to movement restrictions, for example, might make lower socio-economic groups more vulnerable to malnutrition. Nor are the effects of lockdowns only felt locally. After Kenyan authorities imposed a 15-day lockdown in the neighbourhood of Eastleigh in Nairobi, for example, around 220,000 people were unable to enter or leave the mixed commercial and

residential area, meaning that shopping malls, shops and eateries in the area were also forced to close. Given its central importance to Nairobi's economy, the impact of this move on the city and even the country was considerable.[92]

Box 1.13: Alleviating food security in the Philippines through satellite markets

In the Philippines, UN-Habitat has opened two satellite markets and several mobile stores around Marawi City to bring fairly priced food and essential goods closer to people. Due to the lockdown and closure of local shops, people had to travel significant distances to city centres to find open markets, if public transport was available. The satellite market makes products available at fixed locations, reducing travel distances and promoting mixed-use within walking distance.[93]

And it is important to remember that compact, mixed-use neighbourhoods have the potential to deliver benefits even beyond the emergency response phase of a pandemic such as COVID-19. In the medium to long-term, a sustained increase in remote working and the associated reductions in people's need to travel are likely to create a growing demand for local, easily accessible services and facilities. This could offer an opportunity to promote healthier lifestyles based around physical activity and community cohesion.

A sustained increase in remote working and the associated reductions in people's need to travel are likely to create a growing demand for local, easily accessible services and facilities

Wearing of face mask for protection during covid-19 pandemic © Shutterstock

1.4. Adapting Buildings to the Pandemic: Reducing Risk Through Better Design

As restrictions on movement were hastily put in place following the outbreak of COVID-19, people had to adapt their daily routines accordingly, combining the spaces they work, live and play into their homes. In the process, many problems related to the design of buildings, particularly houses, offices, schools, hospitals and other single-use buildings, were brought to light. The insights afforded as a result have frequently been painful, but they also offer the opportunity to generate lasting change on issues that have dogged cities for decades.

1.4.1. Housing conditions

As previous pandemics adapted housing to ensure minimum standards of light, ventilation and sanitation, the COVID-19 pandemic presents an opportunity to reinforce such measures and adopt new ones to promote building design flexibility and the avoidance of overcrowding. Cramped and poor quality housing has proven to be a major driver in the spread of the virus. Accordingly, measures to improve and reconfigure overcrowded housing and informal settlements have already been adopted in many cities globally. Vacant buildings have been repurposed for emergency services, particularly to accommodate the homeless and provide medical services, while the design of workplaces has also been under the spotlight due to surging cases.

Cramped and poor quality housing has proven to be a major driver in the spread of the virus. Accordingly, measures to improve and reconfigure overcrowded housing and informal settlements have already been adopted in many cities globally

Box 1.14: Using good design as a tool for inclusive development

Though discussions around good design and housing improvements for citizens in developed country cities are often treated as a separate research area to issues of overcrowding and public health in informal settlements and humanitarian contexts, in practice the two areas have many important considerations in common. For slum dwellers, refugees and other excluded groups, spacious layouts, effective ventilation, access to outdoor areas and other principles of good design are no less important. Hence the increasing mobilization of architectural expertise in emergency and relief contexts, such as displacement camps, as well as in development programming. The organization Architects Without Frontiers, for instance, aims to work "in an interdisciplinary and collaborative way with local partners to deliver design solutions that address long-term community needs".[94]

There has been an increasing focus on incorporating good design principles into refugee camps, particularly in light of the fact that many supposedly temporary settlements built to house displaced populations have remained in place for years or decades. In response to the continued tendency for camps to be laid out in rigid grids, some humanitarian professionals have advocated for a greater emphasis on absorbing the basic principles that inform progressive urban design, with large communal spaces, private gardens and decentralized, diffuse services and amenities, in contrast to the tendency to concentrate all functions exclusively at the settlement's core.[95]

While not new concepts, flexibility and adaptability have become increasingly relevant during the pandemic

While lockdown measures have varied from one region, city or neighbourhood to another, generally residents have had to restrict their movement and stay within their homes. While this may have been feasible for a large number of people, housing design may not enable residents to adapt their daily routines to be done from home because of limited living space. Particularly in megacities such as Hong Kong, Bangkok and Jakarta, the pressure on land is immense and has led architects over the years to develop smaller floor plans for each household. The difficulties of working and studying in these spaces, let alone maintaining a degree of social distancing, are especially pronounced in regions where multigenerational households are commonplace. In India, for instance, four in 10 households are home to extended families, creating challenges for older members who may themselves be shielding but are still vulnerable through contact with younger family members who could be asymptomatic carriers of the virus.[96]

Cities should identify multi-purpose and flexible buildings that can contribute to strengthening their health resilience in the face of future crises, including the possibility of further waves of COVID-19

An intersectoral housing approach therefore has the potential to deliver a range of social, economic and environmental benefits that particularly help low-income and vulnerable groups.[97] Improving housing conditions by providing adequate living space and thermal comfort not only supports positive health outcomes, but also contributes to educational and economic achievements by reducing days off school and work. Furthermore, enhanced thermal insulation and energy-efficient building designs can improve indoor temperatures while reducing energy expenditure and thereby global carbon emissions.

Healthy housing is associated with factors inside and outside the home. Restrictions on movement have also had impacts on public spaces and green areas with many people resorting to their own outdoor spaces, through the use of balconies, terraces and courtyards — spaces that for many people have been their sole opportunity to exercise and enjoy fresh air for weeks or months of lockdown. Measures to incorporate some form of outdoor space have been shown to improve physical and mental health, and have become even more urgent in the wake of COVID-19. Given that the reliance on homes to accommodate more daily activities could be the “new normal” for some time, rethinking the ways housing design can be improved to incorporate outside space should remain a priority.

1.4.2. Flexible design

While not new concepts, flexibility and adaptability have become increasingly relevant during the pandemic. Large multipurpose halls, arenas, civic buildings and convention centres have been used historically for emergency response, particularly in storms. Similarly, in response to COVID-19, many cities and countries have had to repurpose single-use buildings to support emergency measures, with stadiums and schools transformed into isolation facilities to overcome shortages in hospitals. In São Paulo, Brazil, where the capacity of existing health facilities did not meet potential demands under the health crisis, a stadium was transformed into an open-air hospital. In Vienna, a large exhibition hall was transformed into a temporary hospital. In Santiago, Chile, the Espacio Riesco was reconfigured as an emergency hospital.

As countries and cities emerge from the worst phase of the pandemic, civic buildings are also likely to remain open as office spaces to those who cannot work from home. Moving forward, cities should identify multi-purpose and flexible buildings that can contribute to strengthening their health resilience in the face of future crises, including the possibility of further waves of COVID-19. Building regulations can be enforced to ensure that emergency buildings are adequately distributed across cities and accessible by vulnerable populations.[98]

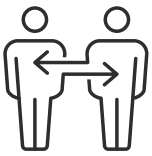
A temporary field hospital was set up for coronavirus patients in São Paulo, Brazil © Nelson Almeida | AFP | Getty Images

Box 1.15: Repurposing a heritage hotel as a health facility in Viña del Mar, Chile

Adaptive reuse is a common approach to repurpose buildings and find new functions, particularly for heritage buildings. This has become even more valuable in times where intensive use towards a particular function is needed. In the case of Viña del Mar, Chile, the Hotel O'Higgins was repurposed to an isolation facility for low-risk patients during COVID-19. The building, constructed in 1936, was the headquarters of artists who participated in the city's annual music festival, before becoming a publicly owned hotel leased to the private sector. It was closed after a fire in February 2020 and was subsequently refitted by health authorities in a matter of weeks to accommodate COVID-19 patients.[99] For the hotel, like many other historic buildings that have been redeveloped in the face of a public health crisis, this is the latest in a series of transformations during its lifetime.

While the crisis has demonstrated the opportunities for some buildings to be creatively repurposed, it has also highlighted the shortcomings of others in terms of poor design. In the latter category, many places of work like manufacturing facilities and office spaces, as well as facilities such as hospitals and care homes, showed an increased rate of infection amongst users as a result of inadequate layouts or ventilation systems. For example, cramped and unsanitary conditions led to a significant number of outbreaks in abattoirs and meat processing plants in Germany and the US. Hospitals, nursing homes and other healthcare facilities also emerged as hotspots for contracting the virus, leaving some citizens fearful of accessing these services.

These outbreaks have been associated with the physical form of the buildings themselves: their design should be reconsidered to avoid overcrowding, provide ventilation systems and minimize potential contact between different users. As a response to the ongoing debate on building design as a cause of increased

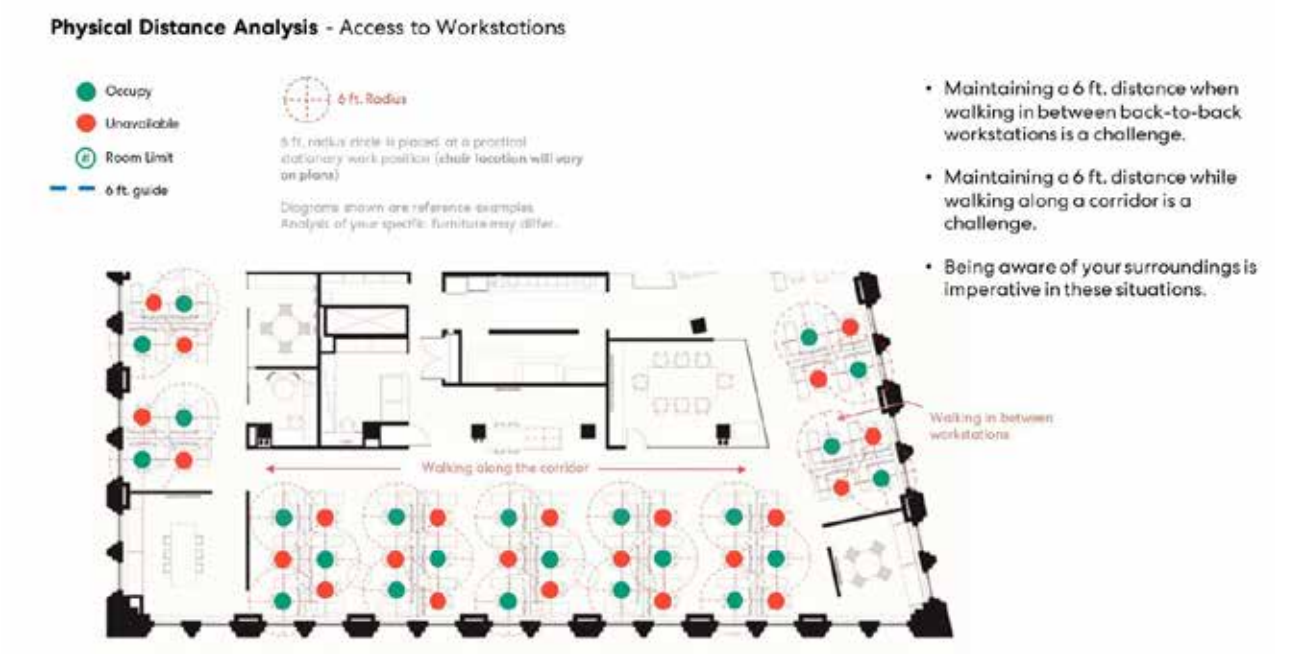


Outbreaks have been associated with the physical form of the buildings themselves: their design should be reconsidered to avoid overcrowding, provide ventilation systems and minimize potential contact between different users

spread, architects and practitioners within the built environment have developed guidelines to adapt building structures in light of COVID-19. This includes a guide for restaurants on outdoor dining, schools and offices. At health centres, too, while there are clear reasons behind the prevalence of outbreaks at health centres, reimagining the design of many of these spaces may be an important step to reducing risk. According to the Italian architect Filippo Taidelli, "COVID-19 has brought into sharp focus all the existing structural, organizational and technological challenges associated with old and obsolete healthcare facilities", issues he has argued could be addressed by humanizing "the industrialization of healthcare spaces".[100]

Examining the building scale in more detail, multi-storey buildings should be equipped with ventilation and revised circulation systems, both horizontally and vertically. For example, staircases should first be located in a suitable and attractive location within commercial and residential buildings to avoid crowding and queuing for lifts. Staircases leading upwards and downwards can be separated to reduce contact, while aisles in grocery stores can become one-way.[101] Particularly with regard to elevators, stricter rules will likely be required, including reduced passenger loads, designated standing spots, mandatory mask wearing and a ban on conversation.[102] These measures are likely to create knock-on effects elsewhere, meaning security staff and queuing systems may need to be in place to prevent crowds developing in lobbies or passageways instead.[103] Other measures to safely manage the flow of people in a building could range from occupant limits to allocated time windows to enter and leave, along with the deployment of technologies such as anti-microbial finishing and filtration systems.[104] As is already the case in many workplaces, staff could continue to work remotely some of the time and work schedules adjusted accordingly. Communal spaces, such as kitchens in office spaces and restaurants, could have restrictions on the number of people using them at any one time.

Figure 1.16: Guidelines on returning to the workplace



Source: Harrouk, 2020

1.5 Conclusion

As understanding of COVID-19 continues to evolve, the design of cities and buildings needs to be re-examined urgently to make them more resilient to future pandemics. A central element in the development of more responsive policies to the current pandemic, not to mention future crises, is the concept of urban "weak spots". While these frequently include the most economically disadvantaged areas of a city or region, the factors that determine their vulnerability are wide-ranging and can encompass a variety of dimensions relating to their location, connections, built environment and building design that leave them more exposed to shocks or stresses.

To strengthen territorial regional systems, resources and infrastructure investments need to better balanced, encouraging more local means of production and supply as well as the integration of climate change and environmental considerations into planning efforts at all scales. Cities must embrace compact urban forms with adequate densities, accompanied by equitable access to services and amenities for all groups. Active, non-motorized and public modes of transport should be available across the city and regions as continuous, reliable and safe networks along with well-designed and accessible public open spaces. Furthermore, the design of offices, houses and other buildings should prevent overcrowding, allow natural ventilation and provide ready access to outdoors to improve urban lifestyles. While requiring considerable efforts, these measures will not only play an important role in bringing an end to the current pandemic, but also bring the world that much closer to the realization of Sustainable Development Goal 11 — to "make cities and human settlements inclusive, safe, resilient and sustainable".

Recommendations

Regional level

- ***Strengthen coordination between cities, regions and territories through the creation of shared decision-making platforms.*** Fragmented governance structures often leave municipal and provincial authorities operating independently without any means of aligning their policies, despite their shared interests. The establishment of regional boards or other bodies with the political representation and power to cooperate, unify and manage networks of cities or urban agglomerations could help address these gaps.

- ***Adopt environmental protection measures at the regional scale, such as blue-green networks, landscape belts and urban growth boundaries, to limit land use conversion and reduce ecosystem deterioration.*** Preventing deforestation and biodiversity loss will not only prevent human-wildlife contact, thus reducing the spread of zoonotic diseases, but also decrease chronic exposure to harmful levels of particulate matter in the air and so lessen susceptibility to respiratory disease. Furthermore, by protecting valuable agricultural land from encroachment, these measures will help ensure the continued proximity of farming and food production to city consumers.

- ***Impose strict planning guidelines that prioritize air quality and public health.*** Alongside stringent zoning and land use regulations, progressive policies such as carbon taxes and cap-and-trade can lessen the impact of heavy industries and industrial emissions on urban air quality. Similar restrictions should be in place for construction practices, demolition works, deforestation and other activities that release dust and lead to poor air quality.

- ***Emphasize and improve connectivity within cities and regions*** through national urban policies and plans that facilitate the secure

flow and movement of goods, services and labour. This requires planning for cities, territories and regions to ensure coherence between sectors and spatial levels. Bridging existing divides, strengthening urban-rural linkages and promoting a more holistic expansion of regional infrastructure, both physical and digital, will also help reduce the socio-economic impact of COVID-19.

- ***Strengthen localized means of production for essential provisions*** such as food and medical supply chains, building regional resilience to sudden shocks in global supply chains. Among other measures, governments should incentivize investments in infrastructure that supports local means of production and shorter supply chains in the food and medical system. Policy makers should also encourage increased mixed-use in regions and more land for urban agriculture.

City level

- ***Improve resilience to future shocks and stresses by investing in and transforming urban weak spots, both systemic (such as car-based movement systems) and area based (informal settlements, suburban and peri-urban areas).*** While the factors behind these vulnerabilities are complex and multidimensional, often rooted in poverty, inequality and social exclusion, addressing the spatial barriers these areas face is an important component in their development.

- ***Promote equitable access to urban services and amenities through compact, well-planned densities and mixed-use developments that encourage healthy lifestyles and community cohesion.*** Well-designed urban density, at a human scale that includes adequate facilities and functions to balance long-term social, economic and environmental sustainability, can enable a level of resilience to the impacts of the pandemic without compromising liveability.

- ***Rethink zoning ordinance and building codes to allow for high residential densities, while mandating designs that encourage better pedestrian dispersal and promote walkability.*** Transitioning away from automobile-oriented models with single land uses towards more pedestrian-oriented, mixed-use, diverse and compact city plans will create more flexible and adaptive urban forms to respond to future pandemics.

- ***Ensure that public transport remains safe, affordable, reliable and efficient for residents, with a clear and consistent strategy in place to minimize potential viral transmission.*** Measures such as free hand sanitizer and mandatory mask wearing will not only help reduce risks for users, but also restore confidence in public transport as a viable means of travel. Transport authorities should engage a wide range of stakeholders, including public health officials, civil society organizations and vulnerable groups, when developing and communicating their approach.

- ***Commit to a more sustainable urban future by investing in public transit and compact, accessible urban layouts that promote healthy behaviours like cycling and walking.*** There is a possibility that cities could see private vehicle use increase in the long term, given ongoing fears about infection in public or shared spaces, so paving the way for higher pollution levels and urban sprawl. Planners and policy makers should therefore enable a more positive alternative through effective design and mobility strategies.

Neighbourhood level

- ***Place an increasing emphasis on neighbourhoods in city planning, with a focus on promoting self-contained and socially inclusive communities, with the necessary services and amenities to allow residents to meet their needs locally.*** This could bring a variety of health and economic benefits, supporting smaller businesses and minimizing the need for lengthy journeys by private or public transport.

- ***Develop the necessary knowledge and tools to support effective neighbourhood strategies through locally informed, granular decision making.*** Cities need to ensure that top-down strategies are balanced with more decentralized, contextually sensitive approaches that draw meaningfully on the participation of residents themselves.

- ***Make accessibility and inclusion a core part of any neighbourhood strategy.*** City authorities should undertake public space assessments and implement programmes to create more equitably distributed public spaces that promote use by different population groups and encourage active, healthy lifestyles.

- ***Recognize that many public spaces may serve multiple functions and ensure this diversity of uses is respected.*** Flexibility and adaptability are key to the success of public spaces, particularly during a pandemic when these may need to be reconfigured rapidly to accommodate new needs. Cities should review local regulations to promote streets, sidewalks and plazas as public spaces and allow for more social, economic and cultural activities to take place, incorporating necessary requirements for social distancing and cleaning.

- ***Design, provide and maintain well distributed and connected systems of public space.*** Individual spaces can be scaled up to many sites across a city, but cannot generally provide distribution, connectivity or locational accessibility. On the other hand, a city-wide strategy can set clear spatial goals, governance arrangements, implementation plans and budgetary needs, in the process driving good urban development.

- ***Design, provide and maintain well distributed and connected systems of public space.*** Individual spaces can be scaled up to many sites across a city, but cannot generally provide distribution, connectivity or locational accessibility. On the other hand, a city-wide strategy can set clear spatial goals, governance arrangements, implementation plans and budgetary needs, in the process driving good urban development.

- ***Explore opportunities to retrofit existing neighbourhoods within city centres to include mixed-use spaces.*** This could be achieved by changing land use or permissible activities within optimal density and infrastructure limits. For examples, planners could design spaces for pop-up stores, offices or markets within neighbourhoods to expand local services.

Building level

- ***Ensure that adequate housing is a central part of any public health strategy, with an intersectoral approach that reflects its social, economic and environmental benefits.*** This should include clear stipulations on minimum living space, access to light, thermal comfort and ventilation that are applicable in all contexts, including refugee camps, migrant dormitories, hostels and other spaces where standards are frequently ignored or non-existent.

- ***Identify and address weak points and shortcomings in offices, factories, plants, hospitals and other buildings that have emerged as epicentres for COVID-19 outbreaks.*** Clear requirements on social distancing, clean air and hygienic practices on site should be set out to cover a range of high-risk contexts where even minor modifications could deliver a significant reduction in infections.

- ***Prioritize the needs of urban residents for personal access to green spaces and outdoor areas during the pandemic, particularly while lockdowns and restrictions are in place.*** This could include reconceptualizing outdoor space design at the building and block scale, including space for home-based exercise and food production through rooftops, courtyards and balconies.

- *Strategize how to reconfigure existing building stock to adapt to new and emerging challenges brought on by COVID-19.* Some of the most successful urban interventions in the first phase of the pandemic involved the imaginative repurposing of unused spaces such as hotels, stadiums and museums as health and care facilities when these were needed most. Even once the worst waves of the pandemic recede, there will still be considerable opportunities to reconfigure underutilized spaces as remote offices, educational facilities and other functions.

- ***Leverage flexibility as a resource for future public health crises.*** Cities should learn from their experiences during the current pandemic and develop an adaptive strategy in the event of further shocks. This could include identifying suitable multi-purpose buildings as part of health resilience plans to ensure equitable distribution and access to emergency buildings, especially for vulnerable populations in isolated or peripheral settlements.

Endnotes

1. UNCTAD, 2020.
2. Seto et al., 2013.
3. Dasgupta, 2021.
4. Gomera, 2020.
5. Patz et al., 2004.
6. Arora and Mishra, 2020.
7. Burkle, 2020.
8. Fattorini and Regoli, 2020.
9. Banerji and Win, 2020.
10. European Society of Cardiology, 2020.
11. Wu et al., 2020.
12. The Economic Times, 2020.
13. Instant Offices, 2020.
14. Centre for Cities, 2020.
15. Mayor of London, 2020.
16. Al Jazeera, 2020.
17. Hassell, et al., 2017.
18. WRI, 2021.
19. UNEP, 2020a.
20. Karesh et al., 2012.
21. Azevedo et al. 2020.
22. Azevedo et al., 2020.
23. Vittor et al., 2006.
24. UNEP, 2020a.
25. UNEP, 2020a.
26. Dahan, 2018.
27. "Urban blue-green infrastructure (BGI) is a network of nature-based features situated in built-up areas that form part of the urban landscape. These features are either based on vegetation (green), water (blue), or both. Green roofs and walls, grassed areas, rain gardens, swales (shallow channels, or drains), trees, parks, rivers and ponds are all examples of this type of architecture." Brown and Mijic, 2019.
28. Brown and Mijic, 2019.
29. Mcinnes, 2013.
30. Venter et al., 2020.
31. Pouso et al., 2021.
32. Brown and Mijic, 2019.
33. Engström et al., 2020.
34. Baczynska and Abnett, 2020.
35. Gordon et al., 2009.
36. Gordon et al., 2009.
37. Hamidi et al., 2020.
38. Fang and Wabha, 2020.
39. Kraemer et al., 2020.
40. Flashman, 2020.
41. UNEP, 2020b.
42. UN-Habitat, 2013.
43. UN-Habitat, 2013.
44. Sharifi and Khavarian-Garmsir, 2020.
45. Project for Public Spaces, 2020.
46. Rikolto, undated.
47. Covidata.be, 2020.
48. Zhang and Schwartz, 2020.
49. UN-Habitat, 2014.
50. Fang and Wabha, 2020.
51. Hamidi et al., 2020.
52. Citizens Housing and Planning Policy, 2020.
53. Shearer et al., 2019.
54. Citizens Housing and Planning Policy, 2020.
55. UN-Habitat and Citiiq, 2020.
56. Government of Brazil, undated.
57. Marohn, 2020.
58. Sturm and Cohen, 2004.
59. RAND, 2004.
60. CDC, 2021.
61. de Kadt, J. et al., 2020.
62. UN-Habitat, UCLG and Metropolis, 2020.
63. Disability Insider, 2020.
64. O'Sullivan, 2020a.
65. Buda et al., 2020.
66. OECD, 2020.
67. Keating, 2020.
68. Mahendra, 2020.
69. Al-Khalidi, 2020.
70. Participant submission at the Daring Cities session, 2020.
71. Puentes, 2020.
72. Copenhagenize, 2020.
73. WHO, 2020.
74. O'Sullivan, 2020)b.
75. Birch, 2020.
76. UN-Habitat defines public spaces in line with the Charter of Public Space, adopted in Rome during the final session of the II Biennial of Public Space, 18th May 2013. For further information, please visit: http://www.biennalespaziopubblico.it/outputs/the-charter-of-public-space/
77. UN-Habitat, 2020a.
78. Jeffery, 2020.
79. UN-Habitat, 2020b.
80. Gehl Architects, 2020.
81. Aerts, 2020.
82. Dümpelmann, 2020.
83. Beasley, 2014.
84. NACTO, 2020.
85. UN-Habitat, 2020c, p.37
86. City of Melbourne, 2020.
87. Odhiambo, and Atieno 2020.
88. UN-Habitat, 2020d.
89. UN, 2020.
90. Howard and Culbertson, 2020)
91. Zaleem, 2020.
92. Kebaso, 2020.
93. UN-Habitat, 2020c, p.33
94. Architects Without Frontiers (undated
95. UNCHR, undated.
96. Kawoosa, 2020.
97. WHO, 2018, p.1
98. Jeffery, 2020.
99. Larrain de Andraca, 2020.
100. Allen, 2021.
101. Birch, 2020.
102. Richtel, 2020··
103. Perkel, 2020.
104. Shah, 2020.

Bibliography

Aerts, J. (2020) 'COVID-19: Never again as before', World Urban Campaign, https://www.worldurbancampaign.org/jens-aerts

Al Jazeera (2020) 'Coronavirus lockdown leads to improved air quality ', 22 March, https://www.aljazeera.com/news/2020/3/22/coronavirus-lockdown-leads-to-improved-air-quality

Al-Khalidi, S. (2020) 'Jordan lifts driving ban as it eyes normality after tight lockdown', Reuters, 29 April, https://www.reuters.com/article/us-health-coronavirus-jordan-lockdown-idUSKBN22B35D

Allen, D. (2021) 'Covid-19 reshapes the future of hospital design', Medical Expo E-mag, 4 January, http://emag.medicalexpo.com/covid-19-reshapes-the-future-of-hospital-design/

Architects Without Frontiers (undated), 'Transforming lives through design', http://www.architectswithoutfrontiers.com.au/about/

Arora, NK. And Mishra, J. (2020) 'COVID-19 and importance of environmental sustainability', Environmental Sustainability 3:117–119

Azevedo, J. C., Luque, S., Dobbs, C., Sanesi, G., & Sunderland, T. (2020) 'The ethics of isolation, the spread of pandemics, and landscape ecology', Landscape Ecology 35: 2133–2140

Baczynska, G. and Abnett, K. (2020) 'European politicians, CEOs, lawmakers urge green coronavirus recovery', Reuters, 14 April, https://www.reuters.com/article/us-health-coronavirus-climatechange-reco/european-politicians-ceos-lawmakers-urge-green-coronavirus-recovery-idUSKCN21W0F2

Banerji, A. and Win, T.L. (2020) 'Has India's 'airpocalypse' put the poor more at risk from coronavirus? ', Reuters, 14 April, https://www.reuters.com/article/us-health-coronavirus-pollution-analysis/has-indias-airpocalypse-put-the-poor-more-at-risk-from-coronavirus-idUSKCN21W1SM

Beasley, M. (2014) 'Ideas of space: Sexual harassment on the streets of Amman' Berkeley Centre for Religion, Peace and World Affairs, 19 November, https://berkleycenter.georgetown.edu/posts/ideas-of-space-sexual-harassment-on-the-streets-of-amman

Birch, E. (2020) 'Cities of the future will...?', Penn Institute for Urban Research, 17 April, https://penniur.upenn.edu/publications/cities-of-the-future-will/

Brown, K. and Mijic, A. (2019) 'Integrating green and blue spaces into our cities: Making it happen', Grantham Institute Briefing Paper 30, Imperial College London, London

Buda, S., van der Heiden, M., Altmann, D., Diercke, M., Hamouda, O. and Rexroth, U. (2020) 'Infektionsumfeld von erfassten COVID-19-Ausbrüchen in Deutschland', Epidemiologisches Bulletin 38.

Burkle, F.M. (2020) 'Political intrusions into the international health regulations treaty and its impact on management of rapidly emerging zoonotic pandemics: What history tells us', Prehospital and Disaster Medicine, 35(4): 426–430

CDC (2021) 'COVID-19: People with certain medical conditions', updated 3 February, https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html

Centre for Cities (2020) 'How have the Covid pandemic and lockdown affected air quality in cities?', 10 December, https://www.centreforcities.org/publication/covid-pandemic-lockdown-air-quality-cities/

Citizens Housing and Planning Policy (2020) 'Density and COVID-19 in New York City', May, https://chpcny.org/wp-content/uploads/2020/05/CHPC-Density-COVID19-in-NYC.pdf

City of Melbourne (2020) COVID-19 Reactivation and Recovery Plan, City of Melbourne, Melbourne

Copenhagenize (2020) 'Montreal to Quick-Build over 100km of Safe Active Lanes for summer 2020', 15 May, https://copenhagenize.eu/news-archive/2020/5/15/montreal-to-quick-build-over-100km-of-safe-active-lanes-for-summer-2020

Covidata.be, https://www.covidata.be/cases/municipalities

Dahan, S. (2018) Rapid Review of Water Knowledge for Pacific Small Islands Developing States, World Bank, Washington, DC

Daring Cities session, 'The role of transport in urban resilience: Responding to COVID-19, climate emergency and other crises', 22 October 2020, https://daringcities.org/program/the-role-of-transport-for-urban-resilience-covid-19-climate-emergency-and-other-crises/

Dasgupta, P. (2021) The Economics of Biodiversity: The Dasgupta Review — Headline Messages, London, HM Treasury

de Kadt, J., Götz, G., Hamann, C., Maree, G. and Parker, A. (2020) 'Mapping vulnerability to COVID-19 in Gauteng', GCRO, 20 March, https://www.gcro.ac.za/outputs/map-of-the-month/detail/mapping-vulnerability-to-covid-19/

Disability Insidee (2020) 'Moscow Metro to hand out free masks and gloves to commuters with disabilities', 15 May, https://disabilityinsider.com/2020/05/15/covid/moscow-metro-to-hand-out-free-masks-and-gloves-to-commuters-with-disabilities/

Dümpelmann, S. (2020) 'Parks and trees are public health measures', Penn Institute for Urban Research, 17 April, https://penniur.upenn.edu/publications/parks-and-trees-are-still-public-health-measures/

Engström, G., Gars, J., Jaakkola, N., Lindahl, T., Spiro, D. and van Benthem, A. (2020) 'What policies address both the coronavirus crisis and the climate crisis?', Environmental and Resource Economics 76: 789–810

European Society of Cardiology (2020) 'Study estimates exposure to air pollution increases COVID-19 deaths by 15% worldwide', https://www.escardio.org/The-ESC/Press-Office/Press-releases/study-estimates-exposure-to-air-pollution-increases-covid-19-deaths-by-15-world

Fang, W. and Wabha, S. (2020) 'Urban density is not an enemy in the coronavirus fight: Evidence from China', World Bank, 20 April, https://blogs.worldbank.org/sustainablecities/urban-density-not-enemy-coronavirus-fight-evidence-china?CID=WBW_AL_BlogNotification_EN_EXT?cid=SHR_BlogSiteShare_EN_EXT

Fang, W. and Wabha, S. (2020) 'Urban density is not an enemy in the coronavirus fight: Evidence from China', World Bank, 20 April, https://blogs.worldbank.org/sustainablecities/urban-density-not-enemy-coronavirus-fight-evidence-china?CID=WBW_AL_BlogNotification_EN_EXT?cid=SHR_BlogSiteShare_EN_EXT

Fattorini, D. and Regoli, F. (2020) 'Role of the chronic air pollution levels in the Covid-19 outbreak risk in Italy', Environmental Pollution, 264(114732).

Flashman, J. (2020), 'A new wave of remote workers could bring lasting change to pricey rental markets', City Monitor, 7 July, https://citymonitor.ai/economy/a-new-wave-of-remote-workers-could-bring-lasting-change-to-pricey-rental-markets

Gehl Architects (2020) 'Public space, public life and COVID-19', Gehl, https://covid19.gehlpeople.com/lockdown

Gomera, M. (2020) 'How to prevent outbreaks of zoonotic diseases like COVID-19', Al Jazeera, 5 April, https://www.aljazeera.com/opinions/2020/4/5/how-to-prevent-outbreaks-of-zoonotic-diseases-like-covid-19

Gordon, A., Simondson, D., White, M., Moilanen, A., Bekessy, S.A. (2009) 'Integrating conservation planning and landuse planning in urban landscapes', Landscape and Urban Planning 91(4): 183-194

Government of Brazil (undated), 'O atlas', http://ivs.ipea.gov.br/index.php/pt/sobre

Hamidi, S., Sabouri, S. and Ewing, R. (2020) 'Does density aggravate the COVID-19 pandemic?, Journal of the American Planning Association, 86:4: 495-509

Harrouk, C. (2020) 'Seven design Guidelines for a safe post COVID-19 transition',ArchDaily, 25 June,https://www.archdaily.com/941517/5-design-guidelines-for-a-safe-post-covid-19-transition

Hassell, J. M., Begon, M., Ward, M. J., & Fèvre, E. M. (2017). 'Urbanization and disease emergence: Dynamics at the wildlife-livestock-human interface', Trends in Ecology & Evolution, 32(1): 55–67.

Howard, K. and Culbertson, K. (2020) 'More equitable access to open space? Vancouver has a plan for that', TheCityFix, 22 June, https://thecityfix.com/blog/equitable-access-open-space-vancouver-plan-katherine-howard-kurt-culbertson/

Instant Offices (2020), 'Cities with the biggest rise in air pollution post-lockdown', https://www.instantoffices.com/blog/featured/air-pollution-cities-post-lockdown/

Jeffery, A. (2020) 'Photos of field hospitals set up around the world to treat coronavirus patients', CNBC, 3 April, https://www.cnbc.

com/2020/04/03/photos-of-field-hospitals-set-up-around-the-world-to-treat-coronavirus-patients.html

Karesh, W. B., Dobson, A., Lloyd-Smith, J. O., Lubroth, J., Dixon, M. A., Bennett, M., Aldrich, S., Harrington, T., Formenty, P., Loh, E. H., Machalaba, C. C., Thomas, M. J. and Heymann, D. L. (2012) 'Ecology of zoonoses: natural and unnatural histories', Lancet 380(9857): 1936–1945

Kawoosa, V. M. (2020) 'Coronavirus update: Are our multi-generational homes putting elders at greater risk?', Hindustan Times, 21 March, https://www.hindustantimes.com/india-news/coronavirus-update-are-our-multi-generational-homes-putting-elders-at-greater-risk/story-o1Gl7kKK9ADUT48QsRl6qL.html

Keating, D. (2020) 'Covid causing shift from public transport to cars', Forbes, 29 September, https://www.forbes.com/sites/davekeating/2020/09/29/covid-causing-shift-from-public-transport-to-cars/

Kebaso, G. (2020) 'Cost of Eastleigh lockdown on local, national economy', People Daily, 8 May, https://www.pd.co.ke/news/national/cost-of-eastleigh-lockdown-on-local-national-economy-36161/

Kraemer, M., Yang, C.-H., Gutierrez, B., Wu, C.-H., Klein, B., Pigott, D., Open COVID-19 Data Working Group, du Plessis, L., Faria, N., Li, R., Hanage, W., Brownstein, J., Layan, M., Vespignani, A., Tian, H., Dye, C., Pybus, O., Scarpino, S. (2020) 'The effect of human mobility and control measures on the COVID-19 epidemic in China', Science 368(6490): 493-497

Laker, L. (2020) 'Milan announces ambitious scheme to reduce car use after lockdown',The Guardian,21 April,https://www.theguardian.com/world/2020/apr/21/milan-seeks-to-prevent-post-crisis-return-of-traffic-pollution

Larrain de Andraca, I. (2020) 'Adaptive reuse: Historic practices during a crisis', Ciudades Sostenibles, 24 April, https://blogs.iadb.org/ciudades-sostenibles/en/adaptive-reuse-historic-practices-during-a-crisis/

Mahendra, A., Hidalgo, D and Null, S. (2020) 'Transport and inequality: Why disparities in access matter in cities', TheCityFix, 10 August, https://thecityfix.com/blog/transport-inequality-disparities-access-matter-cities-anjali-mahendra-dario-hidalgo-schuyler-null/

Marohn, C. (2020) 'This is the end of the suburban experiment', Strong Towns, 20 April, https://www.strongtowns.org/journal/2020/4/27/this-is-the-end-of-the-suburban-experiment

Mayor of London (2020) 'Dramatic improvements in air quality on London's roads', 20 April, https://www.london.gov.uk/press-releases/mayoral/dramatic-improvements-in-air-quality

Mcinnes, R. (2013) 'Recognising wetland ecosystem services within urban case studies', Marine and Freshwater Research 65(7): 575

NACTO (2020) 'Streets for pandemic response and recovery', 25 June, https://nacto.org/wp-content/uploads/2020/09/Streets_for_Pandemic_Response_Recovery_Full_20-09-24.pdf

O'Sullivan, F. (2020a) 'In Japan and France, riding transit looks surprisingly safe', Bloomberg CityLab, 9 June, https://www.bloomberg.com/news/articles/2020-06-09/japan-and-france-find-public-transit-seems-safe

O'Sullivan, F. (2020b) 'Europe's Cities Are Making Less Room for Cars After Coronavirus', Bloomberg CityLab, 22 April, https://www.citylab.com/transportation/2020/04/coronavirus-reopen-cities-public-transit-car-free-bike-milan/610360/

Odhiambo, H. and Atieno, A. (2020) 'Kisumu: After closure of Kibuye over COVID-19, residents build 'corona market'", The Standard, April, https://www.standardmedia.co.ke/entertainment/local-news/2001366209/kisumu-after-closure-of-kibuye-over-covid-19-residents-build-corona-market

OECD (2020) 'Cities policy responses', 23 June, http://www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff/

Patz, J. A., Daszak, P., Tabor, G. M., Aguirre, A. A., Pearl, M., Epstein, J., Wolfe, N. D., Kilpatrick, A. M., Foufopoulos, J., Molyneux, D. and Bradley, D. J. (2004) 'Unhealthy landscapes: Policy recommendations on land use change and infectious disease emergence' Environmental Health Perspectives, 112(10), 1092–1098

Perkel, C. (2020) 'Office highrise elevators COVID pinch point; long line-ups and delays feared', CP24, 8 May, https://www.cp24.com/news/office-highrise-elevators-covid-pinch-point-long-line-ups-and-delays-feared-1.4931417

Pouso, S. Borja, Á., Fleming, L., Gómez-Baggethun, E., White, M. and Uyarra, M. (2021) 'Contact with blue-green spaces during the COVID-19 pandemic lockdown beneficial for mental health', Science of The Total Environment 756: 143984

Project for Public Spaces (2020) 'Market cities', https://assets.website-files.com/5810e16fbe876cec6bcbd86e/5f848ac1b3f6613388bf78da_Market%20Cities%20Overview_Sept2020.pdf

Puentes, A., (2020) 'Así se preparan las ciudades para subirse a la bicicleta', El Tiempo, 10 May, https://www.eltiempo.com/bogota/coronavirus-en-el-mundo-asi-se-preparan-las-ciudades-para-subirse-a-la-bicicleta-493692; Samuel, S., Cap, C. and Casas, M.G., 'A vision for post-pandemic mobility in African cities', World Economic Forum, 21 August, https://www.cityoflondon.gov.uk/services/transport-and-streets/Documents/covid-19-city-streets-explaining-the-changes.pdf

RAND (2004) 'RAND study finds first link Between suburban sprawl and increase in chronic health ailments', 27 Septemer, https://www.rand.org/news/press/2004/09/27.html

Richtel, M. (2020) 'Going up? Not so fast: Strict new rules to govern elevator culture', The New York Times, 26 June, https://www.nytimes.com/2020/06/26/health/coronavirus-elevator-reopen.html

Rikolto (undated) 'Affordable quality food for Quito's consumers', https://www.rikolto.org/en/project/affordable-quality-food-quitos-consumers

Seto, K., Parnell, S. and Elmqvist, T. (2013) 'A global outlook on urbanization', in T. Elmqvist, M. Fragkias, J. Goodness, B. Güneral, P. Marcotullio, R. McDonald, S. Parnell, M. Schewenius, M. Sendstad, K. Seto and C. Wilkinson (eds), Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities, Springer, London, pp.1–12.

Shah, J. (2020) 'Future trends in design and elevator industry post COVID-19', Colliers, 12 May, https://www2.colliers.com/en-in/news/future-trends-in-design-and-elevator-industry-post-covid19

Sharifi, A. and Khavarian-Garmsir, A.R. (2020) 'The COVID-19 pandemic: Impacts on cities and major lessons for urban planning, design, and management', Science of The Total Environment, 749(142391)

Shearer, C., Vey, J. and Kim, J. (2019) Where Jobs are Concentrating and Why It Matters to Cities and Regions, Brookings, Washington, D.C.

Statista (2020), 'Change in public transport demand due to the COVID-19 outbreak in selected cities in Latin America from March 2 to May 12, 2020', 8 September, https://www.statista.com/statistics/1117156/public-transport-congestion-cities-latin-america/

StoryMaps (2021) 'Mapping the COVID-19 pandemic', 25 January,https://storymaps.arcgis.com/stories/4fdc0d03d3a34aa485de1fb0d2650ee0

Sturm, R. and Cohen, D. (2004) 'Suburban sprawl and physical and mental health', Public Health 118(7): 488-496

The Economic Times (2020) 'Air pollution in Delhi-NCR: Lockdown gains made and lost', 30 December, https://economictimes.indiatimes.com/news/politics-and-nation/air-pollution-in-delhi-ncr-lockdown-gains-made-and-lost/articleshow/80026153.cms

UN (2020) The Sustainable Development Goals Report 2020, UN, New York, p.47

UNCHR (undated) 'Redesigning refugee communities', https://www.unhcr.org/innovation/redesigning-refugee-communities/

UNCTAD (2020), E-Handbook of Statistics 2020.

UNEP (2020a) Preventing the Next Pandemic – Zoonotic Diseases and How to Break the Chain of Transmission, UNEP, London

UNEP (2020b) 'Flattening the COVID-19 curve: Some lessons from the state of Kerala, India'

UN-Habitat (2012) Urban Planning for City Leaders, UN-Habitat, Nairobi

UN-Habitat (2013) Planning and Design for Sustainable Urban Mobility: Global Report on Human Settlements 2013, p.68, Routledge, Oxon

UN-Habitat (2014) 'A new strategy of sustainable neighbourhood planning: Five principles', Discussion Note 3, https://unhabitat.org/a-new-strategy-of-sustainable-neighbourhood-planning-five-principles

UN-Habitat (2020a) COVID-19 Wuhan Guidance Papers, UN-Habitat China, Beijing

UN-Habitat (2020b) UN-Habitat Key Message on COVID-19 and Public Space, UN-Habitat, Nairobi

UN-Habitat (2020c) COVID-19 Response Report of Activities, UN-Habitat, Nairobi

UN-Habitat (2020d) 'First communal handwashing stations in Lebanon aim to tackle COVID-19 spread', 28 July, https://unhabitat.org/first-communal-handwashing-stations-in-lebanon-aim-to-tackle-covid-19-spread

UN-Habitat (2020e) 'Urban farming and art help vulnerable people in Fiji during the COVID pandemic', 20 November, https://fukuoka.unhabitat.org/info/news/20201130_en.html

UN-Habitat (2021), 'Global Urban Indicators Database', available at https://unhabitat.org/global-urban-indicators-database

UN-Habitat and Citiiq, https://unhabitat.citiiq.com/
UN-Habitat, UCLG and Metropolis (2020) 'Public transport and the COVID-19 pandemic: Thematic session on mobility', 8 April 2020.
Venter, Z., Barton, D., Gundersen, V., Figari, H. and Nowell, M. (2020) 'Urban nature in a time of crisis: Recreational use of green space increases during the COVID-19 outbreak in Oslo, Norway', Environmental Research Letters 15(10)
Vittor, A. Y., Gilman, R. H., Tielsch, J., Glass, G., Shields, T., Lozano, W. S., Pinedo-Cancino, V. and Patz, J. A. (2006) 'The effect of deforestation on the human-biting rate of Anopheles darlingi, the primary vector of Falciparum malaria in the Peruvian Amazon', The American Journal of Tropical Medicine and Hygiene, 74(1): 3–11
WHO (2018) WHO Housing and Health Guidelines, WHO, Geneva, p.1
WHO (2020) 'Ciclovías Temporales, Bogotá, Colombia', 28 October, https://www.who.int/news-room/feature-stories/detail/ciclov%C3%ADas-temporales-bogot%C3%A1-colombia
WRI (2021) 'Building Climate-Resilient and Equitable Cities During COVID-19', January 12, https://www.wri.org/news/building-climate-resilient-and-equitable-cities-during-covid-19
Wu, X., Nethery, R., Sabath, M., Braun, D. and Dominici, F. (2020) 'Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis', Science Advances 6(45)
Zaleem, A. (2020) 'How cities and architecture respond to the coronavirus', ArchDaily, 3 February, https://www.archdaily.com/932840/how-cities-and-architecture-respond-to-the-wuhan-coronavirus
Zhang, C. and Schwartz, G. (2020) 'Spatial Disparities in Coronavirus Incidence and Mortality in the United States: An Ecological Analysis as of May 2020', The Journal of Rural Health 36(3): 433-445

Residents of the Santa Marta favela, in Botafogo, in the South Zone of Rio, doing their own street cleaning to prevent the spread of COVID-19 © Shutterstock

2

Addressing Systemic Poverty and Inequality in Cities in Response to the Pandemic

The remarkable growth of cities in recent decades has intensified some of humanity's most pressing challenges. It has also presented many of our greatest opportunities to protect people, prosperity and the planet.

Door-to-door check up camp at a slum in Malad, Mumbai, India © Shutterstock

COVID-19 has laid bare – and indeed heightened – both these challenges and opportunities, and placed urban areas at the frontlines of the pandemic. In the immediate term, for many cities the outbreak of COVID-19 has accelerated existing issues, evolving into a crisis spanning not only public health but also security, employment, basic services, transport and accessibility, with the most marginalized urban populations bearing the heaviest burden.[1]

Deep-rooted inequalities in both developed and developing country cities have heavily influenced the degree and nature of COVID-19 impacts and are leading the pandemic to have a disproportional negative impact on groups that were already in a situation of greater vulnerability.[2] People with limited access to basic services and essential needs such as food, clothing, adequate housing, clean water, sanitation, solid waste management, energy, transport, health care and other forms of social support (especially those already facing unemployment, sickness, disability, widowhood or old age) tend to be more exposed to crisis and emergency situations. COVID-19 and inequality are therefore mutually reinforcing each other: while the COVID-19 outbreak has increased poverty among the most marginalized urban populations, pre-existing inequalities have also worsened the impact of COVID-19 for those same groups.

COVID-19 has also exposed a crucial underlying condition for many of the worst affected communities — their vulnerability, long before the pandemic began, to systematic human rights violations. Throughout the pandemic, precautionary health measures have been unavailable to many low-income workers who have no alternative other than to work in high-risk, low-security, in-person jobs. Because the supply of services and the economy as a whole relies on the health and capabilities of workers who are often the lowest paid and least protected in our societies, a stronger emphasis on establishing and enforcing frameworks to respect, protect and fulfil universal human rights to dignity, personal security and an adequate standard of living for all is needed. Indeed, governments must overcome the false choice in which health and human rights are framed in opposition to economic prosperity: in fact, ensuring labour protections, equitable medical care and other rights to all, including the most excluded, is an essential strategy for boosting resilience and recovery for societies as a whole.

Deep-rooted inequalities in both developed and developing country cities have heavily influenced the degree and nature of COVID-19 impacts

Reducing urban inequalities is therefore a cornerstone to ensure cities are better prepared for the next crisis. Without inclusive cities and urban development, the impacts of future shocks and stresses may be even more acute than the current outbreak. The pandemic-induced economic and social crisis provides a unique opportunity to fundamentally rethink how macroeconomic policy is developed in prioritizing economic and social objectives. In order to address and reduce urban poverty and inequality in a world of pandemics, adequate standards of living for all must be at the heart of any public health response.

This chapter examines the impacts of the preventive measures adopted by national and local governments in response to COVID-19 crisis by analyzing the existing and emerging forms of vulnerability that the pandemic has greatly exacerbated. It then provides a review of the health and socio-economic responses that have been undertaken to mitigate the negative outcomes of COVID-19. Finally, it explores how the COVID-19 crisis could become a unique window of opportunity to bring new attention to long-standing problems of urban poverty and inequality. It concludes by stressing the importance of a new social contract based on principles of human rights and shared prosperity in order to build the resilience of cities and communities to future shocks.

2.1. Poverty, inequality and the pandemic

As with previous outbreaks, the global health crisis has transformed into a severe socio-economic crisis where people are not only affected by the pandemic but also by the interruption of urban services.[3] For groups already living in "environments of inequality",[4] such as persons with disabilities, children, the elderly, migrants and refugees, the impacts of long-term social exclusion have left them worse exposed to the effects of the pandemic. The impacts of COVID-19 have also sharpened along gender lines, with countless women in economies of every size losing their income, getting involved in unpaid care and heightened domestic work burden. If cities continue to be divided starkly along these lines, leaving no one behind will become progressively more difficult. Poverty eradication in the aftermath of COVID-19 will require addressing deep-rooted inequalities, particularly as the pandemic accelerates wealth inequalities and workforce polarization: without bold action, poverty could become an endemic feature of urban areas.

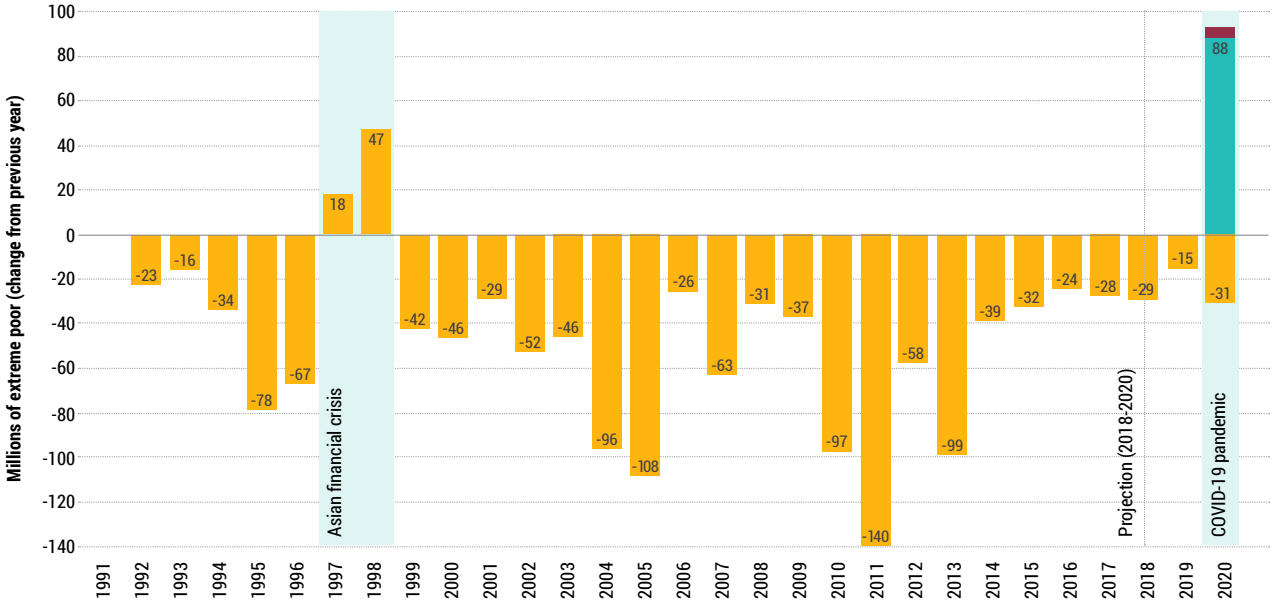
Without bold action, poverty could become an endemic feature of urban areas

2.1.1. Poverty reduction in reverse

The ambition "to end poverty in all forms everywhere", enshrined in the first of the Sustainable Development Goals, has been jeopardized by the pandemic. Over more than two decades since the shock of the Asian financial crisis, the number of people living in extreme poverty has steadily and continuously reduced by around 1 billion — a trend that COVID-19 now looks set to reverse. For the first time since 1999, global poverty is projected to increase: the World Bank has estimated that between 119 and 124 million people were forced into extreme poverty during 2020 as a result of COVID-19 — including 31 million people who had been projected to escape extreme poverty that year — with tens of millions more projected for 2021.[5]

The picture is especially evident in cities, where the pandemic has exacerbated the multiple deprivations already experienced by the urban poor. In developed and developing countries alike, the pandemic's health, economic and social impacts are falling most severely on marginalized and low-income households.

Figure 2.1: Annual change in the number of extreme poor (in million), 1992-2020



Source: Lakner et.al., 2021

In New York, for instance, it soon became clear that the impacts of COVID-19 were disproportionately felt along economic lines, with average death rates of 232 per 100,000 people in areas with poverty levels of at least 30 per cent, compared to 100 per 100,000 people in areas where less than 10 per cent of the population were poor.[6]

2.1.2. The impact of social inequality

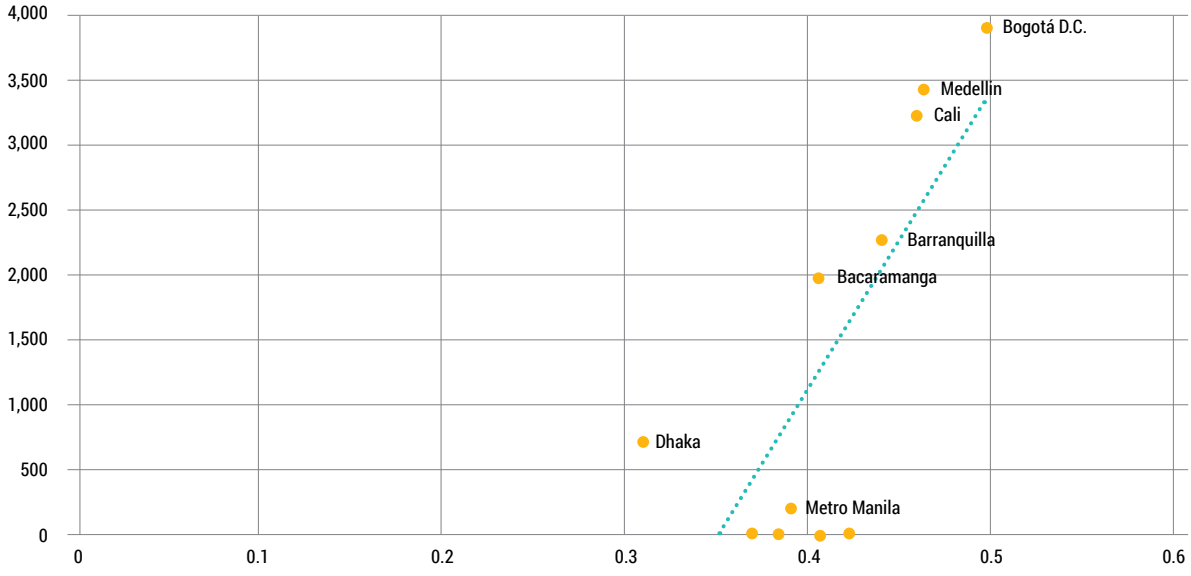
Historically, pandemics such as plague, smallpox, cholera and influenza have hit the poorest and most marginalized groups hardest.[7] Hazardous living environments, dangerous and precarious employment as well as discrimination in access to basic health and hygiene facilities have all contributed to higher than average fatality rates for the lowest socioeconomic groups. In this regard, COVID-19 is no different, with research showing that inequality can exacerbate the effects of the pandemic.

This is illustrated by a study of the Metropolitan Region of Belém in Brazil. The results revealed that 14.5 per cent of the population were not able to effectively reduce the contamination rate due to poor housing conditions and did not have access to basic sanitation or lived in homes with three or more people in the same bedroom. The researchers projecting a range of possible outcomes comparing the current scenario with an alternative model without social inequality to assess the extent to which inequality has determined the prevalence and severity of the pandemic in the region. The findings demonstrated that "social inequality has a strong effect on the propagation of COVID-19, increasing its damage and accelerating the collapse of health infrastructure".[8]

This has also been borne out by real world comparisons of infection rates and GINI coefficients in a selection of cities in both low/lower-middle and upper-middle/high income countries. As the graphs below demonstrate, there is a strong correlation between greater levels of inequality and a larger proportion of cases, particularly in developing countries.[9]

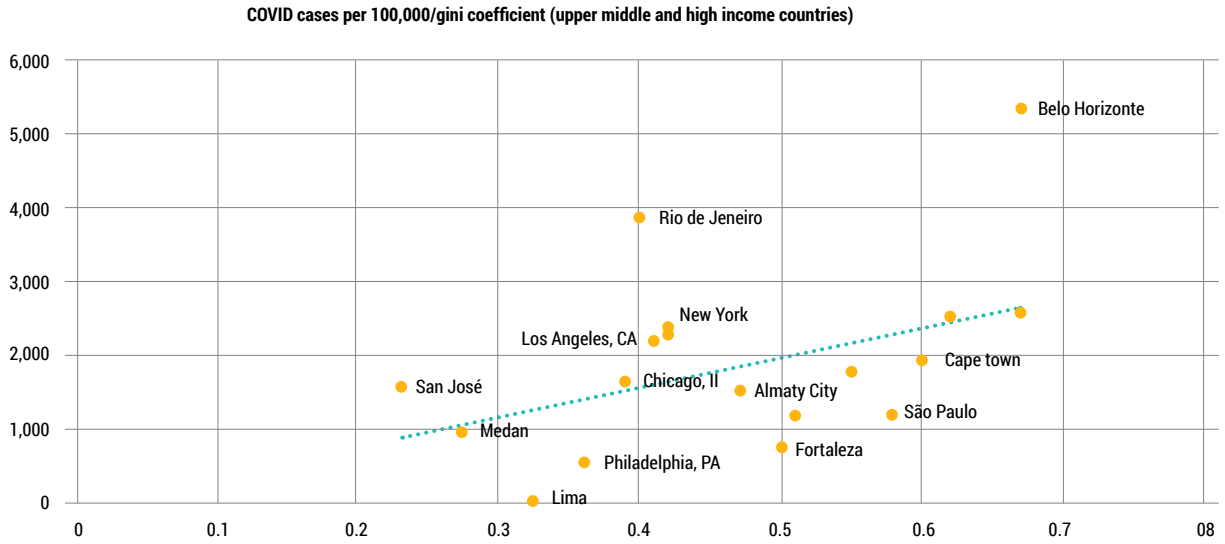
Hazardous living environments, dangerous and precarious employment as well as discrimination in access to basic health and hygiene facilities have all contributed to higher than average fatality rates for the lowest socioeconomic groups

Figure 2.2: COVID-19 infection rates versus Gini coefficients (low and lower middle income countries)



Source: UN-Habitat 2021

Figure 2.3: COVID-19 infection rates versus Gini coefficients (upper middle and high income countries)



Source: UN-Habitat 2021

Community members in Mathare slum, Nairobi, Kenya during COVID-19 - May 2020. © UN-Habitat/Kirsten Milhahn

2.1.3. Slums and informal settlements

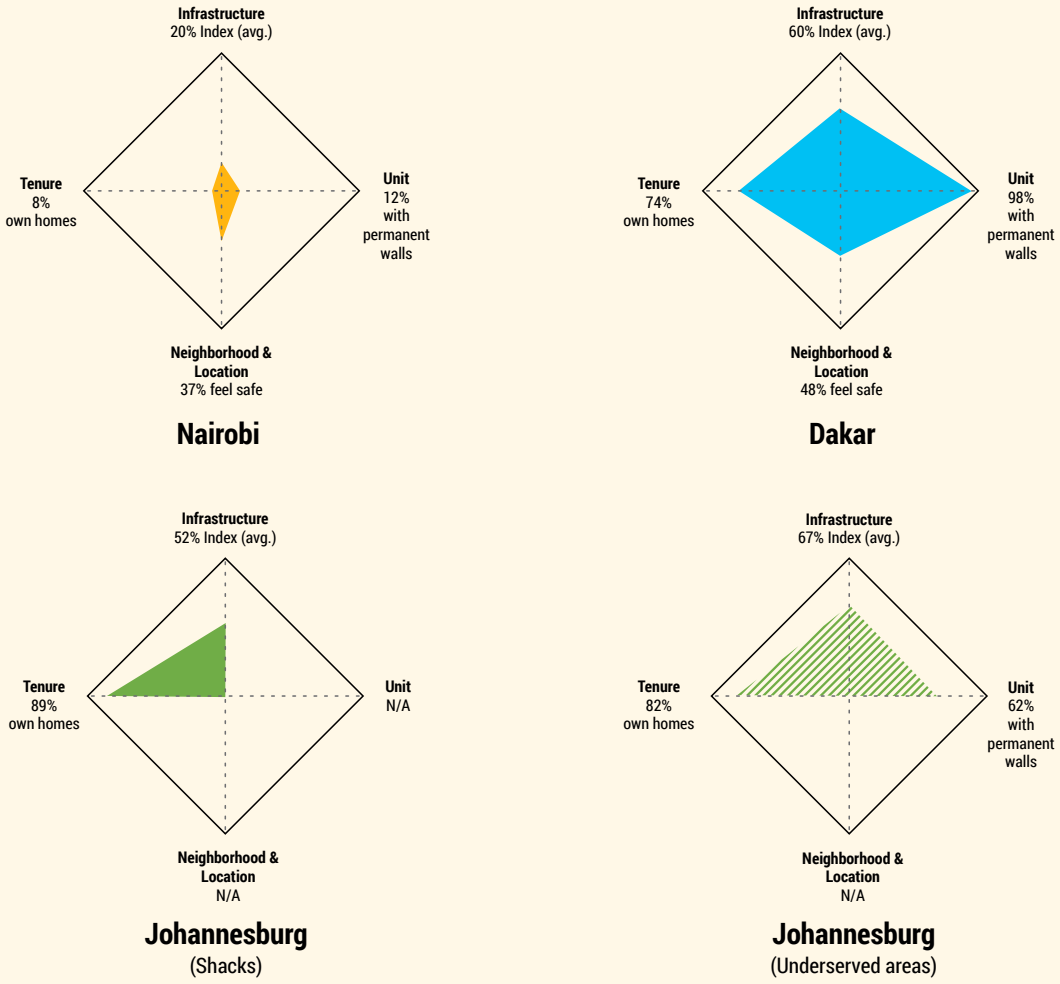
The growth of urban poverty, against a backdrop of widening inequalities in many cities, is likely to encourage an increase in slums and informal settlements in developing countries. The more than a billion people now living in informal settlements, amounting to almost a quarter (24 per cent) of the global urban population in 2018,[10] face unique challenges that leave them especially vulnerable during the pandemic. Along with overcrowding, the absence of clean water and sanitation services in many informal settlements is a major contributing factor to the spread of the virus, given the challenges this presents for regular handwashing in line with public health guidelines. Limited or non-existent economic support, exacerbated by the risk of eviction, leaves many slum residents without a safety net if they fall ill or are forced to quarantine.

Box 2.1: Mapping vulnerability in informal settlements

While informal settlements are typically discussed in collective terms, the product of inequitable land distribution, entrenched poverty and unmanaged urban growth, the particular manifestations of slum development can vary significantly between countries and even within the same city. This makes detailed assessments and vulnerability mapping all the more important to ensure upgrading and improvements are targeted and appropriate to their specific context. This is particularly evident when informal settlements may not even exist at an official level, meaning little or no data is available on key areas such as service access or housing.

The figure below, showing "living condition diamonds" for informal settlements in the capitals of three African countries (Kenya, Senegal and South Africa), illustrates how slum conditions can vary considerably between countries. While in Dakar more than three quarters (76 per cent) of households in informal settlements had access to piped water and electricity at the time of the survey, the proportion fell to less than a third (31 per cent) in Johannesburg and just 7 per cent in Nairobi.[11]

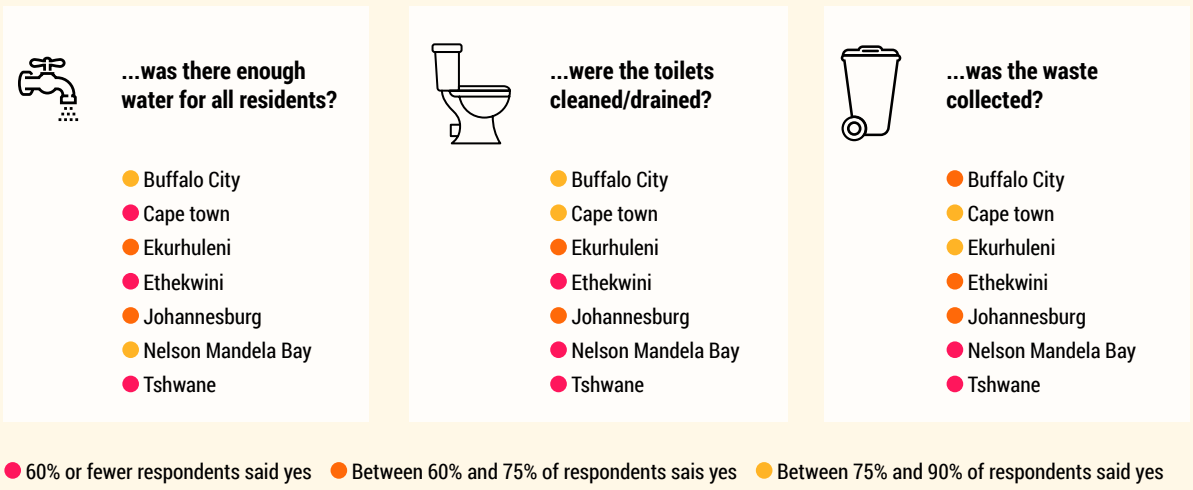
Figure 2.4: Living conditions diamonds for informal settlements in three cities in Africa



Source: World Bank, 2010

More recent data, collected in November 2020, similarly demonstrates sub-par service delivery in informal settlements during the COVID-19 pandemic. As shown in the graphic below, none of the settlements surveyed in metropolitan Johannesburg reported 'green' or acceptable (above 90 per cent) levels of access to water, clean toilets or waste collection services carried out by the municipality. Given the importance of frequent handwashing and general hygiene to curtail infection, this inadequate access to basic services could further exacerbate health risks in these communities.

Figure 2.5: Survey findings on service access in selected informal settlements in Johannesburg (2020)



Source: Asivekelane, 2020.

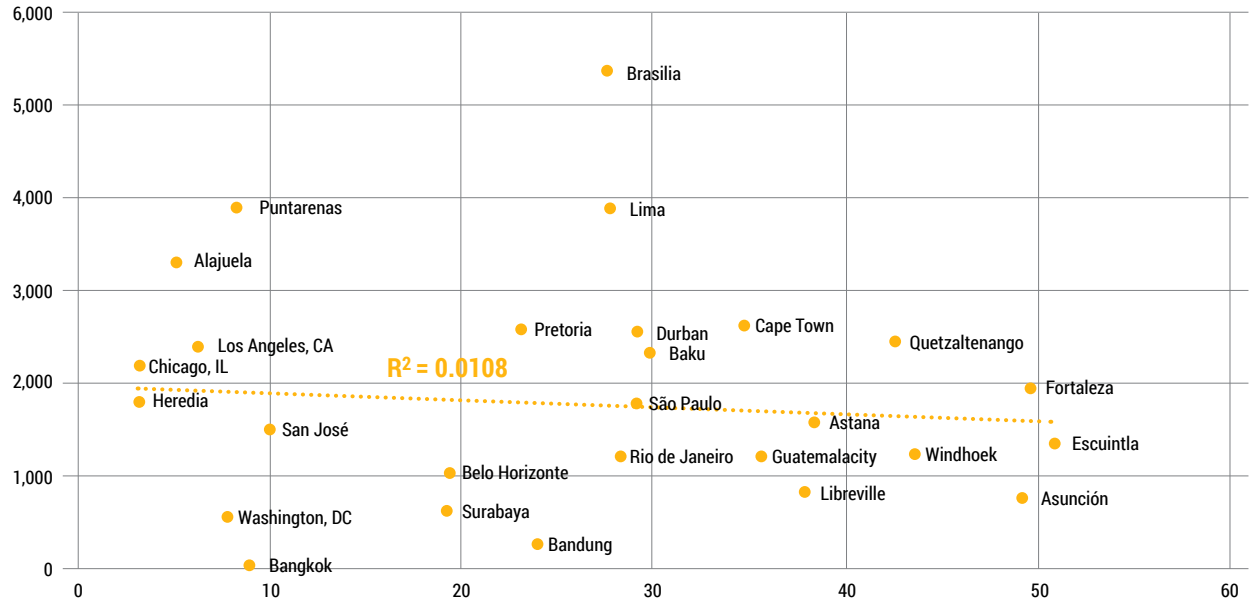
The spread of communicable diseases within unhygienic conditions has been proven historically, with those living in close contact to domestic animals and without access to running water and separate toilet facilities at heightened risk of infection.

While COVID-19 has made these challenges more visible, they are the result of a long legacy of exclusion and omission from city services, reflected in acute health inequalities that were evident well before the pandemic began. The spread of communicable diseases within unhygienic conditions has been proven historically, with those living in close contact to domestic animals and without access to running water and separate toilet facilities at heightened risk of infection. Contagions such as Chagas disease, a parasitic infection transmitted by bugs, flourish in unhygienic conditions. The same is true of rats, which serve as a vector for a host of debilitating bacteria and viruses.[12]

Despite this, the catastrophic levels of COVID-19 infection and mortality rates that many feared would afflict informal settlements have not materialized as of yet. There are many theories as to why this might be the case, including lower rates of testing and reporting, younger populations, the prevalence of antibodies from other coronaviruses and even the role of genetics[13] in the lower-than-expected number of reported deaths in regions like sub-Saharan Africa, where as of 2018 more than half (53.6 per cent) of the urban population are estimated to be living in slums.[14] At present, however, the factors at play are not well understood.[15]

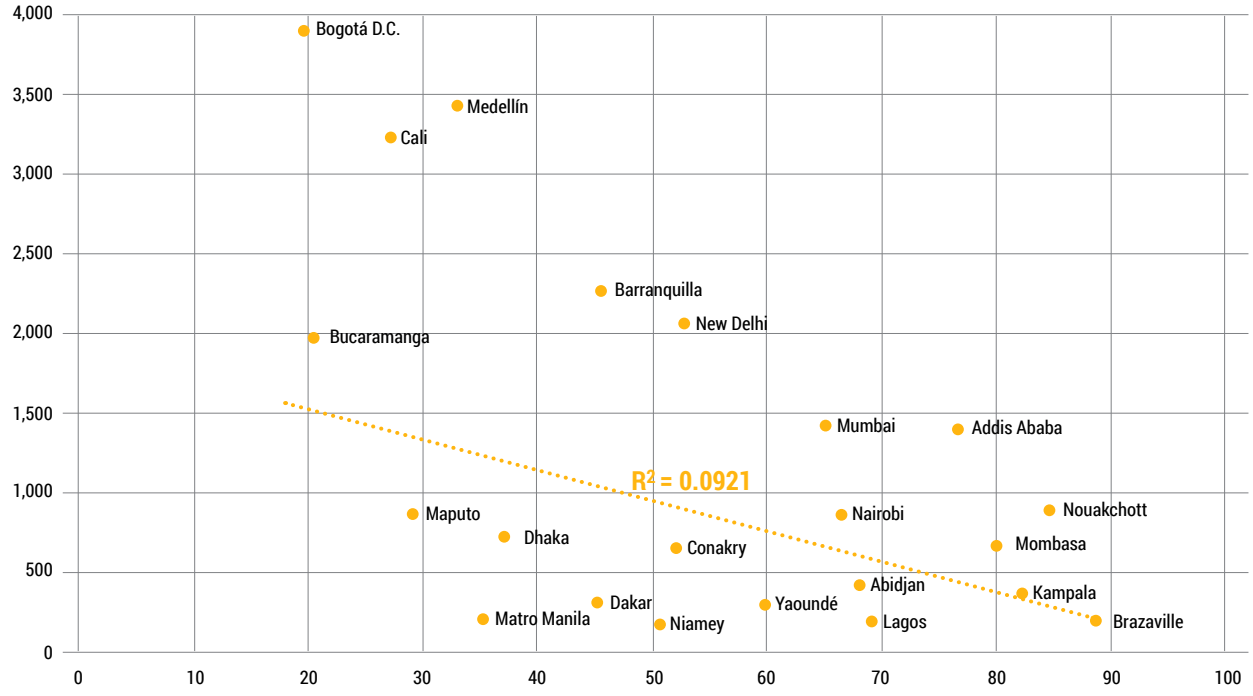
Nevertheless, particularly when comparing between countries, the limited available data does not always present a firm correlation between the prevalence of slums and the number of recorded COVID-19 infections. For instance, the level of COVID-19 infection in Los Angeles is significantly higher than in Nairobi, despite the much larger proportion of residents living in slums in the latter.

Figure 2.6: COVID-19 infection rates versus proportion of urban slum population (upper middle and high income countries)



Source: UN-Habitat 2021

Figure 2.7: COVID-19 infection rates versus proportion of urban slum population (low and lower middle income countries)



Source: UN-Habitat 2021

People who live in poorer areas and contract the virus are up to 10 times more likely to die than people in wealthy areas, according to data released by the city's health department

One reason for this apparent disparity is the fact that a large proportion of COVID-19 infections and deaths in many informal settlements are not being recognized or reported. In Rio de Janeiro, for example, a study carried out in June 2020 with thousands of rapid tests in six of the city's most marginalized neighbourhoods found that actual infection levels might be up to 30 times greater than official estimates, with 28 per cent of residents in one location testing positive for the virus.[16] Consequently, it is difficult to make meaningful comparisons between different countries based on reported data when the accuracy and coverage of testing regimes may be hugely variable.

On the other hand, studies comparing infection levels between different areas within the same city have suggested a close connection between slum prevalence and COVID-19 infections. In Mumbai, India, for example, antibody tests conducted among a sample of thousands of residents in three wards of the city in July 2020 found that an average of 57 per cent of those living in slums had been infected with the virus, compared to 16 per cent of the non-slum population.[17] Similar correlations have been reported from the favelas of Brazil, one of the countries worst impacted by COVID-19. In São Paulo, people who live in poorer areas are up to 10 times more likely to die from the virus than people in wealthy areas, according to data released by the city's health department: among those aged between 40 and 44 there were on average 6.7 deaths per 100,000 people in the most disadvantaged areas, compared to just 0.7 deaths per 100,000 people among the same age group in the most privileged neighbourhoods.[18]

Notwithstanding the limitations of the data available, these studies suggest that the living conditions of many slums and informal settlements can lead to disproportionally higher shares of COVID-19 infections and fatalities. This also aligns with the evidence to date on how COVID-19 is transmitted and the difficulties of observing preventative practices such as hand washing and social distancing in crowded, unsanitary urban environments.

A newly installed touchless handwashing facility by UN-Habitat aims to prevent the spread of COVID-19 in Kalimati Vegetable Market in Kathmandu, Nepal © UN-Habitat Nepal

2.2 Health and environment

A central factor in the higher prevalence of COVID-19 infections and fatalities among marginalized populations is the fact that many already suffered from pre-existing conditions before the pandemic that put them at higher risk. People living in informal settlements typically suffer from disproportionate levels of disease and chronic conditions that can exacerbate respiratory illnesses like COVID-19.[19] This backdrop of poor health is determined, at least in part, by the quality of the urban environment. Along with inadequate sewerage and sanitation facilities, issues such as air, water and soil contamination, as well as lack of access to fresh food and space for physical activity, recreation and leisure, leave informal settlements and poorer households at greater risk.

This section outlines the intersection of health and environmental factors in excluded urban areas and their role in increasing vulnerability to COVID-19. From limited access to medical care to a lack of water, sanitation and waste management services, these issues long predated the pandemic. These shortcomings will need to be addressed for a lasting solution not only to the current outbreak, but also other potential crises in the future. It is important to bear in mind that, as COVID-19 continues to put pressure on already overburdened service provision, that the public health cost of the pandemic could multiply as a result. This is evidenced by the outcomes of previous pandemics. "During the Ebola outbreak in West Africa in 2014, more people died from the interruption of social services and economic breakdown than from the virus itself."[20]

2.2.1. Healthcare services

A city's infrastructure is pivotal to its readiness and response to emergencies and disasters. In the wake of COVID-19, there is renewed focus on the impact of public health emergencies on cities and their ability to respond. In the case of COVID-19, the capacities needed to slow transmission and reduce deaths range from behavioural measures such as hand washing, social distancing and self-isolation, to the use of advanced track-and-trace technologies and sophisticated health systems, with specialist care and equipment to care for the worst affected.

It should of course be recognized that the particular pressures of the pandemic were unprecedented and that governments across the world took a number of steps to prevent outbreaks from developing into humanitarian disasters. Many of these measures, such as the repurposing of building and public spaces into hospitals and isolation centres (discussed in more detail in Chapter 1), were situated in cities and played a pivotal role in "supplementing the limited health-care resources"[21] of overburdened health systems on the verge of collapse. At the same time, emergency measures to house people facing homelessness or other situations of vulnerability, such as the threat of violence, were widely implemented by national and local governments.

People living in informal settlements typically suffer from disproportionate levels of disease and chronic conditions that can exacerbate respiratory illnesses like COVID-19

Nevertheless, as discussed in the previous section, for millions of urban poor the difficulty of observing preventative practices in the context of informal settlements, let alone accessing quality health care in the event of infection, leaves them disproportionately exposed to the virus. This is not only reflected at the stage of prevention (for example, free or affordable provision of water and soap) but also during diagnosis (limited access to testing facilities) and treatment (dedicated medical care may be expensive or unavailable). It is important to situate these shortfalls not only in the immediate context of the pandemic and the unique challenges it has posed, but also in the longer term failures of many cities to provide equitable, accessible health care to many of their most excluded residents. There were calls, long before the outbreak of COVID-19, to urgently address health inequities in cities worldwide through universal health coverage and healthier urban environments. This was particularly the case in overcrowded, underserviced informal settlements that

facilitated the spread of communicable diseases, including pandemics.[22]

Yet shortfalls have also been evident in developed nations with far greater public health resources at their disposal. The concentration of deaths in certain contexts, such as care homes, reflects not only the greater risks for elderly residents but also in many cases a protection failure at the institutional level. The large numbers of older and more vulnerable people in care homes, combined with negligence and the impossibility of isolating, have dramatically exacerbated the risks of exposure to COVID-19. In Spain, for instance, some 29,500 deaths are estimated to have occurred as a result of COVID-19 by mid-March 2021, amounting to more than 40 per cent of all deaths attributed to the virus, with the proportion rising even higher in some regions: in Castile and León, 1.5 per cent of COVID-related fatalities had occurred in residential homes.[23] Concerns have also been raised about the effects of lockdowns and other restrictions imposed to contain the virus on people with mental health disorders and psychiatric conditions, whose needs are all too often overlooked.[24]

While addressing the specific challenges that COVID-19 has brought to cities worldwide requires the immediate strengthening of prevention, testing, isolation and treatment capacities for the virus, promoting lasting recovery and resilience to future pandemics should also address the underlying weaknesses of urban health systems. This means refocusing investments through the lens of social inclusion, with a particular emphasis on the most impoverished and marginalized groups who have historically been excluded from essential health care.

Murals created by the community in Kibera slum to raise awareness on COVID-19 prevention. Nairobi, Kenya © UN-Habitat/Julius Mwelu

2.2.2. Water and sanitation

Despite impressive gains in recent years, COVID-19 has exposed profound and long-standing inequalities within cities in access to safe drinking water and sanitation, as well as other essential services. During previous pandemics, such as Ebola in West Africa, lack of access to water and sanitation was a major determinant in which countries were worst affected.[25] With COVID-19, too, the absence of equitable water and sanitation services in many areas has left residents at heightened risk of contracting the virus.

Box 2.2: Prioritizing water access in vulnerable communities during the pandemic

Ensuring spatially equitable access to basic services is critical, not only during the pandemic, but beyond. During the first wave, UN-Habitat supported the provision of equitable access to water in informal settlements and vulnerable communities through hand washing stations in various countries, including Iraq, Ghana, Kenya, Cambodia and Myanmar, among many others. In Egypt, UN-Habitat employed riverbank filtration technologies to extend affordable access to clean water and sanitation.[26] While already an urgent priority, ensuring the growing urban population worldwide has access to basic services will be an essential component of any strategy to bring the pandemic to an end.

Many urban poor households are unable to afford sanitation services, running water and soap, making them dependent on shared facilities that limit opportunities for maintaining physical distance and require regular disinfection to be safe. In Bangladesh, for instance, a 2013 national survey found that sewage systems were absent in all the country's cities with the exception of the capital, Dhaka, though even there just one in five residents had access to a sewage network. Shared toilets were commonplace in urban areas, particularly slums, contributing to a range of potential illnesses, including diarrhoea, responsible for thousands of deaths every year.[27] Similarly, current data points to adequate sanitation facilities as an important deterrent to COVID-19 transmission, as recent COVID-19 virus "sheds in faeces and can be detected in wastewater."[28]

Shortfalls are evident particularly in cities with high levels of inequality, even those where coverage overall has improved. In Ethiopia, for instance, while urban water access has increased significantly in recent years, it is still the case that "richer households are almost four times more likely to have piped water than poorer ones".[29] Without equitable access, pockets of vulnerability and exclusion will remain that place not only local residents but also the rest of the city at risk of a public health emergency.

In Kenya, authorities took steps early on in the pandemic to ensure that water supplies were maintained for free to many informal settlements, with measures in place suspending service disconnections for the first three months of the crisis and communication strategies to disseminate best practices on hygiene and hand washing to residents (Box 2.3). Engaging communities with appropriate messaging can deliver significant benefits. One study covering 2,000 households in five urban slums in Nairobi, Kenya, during the first lockdown found that the main barriers to regular hand washing were lack of access to water at home (25 per cent of respondents) and the unaffordable costs of extra soap or water (32 per cent). However, on the positive side, COVID-19 had contributed to a wider adoption of hygienic practices such as hand washing with soap. In fact, among respondents "95 per cent said most public spaces have hand-washing stations, 76 per cent said they washed their hands more than seven times a day, and 88 per cent said they always used soap".[30]

Beyond the current pandemic, improved behaviours such as these could help prevent thousands of deaths globally every year from communicable illness, provided that governments and communities make efforts to sustain them. In addition, authorities need to work with a variety of stakeholders, such as private companies, civil society and local residents, to extend access. In some cases, youth-led organizations successfully mobilized to provide basic infrastructure and services in underserved settings by partnering with the government, international agencies and the private sector. For example, in Kenya, a number of organizations partnered to form the Youth-led COVID-19 Emergency Response Coalition to help establish hygiene stations, isolation centres and education programmes in informal settlements in towns and cities across the country.[31]

In summary, given that adequate water and sanitation services are critical in preventing and stemming the spread of communicable diseases, each city's attempt to control the spread of COVID-19 can only be as successful as the provisions in the poorest neighbourhoods. While some local providers have cut service access to slums and informal settlements in the event of greater demand and reduced capacity of these systems, this approach is the least productive. Cities should instead view the pandemic as an opportunity to identify and rectify gaps and weaknesses in water and sanitation provision for their most vulnerable communities, working with them and other stakeholders to urgently improve access. As the evidence demonstrates, not only will regularizing and supporting accessible services in informal settlements help cities to be more resilient to future pandemics, but it can also have a positive effect on reducing the spread of other diseases and improving living standards for all.

each city's attempt to control the spread of COVID-19 can only be as successful as the provisions in the poorest neighbourhoods

Cities should instead view the pandemic as an opportunity to identify and rectify gaps and weaknesses in water and sanitation provision for their most vulnerable communities, working with them and other stakeholders to urgently improve access

Box 2.3: Protocols and guidelines on COVID-19 response on management of water supply in Kenya

These Protocols and Guidelines are issued to define specific actions and measures to be taken to ensure continuous supply of water and adequate sanitation during the period of COVID-19 Pandemic with the objective of ensuring that people have adequate water for domestic use and for washing of hands. The protocols and guidelines are as follows:

That County Governments will:

1. Direct all the Water Service Providers (WSPs) to provide free water to informal settlements and vulnerable groups for the next three months, April – June 2020. Other consumers will pay for the water and sewerage services.

2. Ensure that all WSPs are fully operational without interruption and essential personnel observe Health, Safety and Environment (HSE) regulations at all times.

3. Ensure WSPs suspend disconnection of water for the next three months that is April – June 2020.

4. Ensure in areas where water tracking is done to communities not connected to water supply, the communities receiving the service are sensitized on regular hand washing with soap, use of sanitizers and social distancing to avoid rapid spread of the disease.

5. Ensure WSPs enhance information dissemination strategies on required measures to be observed through various platforms. Such messages will be aligned to directives issued by Ministry of Health.

6. Ensure handwashing points are accessible in strategic locations to serve needy communities.

7. Collaborate with the National Government to map out and prioritize areas and additional interventions necessary in ensuring adequate and safe water availability to the public.

Source: Ministry of Water & Sanitation and Irrigation, Republic of Kenya

2.2.3. Waste management

Well managed waste disposal is essential to public health, particularly in cities, yet more than 2 billion people are currently without basic waste management services. The number lacking access to controlled disposal of waste is even higher, at over 3 billion people.[32] The situation is particularly alarming in low-income countries, where waste is frequently "dumped in watercourses or vacant land or burned in the open air near the residences",[33] posing grave public health risks. Often, these polluting sites are located near marginalized neighbourhoods, further increasing the burden borne by residents of these areas.

The pandemic has amplified the challenges of waste management. Increased use of plastic, disposable masks, protection kits, cleaning supplies, alcohol-based sanitizers, as well as the purchase and consumption of canned and packed food, has created many tonnes of additional waste, much of it hazardous. In the Asian cities of Manila, Jakarta, Hanoi, Bangkok and Kuala Lumpur, household medical waste generation increased by around 500 per cent due to the pandemic.[34] As a result, municipal waste has increased substantially, overwhelming the already stretched collection and disposal services in many cities.

At the same time, a reduction in recycling activities has exacerbated the challenges in this sector, affecting many of the estimated 15 million informal workers in this sector.[35] Typically belonging to the poorest urban communities, without social protection or health insurance, the pandemic has made their situation even more precarious. In the immediate aftermath of the first lockdown, many were unable to earn a living. In a study of women waste pickers during lockdown in Delhi, 68 per cent of respondents reported that they were unable to perform their normal work sorting and selling recyclables due to shop closures, police patrols and a lack of protective equipment. Nevertheless, given their need to continue to bring in some form of income, waste pickers continued to work when possible despite the lack of health and safety protections.[36]

Box 2.4: Protecting informal workers in the waste sector

The pandemic and the various restrictions put in place in cities to prevent its spread have not only disrupted urban waste management systems, but also threatened the livelihoods and health of waste pickers who play a vital role in collection and recycling. A number of measures have been taken by local governments and other stakeholders to mitigate the direct effects of these mobility restriction measures on solid waste management, including:

- Declaration of waste management as an essential service, including waste picker associations
- Development of guidelines and protocols for informal waste pickers, as well as waste picker associations working with municipalities
- Adjustment of collection routes and re-assignment of workers, especially of high-risk groups
- Provision of food, shelter and income
- Distribution of personal protective equipment and installation of handwashing stations at key locations such as dumps to reduce risk of infection
- Exemptions or reductions on water, sanitation and urban waste tariffs

Garbage Collectors wearing face masks during Corona Virus Pandemic in Cape Town, South Africa © Shutterstock

2.3. Housing

Adequate housing has long been recognized as an important component to public health and social justice. Poor housing quality and lack of access to basic services have been proven to contribute to the proliferation and spread of communicable diseases. When the fundamental requirements of safe and adequate housing are not met — sufficient living space, safe and affordable basic service provisions, thermal comfort, accessibility for functionally impaired persons, safety from preventable injuries and exposure to harmful substances such as smoke, asbestos, lead and radon — then households already suffering from health inequities may be even more exposed as a result of the pandemic.

Housing is therefor a major risk factor as well as a vital entry point for an intersectoral response to public health issues. Economic, social and demographic factors are key determinants for the housing standards enjoyed by some and denied to other population groups. Low-income earners, as well as certain groups including indigenous peoples, minority populations, single parent families, persons with disabilities and women, are least likely to have access to adequate and affordable housing. Such trends are evident across low-, middle- and high-income countries. In Cambodia, for example, 29 per cent of households in the lowest income quintile and 79 per cent of households in the highest income quintile have access to toilet facilities. In the US, similarly, hospitalizations from childhood asthma still occur disproportionately among families living in crowded conditions and in areas with high poverty levels and a large proportion of ethnic minorities.[37]

Particularly in humanitarian crises, overcrowded housing centres are at risk of spread of communicable diseases

While the relationship between housing quality and the transmission of disease has long been established, the spread of COVID-19 in marginalized and underserved communities illustrates that the issue has not received due recognition in the development agenda for decades. Now, in the midst of a global pandemic, the correlation between health, social and economic inequities has become even more pressing to address. These issues extend beyond housing to land supply and the broader urban environment. Per capita land consumption in cities is highly unequal and already unsustainable. Reshaping the urban fabric, as discussed in Chapter 1, should be based on principles of mixed land use, social diversity and connectivity to jobs and markets, maintaining compactness of space through a balance of high-density but habitable housing with sufficient open public spaces. All of these diverse spatial planning demands put great pressure on cities to find more room for development, without compromising sustainability through urban sprawl.

2.3.1. Overcrowding

A significant challenge in containing the spread of COVID-19 in developing countries is the large proportion of urban residents living in crowded settlements. With 56 per cent of its urban population living in cramped and inadequate housing, and just 34 per cent of households having access to clean water or handwashing facilities, Africa is especially exposed to these risks.[38] This is especially the case in contexts of overcrowding when an excess of people are concentrated in a particular space, such as dormitories or prisons. Besides being a key indicator of social vulnerability, overcrowding can have adverse impacts on infectious disease transmission, including COVID-19. Migrant populations are a case in point: with large numbers housed in substandard conditions — in the OECD, an average of 17 per cent of immigrants are living in overcrowded accommodation, compared to 8 per cent of native-born residents[39] — it is not surprising that "studies in a number of OECD countries found an infection risk that is at least twice as high as that of the native-born".[40]

Particularly in humanitarian crises, overcrowded housing centres are at risk of spread of communicable diseases. Asylum seekers, humanitarian workers and aid groups in Greece have been flagging for years that massively overcrowded and unsanitary detention centres

are not fit for purpose and endanger human life. In Moria, a refugee settlement in Greece that has since closed due to a devastating fire in September 2020, some 20,000 asylum seekers were crowded into a space originally designed for 3,000 in habitants when the pandemic broke out.[41] With new waves of coronavirus still sweeping across the world, there are concerns about what will happen if refugees are required to comply with lockdown procedures that trap them indefinitely in close living quarters.

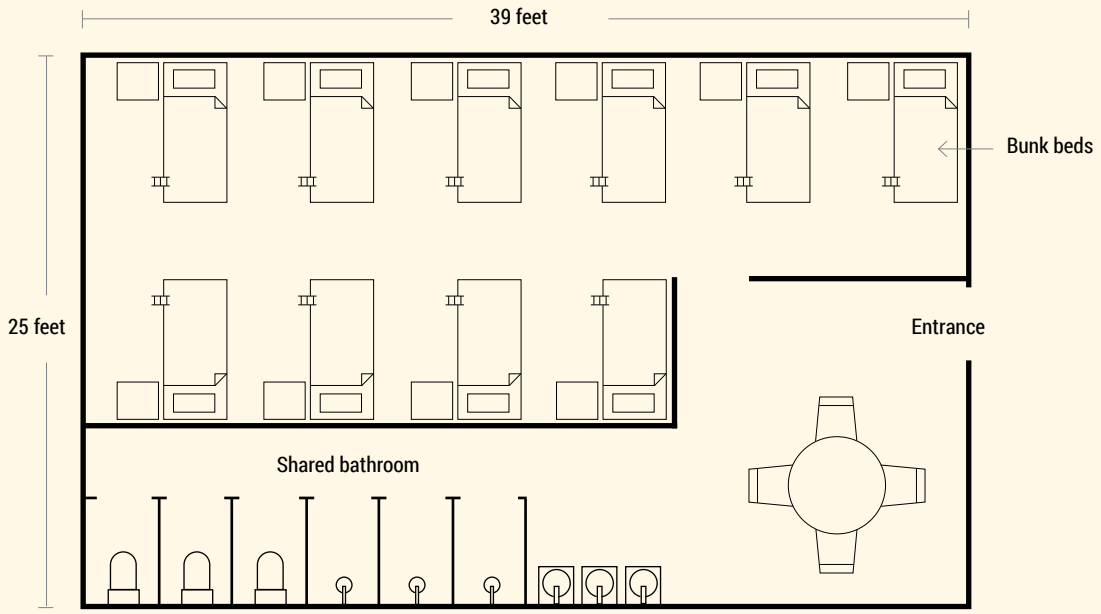
Box 2.5: How cramped and unsanitary conditions put migrant workers at the centre of the epidemic

While Singapore's COVID-19 infection rates have been remarkably low for the population as a whole, the picture has been very different for its migrant worker population. By the end of 2020, nine months after the pandemic began, some 93 per cent of all positive tests had been among migrants. Furthermore, the combined results of PCR and serology testing showed that some 152,000 migrant workers, amounting to around 47 per cent of an estimated 323,000 on the island, had contracted the virus since the pandemic began.[42]

The poorly designed and overcrowded worker dormitories and detention centres where migrant workers were held in the wake of lockdown were a key factor in the high prevalence of infections. Similar patterns were also recorded in other Southeast Asian and Arab Gulf countries where large migrant populations were concentrated in cramped and inadequate conditions: Qatar's industrial zone, for example, which houses many migrant workers, has been cited as a hot spot.[43] The Singaporean government responded with a commitment to increase the minimum living space in dormitories and construct additional housing to accommodate migrant workers.[44]

Migrant workers in Singapore seen outside their dormitory

Figure 2.8: Typical layout of a 20-person dorm room in a dormitory in Singapore



Source: Weiyi and Lai, 2020.

Figure 2.9: Spread of COVID-19 in the Worker Dormitories of Singapore, as of June 2020

Source: Map by UN-Habitat

Alongside increased coverage of basic urban services, habitability or sufficient living space will be key for decongesting overcrowded areas. This is a broader question of spatial planning and land management and cities need to better regulate how space is distributed within urban areas. Lessons from past failures in urban planning show that mono-functional residential projects in the suburbs where land was cheaper were socioeconomic disasters. Neighbourhood planning should cater not only for decongesting homes but also maintain proximity between residences, jobs, services and civic life. The 15-minute city is a useful concept for building back better as walking and cycling is the most affordable option and forms the highest modal share of transport for the urban poor.

While in the short term, cities can adapt UN-Habitat's guidance note on decongestion and upgrading of IDP settlements,[45] in the long-run cities need to focus on slum and informal settlement upgrading. These spatially targeted approaches should be embedded in citywide strategies to make an inventory of settlements with the poorest living conditions. This inventory helps to understand bottlenecks in the regulatory framework that are preventing the development of affordable and adequate housing options, meaning that investments can be prioritized for improvements in the most deprived areas and thus build resilience not only for those communities, but in the city as a whole.

Decongestion without making more land available is not always feasible. Building codes that increase requirements on buildings to be decongested can undermine inclusivity and affordability. Therefore, decongestion must be paired with land assembly tools that make affordable and serviced land available for the housing needs of low-income groups. As many cities do not maintain effective and responsive land administration systems, urban upgrading can also adversely impact land tenure security and potentially trigger development-induced displacement, further exacerbating inequalities and land conflict. This is why it is critical to ensure that everyone benefits from area-based development, including residents in settlements that may not be officially recognized by authorities: otherwise, development may further exclude those communities who do not have their land rights codified.

2.3.2. Tenure security and evictions

Secure land and housing is central to safety and wellbeing in cities, particularly in the wake of COVID-19. Even prior to the pandemic, tenure insecurity among a large proportion of the population residing in slums and unplanned urban areas was a grave concern, with women and other marginalized groups especially at risk of eviction. The current crisis has triggered further disruptions in tenure security, with growing income instability likely to result in mortgage and rental arrears. In the US, an August 2020 study by the Aspen Institute estimated that between 30 and 40 million people could be at risk of eviction in the near future, with the pandemic having aggravated existing insecurity for many tenants. Estimates suggest that as many as 80 per cent of those facing evictions in cities across the country are members of ethnic minorities, particularly Black and Latino communities.[46]

In the long-run cities need to focus on slum and informal settlement upgrading

These issues are not new to the pandemic, however: across the world, the outbreak of COVID-19 has deepened existing fault lines of class, citizenship, age, ethnicity and gender that have left large sections of the global urban population in a state of protracted insecurity. Women have historically struggled with gendered property regimes that limit their access to land and housing. An assessment across 10 African states, for example, found that just 12 per cent of women reported owning land individually, compared to 31 per cent of men — an imbalance reflected in many other cities and countries, and typically exacerbated during pandemics.[47]

Utility costs could also become unsustainable, placing further pressure on struggling urban households. In particular, "stay at home" policies imposed during lockdowns have impacted

Long-term investment strategies for affordable housing, such as direct market investments, also have an important role to play

on the energy needs of households, both on account of an increase in conventional demand (more space heating, hot water, cooking and so on) because of the increased time spent in the home, but also the additional demand connected to new activities such as teleworking and remote schooling. These pressures, combined with widespread loss of livelihoods, have exacerbated the pre-existing problems of fuel and energy poverty. In the European Union, for instance, more than 50 million families were facing energy poverty when the pandemic began, a figure that was anticipated to rise further during the pandemic as measures to contain the virus were put in place.[48]

In sum, COVID-19 has exacerbated a longstanding, global housing crisis reflected in the increasing unaffordability of adequate housing to a large share of the urban population. Ensuring people remained housed was a key priority in the emergency response for many governments in the first months of the crisis.

Box 2.6: Key actions to make housing affordable during the pandemic

Together with suspensions and bans on evictions, ensuring temporary affordability of housing and utilities allowed people to comply with lockdown and curfew orders, especially those presenting pre-existing or new economic vulnerabilities. The most common measures were:

- **Rent freezes** that have temporarily prohibited rent increases on rental units for the duration of the emergency and/or for months after the end of the emergency.
- **Moratoria on mortgages** that allowed landlords to avoid incurring in debts with banks or financial institutions.
- **Housing vouchers" or rent bonuses/subsidies** that have been used to help tenants pay and afford rents during the emergency
- **Bans on utilities shut-offs** that have also contributed to ensure affordability of housing costs through continuity of utilities supply during the pandemic, particularly for those already on the edge of the poverty line.

Alongside subsidies and financial assistance to ensure the short term affordability of rents, mortgages and utilities costs, other measures such as temporary moratoriums on evictions and foreclosures were put in place to prevent a rise in homelessness. Nevertheless, some cities saw evictions continue even at the height of the first wave, with the poorest neighbourhoods, informal settlements and slums the primary targets. In Nairobi, for instance, thousands were forced from their homes with little warning or support in the form of alternative housing and compensation: in Kariobangi informal settlement, to take one example, some 8,000 residents were forced from the area and their homes destroyed despite a court order in place prohibiting authorities from undertaking the eviction.[49] Similar patterns were in evidence in other East African cities throughout the crisis, with some 65,000 people evicted in Somalia in the first half of 2020, including more than 33,000 in Mogadishu alone.[50]

In other countries, measures to ensure the right to housing have been taken: in Bishkek, Kyrgyzstan, authorities worked with UN agencies to address the situation in informal settlements by helping to rebuild these communities in line with rights-based principles. Beyond the short term measures described above, long-term investment strategies for affordable housing, such as direct market investments, also have an important role to play. A major limitation of emergency policies is that, if taken in a vacuum, they do not address the broader economic drivers that leave million of people vulnerable to eviction. Gaps have emerged, too, even in countries where protections are supposed to prevent evictions. In the US, for instance, landlords have still been able to evict tenants if they fail to file a hardship form or if there are errors in their paperwork: according to data from Princeton University's Eviction Lab, compiled from 27 cities across five states, as of 13 February 2021 almost a quarter of a million (247,463) evictions had taken place since the pandemic began.[51] However, cities can themselves enact policies to alleviate these impacts. New York, for instance, rolled out wide

ranging legislation at the end of 2020 to extend tax relief, credit assistances and a moratorium on evictions and foreclosures until May 2021, with the aim of supporting both tenants and small landlords to meet their financial challenges.[52]

In the absence of well-functioning social-protection systems that allow for the vast majority to remain adequately housed, during COVID-19, governments deployed an array of measures to provide economic relief to people who were unable to pay their rent due to loss of incomes. At the same time, in many other constituencies, evictions and forced evictions have continued to take place during the pandemic, increasing the exposure of thousands of people who were displaced, while also violating human rights, jeopardizing public health and the resilience of the entire city. Regulatory frameworks enacted to limit evictions and relocations may have provided protection from eviction in many constituencies, but this was enacted as a temporary measure. At the end of the lockdown, cities can expect a crisis of evictions in the absence of more sustainable social protection measures. Longer term strategies are needed to ensure that tenure security as part of the right to adequate housing55 is urgently prioritized in both high and low income cities.

This includes a long-term agenda for increasing the supply of affordable housing through a reassessment of land and housing markets and bringing public housing and social housing back on the agenda.

2.2.3. Homelessness

One of the key concerns around the growing risk of evictions and foreclosures is that these could in turn lead to an increase in homelessness and an accompanying rise in COVID-19 transmission. At present there are an estimated 330 million homeless urban households worldwide, a figure

Box 2.7: COVID-19 and insecure land tenure heighten vulnerability among residents of informal settlements in Yangon, Myanmar

A rapid assessment conducted by UN-Habitat in informal settlements in Yangon, Myanmar shortly after the pandemic began highlighted the different dimensions of vulnerability that communities and households faced. Strikingly, it found that concerns about food security and affordability were almost universal, a reflection of broader economic pressures: at least one household member had lost their job in the previous 30 days in the majority (81 per cent) of those surveyed and 69 per cent of households reported having taken out a loan in the last 30 days, most of whom used it to purchase food.

Yet the disparities between different informal settlements were also telling and spoke to the need for a clear, disaggregated assessment of vulnerability to understand the precise location of a city's most serious weak spots. For example, comparing the three townships surveyed, 71 per cent of respondents in Shwepyitha reported not having enough money to buy masks, compared to 27 per cent in Hlaingthayar and none in Dala. Similar patterns were observed when asked about their ability to purchase soap or hand sanitizer: 61 per cent of households in Shwepyitha reported this as a problem, compared to 14 per cent in Hlaingthayar and no households at all in Dala.

Insecure housing tenure and the risk of eviction can further expose vulnerabilities in overcrowded areas, with uneven effects not only between different settlements but also between different groups, with women disproportionately affected. 57 per cent of women in the informal settlements surveyed in Yangon reported insecurity related to being evicted, compared to 49 per cent of men.[53] The gendered dimensions of COVID-19 have also been highlighted in similar research in other countries during the pandemic. For instance, in a UN-Habitat survey of 16 informal settlements on the island of Viti Levu, Fiji, 76 per cent of all respondents who reported feeling insecure about evictions were women.[54]

With sufficient political will and flexibility, homelessness — a problem that until the pandemic began appeared to be intractable — can be significantly reduced

projected to grow to 440 million households (a total of 1.6 billion people) by 2025 unless drastic measures are taken to address the problem.[56] Evidence suggests that homeless populations are at disproportionate risk of infection and death from COVID-19, making protective measures even more pressing. The associated challenges of homelessness, as well as heavy-handed police responses in the form of "sweeps" and other crackdowns, can also increase the possibility of transmission.[57] This highlights how strategies to reduce the ongoing spread of the pandemic also overlap with the implementation of long-term social protection measures to reduce socioeconomic vulnerabilities around tenure security and housing affordability.

Encouragingly, many cities were quick to recognize and respond to these challenges in the first months of the pandemic, rehousing their homeless populations in secure, socially distanced accommodation. In Toronto, Canada, authorities provided isolation units and vacant hotel rooms to enable homeless residents to quarantine without putting themselves or those around them in danger. In Bratislava, Slovakia, authorities established an extensive "quarantine town" with medical and professional support to house and care for some 4,000 homeless people.[58] In Spain, meanwhile, public authorities partnered with private sector housing providers to temporarily increase their social housing stock: Barcelona, for example, secured 200 vacant apartments through an agreement with a tourism agency to shelter the homeless in the first phase of the pandemic.[59]

These different examples show that with sufficient political will and flexibility, homelessness — a problem that until the pandemic began appeared to be intractable — can be significantly reduced. Troublingly, however, many cities appear to have rolled back their emergency protections once the worst phase of the pandemic was perceived at the time to have passed. Reversing these hard-won successes is not only short-sighted, but also amount to a "retrogressive measure" — one that "directly or indirectly, leads to backward steps being taken with respect to the rights recognized in the Covenant on Social, Economic and Cultural Rights"[60] — prohibited by international human rights law.[61] Many cities that have subsequently downscaled their initial support, such as London (Box 2.8), have seen a resurgence in homelessness and with it an increasing risk of COVID-19 infections.

Box 2.8: For London's homeless, COVID-19 has made life even more dangerous

In London, UK, there was early recognition of the need to ensure that the city's large homeless population were provided with secure accommodation to protect them from infection and prevent wider community transmission. In response, a range of vacant hotels and offices were swiftly converted with the aim of creating thousands of self-contained safe spaces.[62] In a matter of weeks, it seemed that the capital had managed to solve a problem that had been evident in the city for decades — the desperate reality of the more than 10,000 rough sleepers on its streets and many others living in temporary accommodation such as hostels or shelters.[63]

Nevertheless, this was always intended as a temporary measure and as the pandemic appeared to ease in the summer months of 2020, the emergency accommodation was scaled back.[64] By October, however, charities were warning that new lockdown restrictions were pushing large numbers of young people onto the streets.[65] By the beginning of 2021, there were reports of an "explosion" of cases among the homeless population, far outstripping the original number of infections in the first weeks of the pandemic.[66] This illustrates the need to consider whether cities should consider maintaining emergency provisions for safe and accessible housing to support the most vulnerable, even once the latest waves of COVID-19 recede, given the value of protecting these groups in the long-term from the perspective of public health as well as social justice.

2.4. Connectivity

A central element in the so-called "urban advantage" is the ability of cities to provide an array of opportunities, from education and employment to socialization and recreation, to their populations. Yet in developed and developing countries alike, many communities are denied these benefits. For residents of physically isolated, poorly serviced settlements and neighbourhoods, a variety of social, economic and geographic barriers often prevent them from enjoying the same rights as other citizens. In these contexts, urban life may be primarily characterized by segregation, lack of services and joblessness — in sharp contrast to the diversity, wellbeing and prosperity that successful cities are supposed to deliver.

An important dimension in ensuring more equitable access is improving connectivity, with a particular focus on those most disconnected from their cities due to discrimination, poor locations and other factors. While improvements to their physical surroundings through upgrading and better spatial planning can achieve significant gains — a point discussed earlier in this chapter, as well as in Chapter 1 — secure transport and digital inclusion are also critical to ensuring that the most marginalized can access essential services, whether in person or online. These issues have only become more urgent in the wake of the pandemic, given restrictions on movement and the shift to remote working and learning.

2.4.1. Accessible mobility

Accessible transportation is essential for any city aspiring to be equitable and inclusive. Yet for decades, planners and policy makers have prioritized private car use over every other mode of transit, including public buses, trams and trainlines as well as non-motorized alternatives such as walking and cycling. Pioneered in the US but subsequently replicated in cities across the globe, this auto-centric approach to urban development has left a devastating legacy of neighbourhood destruction, pollution and sprawl. These costs are borne disproportionately by poor and marginalized urban populations.

Accessible transportation is essential for any city aspiring to be equitable and inclusive. Yet for decades, planners and policy makers have prioritized private car use over every mode of transit

Passengers keeping social distance and wearing face masks inside the MRT as part of health protocols applied due to the COVID-19 pandemic. Jakarta/Indonesia © Shutterstock

Despite the perceived risks of infection, public transport was an essential infrastructure that had to be maintained and improved during the pandemic as a lifeline for residents and a bedrock of economic stability

Firstly, private road infrastructure delivers limited benefits in contexts where the overwhelming majority of residents do not own their own vehicle. More than that, however, it frequently undermines other forms of transit as pavements and road space is given over increasingly to cars at the expense of pedestrians and cyclists. Given that walking and cycling are often the preferred options for low-income residents, these impacts can be highly exclusionary, increasing their exposure to toxic traffic fumes and raising the risk of death or serious injury as a result of road accidents. Finally, given that the rollout of tollways and other infrastructure often promotes inefficient land use and can leave previously cohesive areas fragmented in their wake, poorer communities may find themselves cut off from the rest of the city or relocated to the periphery, far from their work.

Box 2.9: Making public transport COVID-19 safe

Since the beginning of the crisis, governments and transport agencies have emphasized the essential role of public transport to guarantee access and livelihoods for urban dwellers in the midst of the pandemic. Given widespread fears about travelling in shared spaces, however, not to mention the potential risks of infection without adequate measures in place, public transport authorities and operators have responded with a range of measures including:

- Scaling and reinforcing cleaning and disinfection procedures
- Supplying protective equipment to staff and to passengers
- Ensuring staff and passengers comply with health regulations
- Increasing the level of natural ventilation and air renewal
- Accelerating the digitalization and the deployment of IT tools to better monitor operations
- Anticipating the number of travellers and occupancy in vehicles to provide real time information to avoid crowds
- Arranging contactless payment facilities
- Providing staff and customers with regular transparent communications

Affordable, inclusive public transportation, alongside adequate provision of space and infrastructure for walking and cycling, are essential to ensuring "access to safe, affordable, accessible and sustainable transport systems for all", in line with Sustainable Goal 11.2. Its importance has only increased since the outbreak of COVID-19 and the changes introduced in response. Faced with growing infection rates, most governments imposed mobility restrictions and community containment measures, such as school closures and home working requirements, resulting in unprecedented drops in ridership. Upper middle- and high-income countries witnessed significant drops in transit ridership as well. Cities such as Stockholm saw public transport use decline by 60 per cent in the weeks following lockdown,[67] trends mirrored in Washington DC, where Metrorail and bus ridership fell by 90 per cent and 75 per cent respectively by the end of March 2020.[68] These declines may not only reflect a fall in demand, but also a reduced trust in the safety of public transport among users, threatening the continued effectiveness of mobility systems that many lower income groups rely on.

Many cities recognized that, despite the perceived risks of infection, public transport was an essential infrastructure that had to be maintained and improved during the pandemic as a lifeline for residents and a bedrock of economic stability. The benefits were not only clear in terms of public health — frontline health care workers rely on public transport to reach their places of employment, while the poor may have no other means of reaching medical facilities — but also in protecting livelihoods. Informal settlement dwellers in particular, often living at lengthy distances from city centres, would struggle to access the labour market and earn a living without access to public transport. In some countries and regions, such as Europe, governments and transport authorities have implemented a wide range of protocols to ensure safety and confidence for users (Box 2.9). As discussed in Chapter 1, the evidence suggests that the incidence of infections

connected to public transport in countries and cities where such measures have been put in place have been very low. Implementing similar measures in developing country contexts where many commuters rely on informal, private owned transport such as minivans, where physical distancing and sanitizing are often not practicable, has proved more challenging. These modes are chosen by population groups with limited transportation options and are often unclean, overcrowded and poorly ventilated, potentially raising the risk of infections.

However, as discussed in Chapter 1, many cities have responded to the challenges brought on by the pandemic with the expansion of pedestrian areas and cycling lanes as a safe and affordable alternative. These could bring a range of lasting benefits to urban populations, especially those poorly served by auto-dominated transport systems, if sustained in the long term. An important determinant of this will be whether governments continue to channel the resources necessary for a lasting transformation. Without sufficient political will, even the limited infrastructure available can become obsolete. A case in point is the designated cycle lane in UN Avenue in Nairobi: with little measures in place to deter car owners from parking their vehicles there, it is largely unusable for its intended users.

As cities navigate their recovery from the pandemic, it is important to bear in mind that two very different scenarios could play out. On the one hand, if many residents remain reluctant to use public transport, private car use and its associated social, spatial and environmental problems could increase. On the other hand, if enough investment and imagination is committed, urban transportation could become more low-carbon and inclusive for everyone, with significant benefits to health and wellbeing. To be truly effective, these changes need to be accompanied by a broader shift in the way cities and neighbourhoods are planned and managed, an issue explored in greater detail in Chapter 1.

2.4.2. Communications and digital connectivity

One distinct feature of the current pandemic has been the central role played by the internet and digital technologies in shifting key aspects of daily life, in particular education and employment, online. While helping to alleviate some of the impacts of COVID-19 and the restrictions imposed to contain its spread, this rapid shift has also renewed concerns about a growing "digital divide". With access to the internet, computers, smartphones and other technologies now more important than ever, addressing these inequalities is essential to ensuring a fairer society.

The digital divide is not only evident at a global level, but also manifesting within cities between more affluent and poorer residents

While technological solutions and remote working may ease some of the direct economic impacts of lockdowns and pave a way towards a more equitable spatial organization of cities, they also have the potential to widen existing inequalities. With households excluded from broadband, mobile networks and other technologies struggling as a result with remote working and home schooling, it is essential that governments invest urgently in ensuring equitable provision of digital services. At present, only around 19 per cent of the population in the least developed countries have access to the internet.[69] In sub-Saharan Africa, while around three quarters of the population in sub-Saharan Africa (747 million people) have a mobile phone, only a third of these (250 million people) have access to a smart phone.[70] Yet the digital divide is not only evident at a global level, but also manifesting within cities between more affluent and poorer residents. In New York, for instance, "46 per cent of New York City households living in poverty do not have broadband at home" while "18 per cent of all New York City residents – more than 1.5 million people – have neither home nor mobile connection".[71]

Importantly, the digital divide is often reflected in the spatial configuration of urban services and amenities. In one study that analyzed cell phone access in 41 African countries, factors

such as distance to a main road and to the nearest city, along with elevation, slope and population, significantly correlated with the proximity to cell phone towers (though it should be noted that this alone does not necessarily translate directly to access as ownership of a phone is still required). Another study in Kenya found that study participants who lived closer to local markets were "more likely to participate in technology-based market information services", highlighting the role urban form plays in addressing the digital divide.[72]

Overcoming the digital divide requires building new infrastructure to support the growing demands of all groups in the wake of the pandemic. While in many developed countries families have faced a shortage of devices to support school-going children along with office-going parents, the developing world lacks access to internet services more broadly. In India, even as telecommunications infrastructure has become increasingly robust and ubiquitous, ensuring public access to high-speed data is an urgent step to connect the hundreds of millions of citizens who still are not online. One solution is setting up free high speed Wi-Fi stations in areas such as bus stops, hospitals and railway stations. India had already had some experience of this model before the pandemic through initiatives such as Google Station, a service that provided free internet access in hundreds of railway stations across the country.[73] Though cancelled in early 2020, shortly before lockdown, it highlights the potential for the development of other services in Indian cities that will help improve coverage in the future.

Alongside the necessary infrastructure, the development of digital skills is an important part of building resilience to economic and social shocks like those presented by the COVID-19 outbreak. Digital skills are critical for teachers moving their classes online, youth entering the

High-speed-WiFi stations in Coachella Valley School District, California, to provide access to internet to students © The Economic Times 2020

employment world, parents supporting children in their educations, but also for senior citizens to mitigate isolation brought on by lockdowns and mobility restrictions. At present, however, digital literacy remains a significant additional barrier for certain communities, both in developed and developing markets. In lower-income economies, for example, less than a third (32 per cent) of the population has basic digital skills.[74]

School closures and pre-existing inequalities have hindered children's ability to access classes and learning materials — mostly because of lack of access to the internet and to electronic devices like computers — limiting their ability to access education. These gaps in provision are evident even in developed countries, with some 15 per cent of households with school-aged children lacking access to a high-speed internet connection at home.[75] In many regions, COVID-19 has exacerbated pre-existing inequalities that saw large numbers of school-aged children unable to secure their right to education: in Latin America and the Caribbean, for instance, "even before the pandemic, almost 12 million children and youth were excluded from education, with poverty the main constraint to access".[76]

Addressing the digital divide is also essential in the commercial sector. While larger companies and corporations were mostly able to transition to more digitalized operations, this was not always the case for smaller retailers, who provide a key source of employment and economic support in local communities. In Latin America, for instance, small- and medium-sized on-premise business and traditional stores account for more than 95 per cent of outlets.[77] Ensuring their access to digital services is crucial, but this should be combined with an awareness that these smaller-scale premises will continue to play an important role in the offline life of cities, too, and will need to be supported with appropriate spatial planning. Zoning laws and policies that promote mixed-use, compact forms and non-motorized transport, as discussed in Chapter 1, will ensure that retailers are in close proximity to residential buildings and are within walking distance.

Young man unlocks bicycle with his mobile phone. Electric bicycle new way city mobility © Shutterstock

These inequalities will also have a significant bearing on the future of work, given the growing importance of digitization. Cities will have to find innovative ways to build the necessary skills and knowledge to enable their youth to work in the future economy. This requires extending coverage to unconnected areas, for example, to connect slums, underserviced neighbourhoods and refugee camps to digital marketplaces, alongside remote learning opportunities, upskilling and training programmes, as well as community-driven solutions to crowdfund for settlement and home upgrading initiatives. Some cities, such as Singapore and Seoul, have responded to the pandemic by expanding online and digital tools such as smart phone solutions and technologies, not only for communication, awareness-raising, teleworking and learning, but also to track the disease.[78]

2.5. Employment and social protection

Along with its heavy toll of death and illness, COVID-19 has also wrought widespread economic devastation on the world economy, the result not only of its impact on public health but also the raft of lockdowns and restrictions on movement imposed in response. Global labour income is estimated to have declined by 10.7 per cent, or US$ 3.5 trillion, in the first three quarters of 2020, compared with the same period in 2019. This figure excludes income support provided through government measures.[79] COVID-19 has also put immense strain on the social safety nets in countries with these provisions, and left countless others where such social protection measures do not exist in even more precarious conditions.

Along with its heavy toll of death and illness, COVID-19 has also wrought widespread economic devastation on the world economy

With millions struggling to maintain their livelihoods in the midst of this economic turbulence, many of whom have little or no social support to fall back on, the increasing vulnerability of the urban poor is evident in rising food insecurity in cities. Even before the pandemic this problem was acute, with almost 135 million persons worldwide facing acute food insecurity in 2019, a figure that WFP projected could double during 2020 as a result of the pandemic unless urgent action was taken.[80] By the end of the year, the agency was reporting that "the impact of COVID-19 on livelihoods and on vulnerable people's access to food has required WFP to expand into urban areas at an unprecedented scale in more than half of its countries of operation".[81] In many cities, COVID-19 has disrupted food systems, production and distribution supply chains globally while also devastating the local livelihoods of informal workers such as food vendors who were severely inhibited during lockdowns. Against a backdrop of increased food prices and supply shortages, poor and inadequate nutrition amongst the urban poor has risen.[82] In this context, livelihood security and social protection measures have an even more vital role to play in ensuring urban resilience and recovery. Without adequate measures in place, however, the implications for cities could be catastrophic and long-lasting.

2.5.1. Livelihoods

Given that before the outbreak of COVID-19, more than half the world population or 4 billion people did not benefit from any social protection, the pandemic poses an unprecedented threat to low-income and informal workers: in particular, those dependent on daily wages in insecure or informal employment who have faced disruptions in supply chains and occupational activity due to lockdowns. This sector, comprising some 1.6 billion people, suffered a 60 per cent decline in the first month of the crisis.[84]

Box 2.10: Improving food security through urban agriculture in Fiji

During pandemics and other crises, food security in cities can quickly be jeopardized by disruptions in production, supply and transportation, both in the regions around them and in other countries or continents that may still play a vital role in their everyday food provision. In these contexts, urban agriculture can play an important role in filling the gap with locally grown produce.

In Fiji, UN-Habitat's Global Emergency Response Fund worked with communities to assist food insecure households in informal settlements who were now facing even greater pressure as a result of COVID-19. As informal settlements there typically lack access to arable land and what space is available for cultivation is often at risk of flooding and other environmental hazards, conventional urban agriculture is not always possible. To overcome these difficulties, container farming was introduced as an affordable and accessible alternative for households to grow their own food. Working with representatives from informal settlements, the project provided seeds, training and further support to around 800 households.[83]

Nevertheless, the impacts of this crisis have been distributed unevenly, with youth and women especially hard hit. Among informal workers, for instance, some 42 per cent of women workers are engaged in the most high-risk sectors, compared to 32 per cent of men.[85] Discriminated groups such as Roma, migrants and indigenous peoples are also more likely to be working in the informal sector and are therefore disproportionately impacted by the economic downturn triggered by the pandemic.[86] Even in developed countries with some form of welfare system in place, the implications of the pandemic on economic security and social mobility have been profound, with one study by the London School of Economics highlighting the bleak prospects for "Generation COVID" as already limited employment opportunities have further contracted.[87]

Across the world, numerous governments attempted to reduce the pandemic's impact on vulnerable sectors through wage subsidies schemes, often designed to reach at-risk sectors. In Cambodia, for instance, a temporary programme was set up to support workers in the garment and tourism industries.[88] In many ways, the level of support is remarkable: in the OECD, by May 2020 some 50 million jobs were being supported by different forms of job retention schemes including dismissal bans, short-time work schemes and temporary wage subsidies in response to the pandemic, around 10 times as many as during the global financial crisis of 2008/9. In many cases, countries had to simply deploy pre-existing short-time work (STW) schemes in response to the decline in demand generated by COVID-19.[89] Some cities took specific measures to support local businesses and safeguard jobs, such as Milan, which provided productive project programs and mutual aid funds. Meanwhile Barcelona, long renowned as one of Europe's creative capitals, provided subsidies, tax exemptions, special investments and advance payments to arts companies, cultural programmes and shows to mitigate the effects of the crisis.

Notwithstanding the temporary measures implemented by many governments and city authorities to support workers and employers to survive the economic shock of the pandemic, it is vital that these efforts are sustained over time to avoid enterprise closures, job losses and reduced income. The painful experiences of the pandemic also offer an opportunity for cities to reflect on how the landscape of work and employment, formal and informal, could be transformed in the medium term to strengthen health and labour protections while supporting the creation of decent and productive jobs for

Box 2.11: Social protection measures to reduce vulnerabilities

Securing more stable livelihoods for people at risk of losing their job and shelter has been a key action of cities to reduce exposure to COVID-19 related socioeconomic downsides. The most common social protection measures adopted by local governments worldwide include:

- **Wage subsidies and dismissal bans** to ensure keeping jobs and security of income in time of crisis.
- **Short-time work (STW) schemes** aimed at ensuring continuity of employment together with adequate compensation for workers who, due to lower demand of services and goods, had to reduce their daily working hours.
- **Unemployment benefits and protection schemes** used as a key mechanism to provide income security through unemployment benefits to the millions of workers who have lost their jobs.
- **Food transfer and vouchers** to protect food access by increasing purchasing power for those who need it or by directly providing food through government or community-based programmes and organizations.
- **Measures to ensure housing affordability** such as rent freezes, moratoria on mortgages, housing vouchers and rent subsidies, bans on utilities shut off.
- **Expansion of registries and social assistance** to include more of the population, such as extending health insurance coverage to those who had lost jobs and expanding eligibility for employment programmes to protect informal workers.

The citizen distributed the food provision for the poor people impacted by the COVID-19 large scale social restriction in Jakarta Selatan, Indonesia © Shutterstock

a green, inclusive and resilient recovery. Given that "the world of work will not and should not look the same" once cities emerge from the pandemic, policy makers must address "the fragilities and fault lines exposed by the crisis".[90]

2.5.2. Welfare and social support

Coverage gaps are also linked to the fact that most social protection schemes focus on salaried workers, largely excluding self-employed and informal workers that in these regions represent the majority.

In the absence of well-functioning social protection systems that allow for the vast majority to remain adequately housed, compensated in the absence of employment and with their basic set of needs fulfilled, governments deployed an array of emergency measures to combat the spread of the disease while at the same time provide economic relief to make up for the gaps in existing social provision. In many cases, however, the effectiveness of social protection schemes as a crisis response instrument has been limited given the absence of wage subsidies and unemployment schemes in place. Effective coverage of social welfare for the unemployed is particularly limited in the Asia and the Pacific region (22.5 per cent), the Americas (16.7 per cent) and Africa (5.6 per cent).[91] Coverage gaps are also linked to the fact that most social protection schemes focus on salaried workers, largely excluding self-employed and informal workers that in these regions represent the majority.

The lack of health protection and income security during sickness forces workers in the informal economy to work even when they are sick, thereby not only putting at risk their own health but also potentially undermining public health efforts to curb the virus. Many states have sought to guarantee income security for workers excluded from existing schemes by adopting emergency measures including adapting eligibility criteria and qualifying conditions as temporary or permanent measures. Where existing social protection conditions are not available or cannot be extended, some countries have quickly introduced new emergency measures to provide income support for workers who are not eligible for unemployment benefits, in particular workers in high risk employments such as part-time workers, those temporary employed, self-employed and workers in the informal economy. However, in many cases, the income support provided to date has not been adequate to meet the urgent needs of workers in the informal economy. Countries with a large informal economy may not have the institutional and financial capacities to cover all informal economy workers.

Box 2.12: Correlating social protection with poverty reduction and adequate housing

Social protection measures (including healthcare) are necessary for reducing poverty and improving access to adequate housing. At a national level, there is a clear link between stronger social assistance and lower poverty levels: Figure 2.10 shows a negative association between countries' investment in social protection (including health) and the percentage of the population that is living in poverty. These are also experienced in turn at the city level: Figure 2.11 also demonstrates a negative correlation between SDG target 1.3.1 (share of the population that is covered by at least one social protection benefit including sickness benefits, unemployment benefits, old-age benefits, employment injury benefits, family/child benefits and survivors' benefits) and SDG target 11.1.1, (the share of the urban population that lives in slums, informal settlements, or inadequate housing), demonstrating that social protection investment is a critical policy tool to avoid and reduce extreme spatial inequality.

Figure 2.10: Social protection expenditure reduces poverty

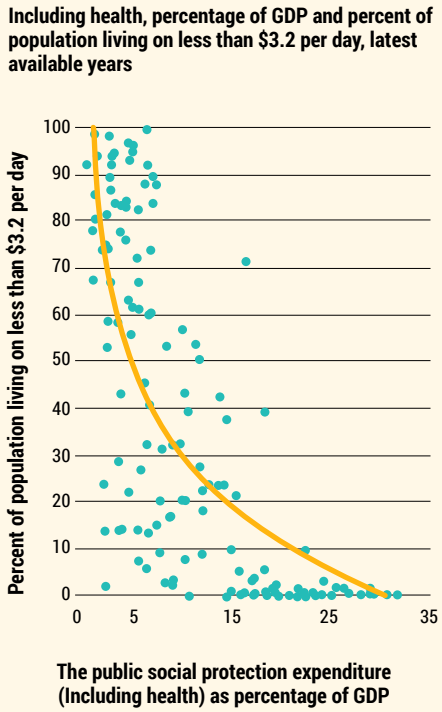
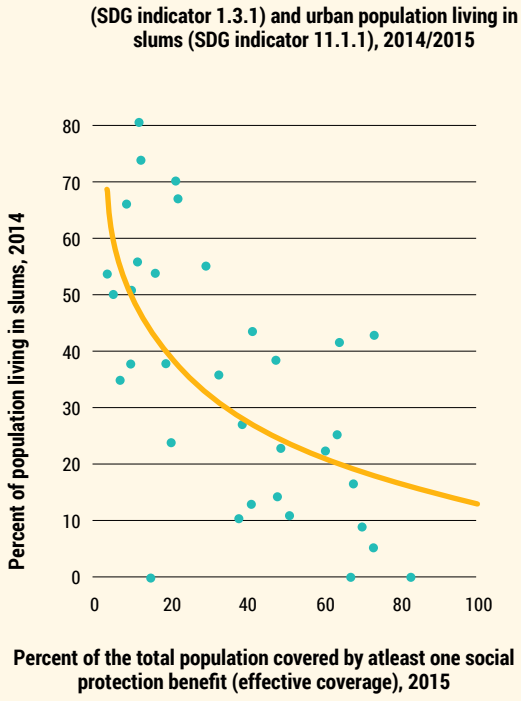


Figure 2.11: Social protection improves housing



Source: ILO, 2017; ILO, February 2020

More broadly, however, the pandemic has also demonstrated the need for socially appropriate, nuanced protective strategies as blanket response measures may expose vulnerable groups to new forms of vulnerabilities. For example, those who have limited capacities and opportunities to cope and adapt because of lack of savings, food stock, and limited possibility to work from home, have been hit the hardest by stay-at-home policies. Certain groups, because of their social characteristics as well as where they live, are differentially exposed to the health and economic impacts — at greater risk of contracting the virus, while at the same

time disproportionately impacted by the health prevention measures.

The outbreak of COVID-19 has also created stigma and discrimination towards those who are either infected or come in contact with COVID-infected patients. Healthcare workers, patients, survivors, migrants returning to their communities, pilots and airline crew operating the repatriation flights have all faced social ostracization in varying forms. Already vulnerable groups are especially exposed to this risk: in India, for example, there were widespread reports of elderly persons being stigmatized by their own families and the disproportionate burden the pandemic was having on their mental health, access to livelihoods and ability to perform everyday tasks such as grocery shopping.[92] Across the world, there was also evidence of a surge in domestic and gender-based violence during lockdowns (Box 2.13).

Universal and non-conditional social protection schemes are not only more inclusive and less likely to discriminate against people in need than targeted schemes, but they are also less likely to stigmatize beneficiaries and are easier to implement administratively

More than ever, cities must focus on identifying and targeting their most vulnerable populations, where possible using existing frameworks to reach marginalized groups and households located in inadequate or insecure housing. Different partners, supported by the Global Land Tool Network (GLTN) hosted by the Land, Housing and Shelter Section (LHSS) of UN-Habitat, have previously used the Social Tenure Domain Model (STDM) tool to identify potential hotspots and prioritize resources for the most vulnerable in informal settlements. Resources such as these could also play an important role in identifying specific vulnerabilities around COVID-19.

The pandemic has brought into sharp relief the acute vulnerabilities that millions of urban poor have faced for decades, with little or no safety net in the event of job loss, illness or eviction. Moving forward, instead of replicating these flaws, the crisis offers an opportunity to construct "a more robust, just, ethical and equitable social-ecological economy".[93] In many ways, this could be achieved by implementing what is already known about the need and value of effective social assistance systems: for instance, the ILO Social Protection Floors Recommendation, 2012 (No. 202) highlights the key role of nationally defined social protection floors guaranteeing at least a basic level of income security and effective access to essential health care for ensuring life in dignity. These measures should be informed by a "universalism sensitive to difference",[94] with targeted measures that complement — rather than replace — universal programmes, such as a universal basic income. Such a framework should include, for instance, social insurance schemes adapted to the needs and circumstances of informal workers. It is, however, important to note that targeted or special measures can be costly compared with universal measures. Universal and non-conditional social protection schemes are not only more inclusive and less likely to discriminate against people in need than targeted schemes, but they are also less likely to stigmatize beneficiaries and are easier to implement administratively. Local, subnational and national governments work across levels and scales to find cost-effective ways to implement these universal social protection schemes using mechanisms that reduce risk of corruption, preferentialism, and discrimination to reduce the entrenchment of inequalities.

Box 2.13: Cities see a spike in domestic violence during lockdowns

Lockdowns and "stay at home" orders have also seen a spike in the cases of domestic violence in many countries. The disruption of social and protective networks, and decreased access to services that these measures brought with them, has exacerbated the pre-existing risks of violence for women, children, LGBTQ+ and other groups in vulnerable situations within the home. In Latin America, where levels of gender-based violence were already high, restrictions on movement and other constraints enabled a "pandemic of violence" against women that saw a spike in the number of femicides.[95] In many countries, the need to escape an abusive household emerged as a significant cause of homelessness, with cities having to swiftly establish refuges and shelters to accommodate women and children displaced by domestic violence. In Brussels, for instance, city authorities requisitioned a hotel to provide shelter for victims of domestic abuse during lockdown.[96]

2.6. A Call to Action for Cities

COVID-19 has unlocked a huge potential for transformative change in cities: the pandemic has been a major disruption in how people live, work and travel in cities. For the first time in history, the world experienced lockdowns at a global scale. As a result, cities have responded in innovative ways to mitigate the impacts and provide for the different needs of vulnerable groups. A review of responses suggests new templates for collective action and delivery of social and public goods in cities. Some of the promising trends include:

- **National and local governments expanded their social protection function.** Special assistance for the elderly with medical needs, repurposing of urban spaces and buildings to shelter the homeless and those unable to safely isolate at home, food relief for the poor, water and sanitation facilities for slums, temporary bans on eviction of tenants who are no longer able to pay rent and various other forms of financial assistance for people losing their jobs due to restrictions on movement have been documented.

- **Communities and businesses realized the importance of the spirit of solidarity**. Digital cash transfers from global citizens to slums of African cities and to households unable to pay rent in US cities is but one example of extension of community support through a peer-to-peer model. While faith-based organizations have played this role historically, new business models that leverage empathy are emerging. With lower trust in institutions, social enterprises can play a role in channelling finance to those in need. The role of communities was particularly effective in limiting the spread of the virus through information and awareness campaigns and supporting testing and tracking.

- **Responses are showing ability and agility for fast-tracked problem solving.** A precedent has been set for quick solutions to some of the most long-standing human rights violations. In slums, where the right to water and sanitation has been neglected for decades, states have provided decentralized solutions like handwashing stations overnight. With urban spaces and buildings being repurposed as temporary shelters, there is clear evidence that global homelessness can finally be seriously addressed and ended. The crisis has proven that when there is enough political will and flexibility, change can happen.

The actions taken for socially, spatially and economically disadvantaged groups in an emergency period has set new precedents. Many of the measures implemented as an emergency response for public health hold great promise for being scaled up or continued to address the human right to an adequate standard of living for the longer term. This should focus on reaching those who are the most deprived and under-served. Although COVID-19 is forcing action, many of the measures seem to be temporary and need to be transformed into longer-term commitments to maintain social protection of the weakest while also building urban resilience to future pandemics and other crises. This requires strengthening public investment in health care, housing and infrastructure. Box 2.14 provides an analysis of responses in 56 cities across these different sectors, suggesting a significant level of investment in resilience and recovery efforts in cities, regardless of their levels of GDP.

COVID-19 has unlocked a huge potential for transformative change in cities: the pandemic has been a major disruption in how people live, work and travel in cities

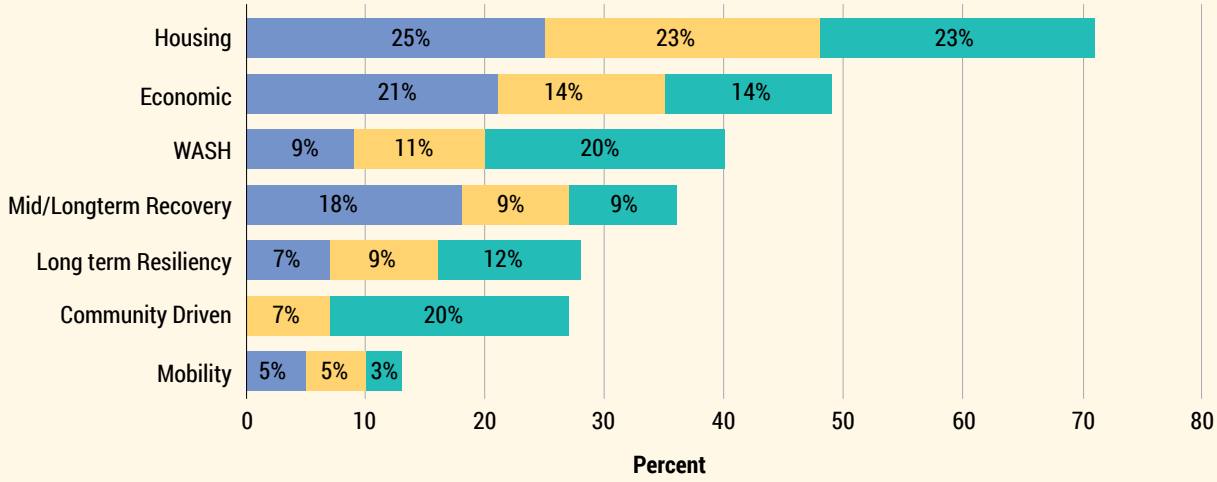
The actions taken for socially, spatially and economically disadvantaged groups in an emergency period has set new precedents

Locally produced handwashing stations installed to prevent COVID-19 spread © UN-Habitat

Box 2.14: Inclusive urban policy responses — a sample of 56 cities worldwide

Methodology: A sample of 56 cities across 8 sub-regions was analysed to assess the existence of predictors for the adoption of specific COVID-19 policy responses. Data was mainly gathered from OECD sources and integrated with desk research on cities from non-OECD countries to ensure an even geographical distribution of the analysis. Cities were grouped into three GDP groups by ensuring, to the greatest extent possible, an even number of cities across the three groups and in order to highlight potential correlations between wealth and policy responses (Group 1 < $20,000; Group 2 between $20,001 and $50,000; and Group 3 > $50,001).

Figure 2.12: Implementation of COVID-19 responses in different sectors in a sample of 56 cities



Source: UN-Habitat original analysis of the OECD Policy Matrix

Housing related measures have been a component within cities responses to COVID-19 prevention measures. More than 70 per cent of sampled cities, and evenly across all city GDP levels, have implemented mitigation measures to support the provision and protection of housing and related services. In other words, city GDP is not a predictor of housing policy responses that can be implemented both in poor or relatively rich cities.

Mobility: By contrast, measures to facilitate transportation and mobility solutions have been recorded in only 8 of the 56 cities sampled for this report and mainly in cities in middle- to high-income countries. This may suggest that public expenditure on mobility and transport has had a lower priority in the agenda of countries with limited resources, or countries cannot afford these policies.

WASH: These measures have been implemented in almost 40 per cent of the sampled cities, out of which around half were in cities with lower GDP levels and mostly in middle- to low-income countries. This suggests a strong relation between economic hardship and lack of essential WASH facilities that called for investments in order to prevent the spreading of COVID-19.

Economic: Half of the sampled cities have already devised buffer mechanism to mitigate the drawback of COVID-19 on business and workers and to boost economic recovery during the emergency and in the post-emergency phase. The GDP of cities and their geographic location do not determine economic responses to the point that these measures have been recorded equally in different parts of the globe.

Long-term responses: Emergency measures to address COVID-19 related socio-economic drawbacks in the short term were swiftly enacted across all sampled cities. However, more than one third of sampled cities (20 cities out of 56) have implemented mid- to long-term strategies to prepare the post-emergency socio-economic recovery, with mid- to higher income cities being the most active in this regard. This type of response suggests a strong relation between the financial capacity of cities and mid- to long-term planning for socioeconomic recovery. Interestingly, 16 out of the 56 cities have also started planning strategies and implementing measures to ensure higher resilience post-pandemic.

Community: Community driven solutions and measures implemented in partnership with local groups have been recorded in more than 25 per cent of the sampled cities and mostly in cities within the lowest GDP group (out of 15 cities, 11 have a GDP of $20,000 or less). This data suggests that there may be an important relationship between cities with relatively low GDP and the adoption of local and community driven solutions.

Source: UN-Habitat original analysis of the OECD Policy Matrix

2.6.1. An opportunity for a new social contract

In sum, cities are at a crossroads. They need to grapple with hard and fundamental questions about welfare state models and universal social protection systems to ensure an adequate standard of living for all. Going back to "normal" is not an option, as advocated by the UN Secretary-General, who in April 2020 highlighted the need and opportunity for systemic change: "We simply cannot return to where we were before COVID-19 struck, with societies unnecessarily vulnerable to crisis. We need to build a better world". The actions taken now by countries as they respond to the continued impact of COVID-19 will be fundamental in laying the foundations for a fair and sustainable transition to a new social contract in the years ahead – one based on principles of shared prosperity and human rights including right to water and sanitation, health, food, housing and social security.

In order to realize the potential of this emerging social contract, the world needs to rethink what public and social goods should a city deliver. To enhance the social protection function of cities, actions are not sufficient at the level of the city alone. National governments will need to promote policies and institutional reforms that enable the fiscal capacity of cities to implement redistributive measures. Together, cities and governments must take a bold approach and tackle inequality at its roots. Any long-term recovery strategy should follow UN guidance to reduce inequality in all its dimensions and be based on three building blocks[97] which for the purposes of this report focused on the urban condition, adapted as follows:

- **Address discrimination and bias** in the right to adequate standards of living for all by ensuring that housing and service delivery, as well as settlement upgrading is tailored to equally meet the needs stemming from different social characteristics.
- **Ensure the participation of marginalized groups** during the entire policy and intervention cycle in order to capture the different challenges connected to everyone's lived experience, but also capitalize on the knowledge, networks and infrastructure that these groups possess.
- **Expand capabilities** through improved health, education and access to technology in disadvantaged neighbourhoods as well as for socially and economically vulnerable groups.
- **Promote redistributive measures** towards a fairer allocation of urban space and resources like land, housing, water and energy.

Housing and social protection are mutually supportive components of the right to adequate standards of living. Adequate housing is also a component of the right to social security

The next section proposes how cities can apply this framework for a new social contract to guide policies and actions over the medium and long-term. In their intermediate responses, countries and cities will need to shore up health systems, prevent a breakdown of food systems, restore basic urban and social services and other measures to minimize the impact of the pandemic on those most exposed to vulnerabilities. In the longer term, cities will need to improve living conditions for all, particularly in over crowded and unplanned settlements such as slums and informal encampments, while strengthening social protection systems to ensure that every human is able to meet basic needs for water, food and housing as the new normal, and not only in a state of emergency.

2.6.2. A rights-based approach to recovery

> *"Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control."*
>
> Universal Declaration of Human Rights (1948) Article 25.1

The departure point for designing pandemic response and recovery strategies is 1948. The new social contract needs to be based on the principles of human rights, which legally bind countries to guarantee an adequate standard of living for all. Countries need to give an effective remedy to those denied an adequate standard of living by mainstreaming this right in national and local laws and regulations. Recovery plans should consider different ways in which some groups have suffered more than others from the pandemic and seek to correct the inequalities that led to disparities in the first place. Although the right to social security and right to housing are both human rights, 4 billion people are still socially unprotected and 1.8 billion people live in inadequate housing. Countries that have invested in protecting economic and social rights are likely to be more resilient to pandemics.[98]

Given that staying at home is the frontline defence to COVID-19, ensuring that everybody has an adequate home should be at the centre of the pandemic response. COVID-19 reinforced the urgency to realize the human right to an adequate standard of living for all, which includes the right to adequate housing and encompasses habitability, tenure security, availability of services, location, affordability, accessibility by all groups and cultural adequacy.[99] Housing and social protection are mutually supportive components of the right to adequate standards of living. Adequate housing is also a component of the right to social security as provided for by Article 9 of the International Covenant on Economic, Social and Cultural Rights.[100] This obligates a state party to ensure access to a social security scheme that provides a minimum essential level of benefits to all individuals and families that will enable them to acquire at least essential health care, basic shelter and housing, water and sanitation, foodstuffs, and the most basic forms of education.

In the short term, cities need to prioritize health and make spaces where people live, work, play and transit safer from a public health perspective. Basic hygiene and sanitization measures in public spaces and public transport for instance are examples of this approach. However, in the long term, living conditions need to be improved in all human settlements with a priority on the most under served first. Cities also need to maintain continuity of basic urban services including water, waste collection, public transport with consideration for accessibility and coverage for all, ensuring that affordability is never a barrier. Not all of these have been classified as "essential services" and countries need to revisit this definition to ensure that all basic urban services including waste collection and public transport are classified as essential services and remain open during lockdowns to future pandemics, even if at a reduced frequency.

Effective redistributive policies at the city level are also urgently needed. Considering how the economy can work for all of society requires not only a revision of socio-economic policies but also a shift towards a wider cultural empathy and recognition of the interconnectedness of our communities and societies. These reforms are not only critical for the most marginalized groups in a society that suffer the most from service disruption and the pandemic, but for a healthy, safe, peaceful society as a whole.[101]

Cities should also focus on expanding capabilities by empowering marginalized communities. The legacy of historic inequalities and discrimination continues to shape the lived realities of minorities, indigenous peoples, migrants, women and other groups who are still unable to access all the rights and benefits of cities. Ensuring the meaningful participation of these marginalized communities is not only essential from a social justice perspective, but will also benefit cities in their recovery through their connections, local knowledge and engagement.

Currently, inequalities in cities are stark in how land is shared among the rich and the poor, and convenient locations especially for affordable and habitable low-income housing are almost impossible in central city areas where land prices are high. What is needed is a longer-term, comprehensive citywide strategy for the provision of land, affordable housing, basic services and public space for all, combined with targeted area-based upgrading in deprived areas. Land and property taxation based on principles of progressive taxation, approved use value and inclusive land use policy, will be key in more equitable land management. These would include tax instruments like levying fees on vacant lands within the city to disincentivize speculation.

New forms of environmental taxation would also help finance service gaps while also bringing more environmental justice. This is an opportune moment to advocate for equity while also building back better with resilience. This is an opportunity for cities to build in new green financing mechanisms into their long-term recovery strategies that penalize higher waste production, water and energy consumption. Currently, even though the urban poor produce the least volume of waste and tend to recycle and reuse more of their waste, they are typically underserved from city collection services. By contrast, supermarkets, restaurants and richer neighbourhoods who produce higher quantities of waste, including plastics are not incentivized to compost, reduce and reuse.

Cities should also focus on expanding capabilities by empowering marginalized communities

Sports and fitness in the park on the street public free gym © Shutterstock

2.7. Conclusion

This chapter showed how pre-existing inequalities and discrimination in the universal realization of human rights greatly decreased the resilience of cities. In cities with informal settlements with poor living conditions and overcrowding, public health measures such as handwashing and social distancing are incredibly challenging to implement. The pandemic has underscored, in the starkest way possible, inequalities in public services, social protection and health systems. The socio-economic and health impacts of the pandemic have disproportionately affected marginalized groups such as minorities, migrants, slum residents and informal workers — particularly women — who already live and work in precarious conditions. The pandemic has accelerated digitalization of work and learning, further reducing social mobility and life chances for youth and children who find themselves on the wrong side of the digital divide. New forms of vulnerabilities are emerging in communities that are spatially disadvantaged, threatening to further widen the chasm in group-based and income inequalities for generations to come.

Pre-existing inequalities and discrimination in the universal realization of human rights greatly decreased the resilience of cities

At the same time, COVID-19 is a historical opportunity for fast tracking the realization of human rights such as the right to health, water, food, housing and social security. Despite pre-existing challenges, cities and communities have responded with agility to the pandemic in a spirit of solidarity, defying borders and institutional complexities. Examples of inspiring actions include handwashing stations in slums, nationwide moratoria on evictions, repurposing urban spaces to shelter the homeless, financial and food support for the poor and jobless and tailored responses for the diverse needs of women, elderly and people with disabilities. Although the issues being addressed are not unfamiliar, some new precedents have been set in how emergency actions can be taken to support the right to an adequate standard of living and the right to social security. This demonstrates that targeted support can deliver fast results and many of the solutions are cost-effective with great scope for being scaled up. There is no reason for going back and many successful solutions should be integrated into the "new normal" in the future of cities.

countries with strong social protection systems and basic services suffered the least and recovered the fastest

Despite a message of solidarity from global crises such as pandemics and climate change, that we are all inter-connected and must act together as one, the danger now is that once lockdowns are lifted, cities could suspend their social protection functions. Many of the good practices emerging in cities are temporary in nature and longer-term strategies are needed for socio-economic recovery based on principles of equity. This is why it is critically important for cities to pledge to a new social contract founded on shared prosperity and human rights. While decentralized solutions for water and sanitation can solve access issues temporarily, a larger systematic response is needed to decongest overcrowded settlements and improve habitability. Improving living conditions in cities is thus a larger question of how space itself is allocated between the rich and the poor and calls for redistributive measures towards a fairer and more just sharing of the collective resources and services of the city. This requires a fundamental restructuring of land and housing markets and urban finance.

In the medium term, the right to adequate housing as part of the right to adequate standards of living is a clear entry point for cities. While targeted place-based solutions should be an immediate focus for cities, in the long run a fundamental restructuring of markets and social protection systems is required. The ability to secure basic needs should be sustained in situations of both normalcy and emergency. This is impossible if there is an affordability crisis in the city or if individual socio-economic situations are so poor that large populations are priced out of the formal market. As demonstrated during the 2008 financial crisis, countries with strong social protection systems and basic services suffered the least and recovered the fastest. While further research on universal social protection systems is needed, there is a growing consensus

that universal basic income, universal health insurance and universal housing should be part of the new normal as we rebuild our cities. What is clear is that we can no longer avoid the social function of land, housing and basic urban services. Who owns land and how property gains are distributed are a big questions cities and countries will need to address if they are to have the fiscal ability to finance progressive measures like universal social protection.

What is also clear, looking with clarity at the acute gaps millions in cities across the world face, is that going back is not an option. The cost of not being adequately prepared is just too high. Although COVID-19 has had a devastating impact on cities, it is also a wake-up call to take responsibility for past failures. In response, many innovations have emerged in how cities responded to the pandemic and provided for the different needs of groups in situations of pre-existing or new vulnerabilities, showing that the emergence of new templates for collective action is possible. In order to realize the potential of this emerging social contract, the world needs to rethink what public and social goods a city should deliver. To enhance the social protection function of cities, actions are not sufficient at the level of the city alone. National governments will need to promote policies and institutional reforms that enable fiscal capacity of cities for redistributive measures.

Recommendations

Water, sanitation and waste management

- **Ensure emergency coverage through decentralized water and sanitation services for all neighbourhoods:** As an emergency action, cities should prioritize decentralized water and sanitation system solutions, including through trucking, to ensure every slum and deprived neighbourhood not connected to city supply has accessible water and sanitation points.
- **Connect slums and under-served settlements:** In the long run, these areas should be connected and upgraded for universal coverage through a mix of centralized and decentralized water and sanitation systems to cater for the different needs of low-income settlements. Additionally, municipalities should try to extend the coverage of other basic urban services including waste collection to underserved areas.
- **Introduce progressive taxation principles in urban finance:** Cities should set standards on a minimum level of space (land) and resources (including water and sanitation) that should be available and affordable for everybody. Beyond this, principles of progressive taxation should be applied on land and scarce urban resources so that those consuming or polluting most are paying in proportion to the externalities. Land and property taxes should be then used to cross-subsidize public services and upgrading programmes.
- **Maintain affordability for a minimum level of basic services:** A key thing in addressing COVID-19 is to support calls to keep water access free (or prevent affordability from being a barrier to access) which however means ensuring financial support for water utilities whose incomes have thus been dramatically reduced, threatening their sustainability. Similarly, informal transport providers need financial support to ensure that the incidence of increased prices due to additional sanitary measures are not passed onto the customers who tend to be the urban poor.
- **Establish stronger labour and health protection for waste workers:** To ensure the continuation of safe waste collection, treatment and disposal, these services — including informal sector activities such as waste picking and recycling — need to be recognized as an essential basic service.

Many innovations have emerged in how cities responded to the pandemic and provided for the different needs of groups in situations of pre-existing or new vulnerabilities, showing that the emergence of new templates for collective action is possible

Housing

- **Support a comprehensive upgrading strategy for slums and informal settlements:** Cities should develop citywide strategies identifying areas for upgrading and renewal projects based on need and disadvantage that prioritize investment into these neighbourhoods. To achieve this, cities need to implement a variety of measures including equitable land management, the regulation of property markets and the application of progressive land-based finance and value capture instruments.

- **Implement pro-poor, gender responsive and participatory land information systems:** these can be an important tool enabling non-property owners and migrants to access improvements in their settlements and to prevent disputes over housing, land and property rights.

- **Plan for mixed use, socially diverse communities:** a more inclusive approach to planning can help avoid the creation of segregated communities, such as migrant worker complexes or enclaves of discriminated groups, such as ethnic minorities, in public housing.

- **Legislate to protect against evictions and forced evictions as a basis for re-building a system of effective protection:** Cities will need to consider the needs of both landlords and home renters in their social protection measures as both groups have been affected by the socio-economic impact of COVID-19. At the same time contingency plans to avoid economic challenges for landlords should be taken into consideration, in recognition that rental payments are used to fund the upkeep of rental housing.

- **Ensure the long-term affordability of housing:** The long-term implementation of measures such as housing price caps, rent vouchers and subsidies requires to institutionalize these measures in a broader affordable housing policy. Evidence (OECD and others) suggests that investing in affordable or/and social housing is still the best option to ensure long terms affordability.

- **Increase public investment in equitable, inclusive social housing programmes:** While short term measures to house vulnerable groups such as the homeless and victims of domestic violence in the early stages of the pandemic were welcome, cities should look beyond short term fixes for sustainable solutions. The repurposing of

Escalators and garbage bins installed in Comuna 13 slums in Medellin, Colombia© Julius Mwelu/UN-Habitat

buildings and under-utilized urban spaces for social housing should continue even after lockdowns are lifted, complementing measures to promote investment and market-led responses for affordable housing. These programmes should be based on principles of equitable and just access, including by the most marginalized groups in society, regardless of gender, ethnicity or migration status.

Mobility and digital connectivity

- **Ensure citywide connectivity and affordable transport options, particularly for low-income neighbourhoods:** Cities should utilize the momentum of COVID-19 and implement measures to increase modal shares of cycling: cities cannot afford to turn back to the private car in a post-pandemic world. In the short term, cities should ensure the continuation of transport services particularly for people in vulnerable situations by keeping public transport services open, safe and affordable and restoring trust in public transport after confinement.

- **Invest in robust, inclusive digital infrastructure:** Ensure universal coverage of broadband internet and other digital services, with a particular focus on underserved areas such as informal settlements.

- **Develop accessible digital inclusion and training programmes:** Given that many constituencies still lack basic digital skills, empowering communities (including women, persons with disabilities, the elderly and other groups who are disproportionately excluded) to use new applications and tools is essential.

Employment and social protection

- **Provide sustained support for at-risk workers, enterprises, jobs and incomes:** Governments and cities should invest in a range of tailored strategies, from work subsidies to skill transfers, to support those in vulnerable sectors to resume their livelihoods or, if these are no longer available, transition to new sources of income and employment.

- **Strengthen social security and safety nets:** More equitable inclusion and distribution of benefits can better insulate people from the effects of future health, economic and climate crises – which will lower the individual and social costs of such crises.

- **Tailor strategies that can respond to different forms of vulnerability:** Social protection measures should be nuanced and wide-ranging to ensure the different risks associated with gender, age, ethnicity, migratory status and other characteristics are effectively identified and addressed in urban welfare programmes.

Rights-based recovery

- **Invest in communities:** In order to address discrimination in policy, communities should not only be consulted through meaningful participatory and inclusive methods but also actively engaged in data collection and decision-making processes through investment in community-led initiatives.

- **Empower marginalized and minority groups:** Support persons of African descent, indigenous peoples, minorities and LGBTQ+ groups to connect to leadership and professional pathways and increase space for their voices in inclusionary planning processes.

- **Enable new collective action models and businesses:** When building back better, cities need to strengthen and rethink social cohesion mechanisms, building on trust and borderless solidarity towards a more equitable distribution of urban resources and social protection benefits. This can be encouraged through expanded models of collective action, enabling environments for social enterprises and reinforcing social networks and a sense of identity. This is critical as the state and institutions will not change if there is no societal change.

Endnotes

1. UN, 2020a.
2. OECD, 2020a;'Cities policy responses', 23 July, http://www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff/; Du et al., 2020.
3. UN, 2020b.
4. UNDP, 2020.
5. Lakner et al., 2021; World Bank, 2020.
6. Durkin, 2020.
7. Wade, 2020.
8. Cardoso et al., 2020.
9. UN-Habitat Global Urban Indicators Database 2021
10. UN, 2020c, p.15.
11. Gulyani et al., 2010.
12. Neiderud, 2015.
13. Zeberg and Pääbo, 2020.
14. World Bank, 2018.
15. Nordling, L. (2020.
16. Reeves, 2020.
17. NITI et al., 2020.
18. Mello, 2020.
19. Wilkinson et al., 2020.
20. UN, 2020b.
21. WHO, 2020.
22. WHO and UN-Habitat, 2016.
23. RTVE, 2021.
24. Yao et al., 2020.
25. Constable, 2020.
26. UN-Habitat, 2020a, p.11.
27. UNICEF Bangladesh, undated.
28. von Seidlein, et al., 2021.
29. Das, 2020.
30. Austrian and Abuya, 2020).
31. UN-Habitat Youth, 2020.
32. Rodi´c and Wilson, 2017.
33. Rodi´c and Wilson, 2017.
34. UNEP, 2020, p.24.
35. Sinha et al., 2020.
36. Majithia, 2020.
37. WHO, 2018, p.10.
38. UNECA, 2020, p.v.
39. OECD, 2018, p.108
40. OECD, 2020b.
41. Souli, 2020.
42. Illmer, 2020.
43. Reuters, 2020.
44. Tan, 2020.
45. UN-Habitat, 2020b.
46. Benfer et al., 2020.
47. World Bank, undated.
48. European Parliament, 2020.
49. UNHCR, 2020.
50. NRC, 2020.
51. EvictionLab, 2021.
52. Al Jazeera, 2020.
53. UN-Habitat, 2020c.
54. UN-Habitat, 2020d.
55. CESCR, 1997.
56. King et al., 2020.
57. Eichner, 2020.
58. OECD, 2020a; Du et al., 2020.
59. UCLG, 2020.
60. OHCHR, 2005, p.28.
61. Special Rapporteur on the right to adequate housing, 2020.
62. Townsend, 2020.
63. Westwater, 2020.
64. Mayor of London, 2020.
65. Marsh, 2020.
66. Sly, 2021.
67. Jenelius and Cebecauer, 2020.
68. Liu et al., 2020.
69. Broom, 2020.
70. Turianskyi, 2020.
71. New York City, 2020.
72. Otioma e al., 2019.
73. The Economic Times, 2020.
74. World Economic Forum, 2020.
75. Auxier and Anderson, 2020.
76. UNESCO, 2020.
77. Brito, 2020.
78. OECD, 2020°.
79. ILO, 2020a.
80. WFP, 2020a.
81. WFP, 2020b.
82. FAO, 2020.
83. UN-Habitat, 2020e.
84. UN, 2020c.
85. ILO, 2020b.
86. Al Saba, 2020.
87. Major et al., 2020.
88. ILO, 2020c.
89. OECD, 2020c
90. UN, 2020d.
91. ILO, 2017.
92. Dutta, 2020.
93. Spash, 2020.
94. UN DESA, 2018.
95. Prusa, et al., 2020.
96. Galindo, 2020.
97. These areas are explored in detail in UN, 2020e.
98. UN, 2020f.
99. General Comment n. 4 of the UN Committee on Economic, Social and Cultural Rights elaborates the definition of "Adequacy" in the Right to Adequate Housing which is composed of seven dimensions (a) legal security of tenure (b) availability of services, materials, facilities and infrastructure (c) affordability (d) habitability (includes overcrowding) (e) accessibility (by all groups in situations of vulnerability) (f) location (includes proximity to jobs and services) and (g) cultural adequacy. CESCR General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)
100. CESCR, 2008.
101. UN, 2020b.

Bibliography

Al Jazeera (2020) 'What you need to know about America's eviction crisis', 29 December, https://www.aljazeera.com/economy/2020/12/29/new-york-passes-strong-anti-eviction-law-amid-looming-crisis

Al Saba, R. (2020) 'Inequality and the impact of Covid-19: How discrimination is shaping the experiences of minorities and indigenous peoples during the pandemic', Minority Rights Group International, 10 September, https://minorityrights.org/publications/covid-briefing/

Austrian, K. and Abuya, T. (2020), 'We wanted to know how coronavirus affects Nairobi's slum residents. What we found', The Conversation, 5 May, https://theconversation.com/we-wanted-to-know-how-coronavirus-affects-nairobis-slum-residents-what-we-found-137621

Asivikelane (2020) 'Voices of informal settlement residents during the COVID-19 crisis', No. 13, 18 November.

Auxier, B. and Anderson, M. (2020) 'As schools close due to the coronavirus, some U.S. students face a digital 'homework gap', Pew Research Centre, 16 March, https://www.pewresearch.org/fact-tank/2020/03/16/as-schools-close-due-to-the-coronavirus-some-u-s-students-face-a-digital-homework-gap/

Benfer, E., Bloom Robinson, D., Butler, S., Edmonds, L., Gilman, S., McKay, K., Neumann, Z., Owens, L., Steinkamp, N. and Yentel, D. (2020) 'The COVID-19 eviction crisis: An estimated 30-40 million people in America are at risk', Aspen Institute, 7 August, https://www.aspeninstitute.org/blog-posts/the-covid-19-eviction-crisis-an-estimated-30-40-million-people-in-america-are-at-risk/

Brito, C. (2020) 'COVID-19 has intensified the digital divide', World Economic Forum, 24 September, https://www.weforum.org/agenda/2020/09/covid-19-has-intensified-the-digital-divide/

Broom, D. (2020) 'Coronavirus has exposed the digital divide like never before', World Economic Forum, 22 April, https://www.weforum.org/agenda/2020/04/coronavirus-covid-19-pandemic-digital-divide-internet-data-broadband-mobbile/

Cardoso, E., Silva Da Silva, M., De Albuquerque, F., Júnior, F., Venâncio de Carvalho, S., de Carvalho, A., Vijaykumar, N. and Francês, C. (2020) 'Characterizing the impact of social inequality on COVID-19 propagation in developing countries', IEEE Access 8: 172563-172580

CESCR (1997) General Comment No. 7: The Right to Adequate Housing (Art. 11 (1) of the Covenant, https://www.refworld.org/docid/47a70799d.html

CESCR, General Comment No. 19: The right to social security (Art. 9 of the Covenant), 4 February 2008, E/C.12/GC/19.

Constable, H. (2020) 'How do you build a city for a pandemic?', BBC, 20 April, https://www.bbc.com/future/article/20200424-how-do-you-build-a-city-for-a-pandemic

Das, M.B. (2020) 'Dry cities can't be healthy without reducing inequalities', The BMJ Opinion, 16 November, https://blogs.bmj.com/bmj/2020/11/16/dry-cities-cant-be-healthy-without-reducing-inequalities/

Durkin, E. (2020) 'NYC's poorest neighborhoods have highest death rates from coronavirus', Politico, 18 May, https://www.politico.com/states/new-york/city-hall/story/2020/05/18/poorest-nyc-neighborhoods-have-highest-death-rates-from-coronavirus-1284519

Dutta, T. (2020) 'Coronavirus stigma leaves India's elderly suffering alone', The Nation, 1 December, https://www.thenationalnews.com/world/asia/coronavirus-stigma-leaves-india-s-elderly-suffering-alone-1.1120719

Eichner, H. (2020) 'Homelessness and health in the time of COVID-19', American Health Law, 10 August, https://healthlaw.org/homelessness-and-health-in-the-time-of-covid-19/

European Parliament (2020) 'Question for written answer E-002331/2020 to the Commission', 16 April, https://www.europarl.europa.eu/doceo/document/E-9-2020-002331_EN.html

EvictionLab (2021) 'Eviction tracking', 13 February, https://evictionlab.org/eviction-tracking/

FAO (2020) 'Urban food systems and COVID-19: The role of cities and local governments in responding to the emergency', 9 April, http://www.fao.org/3/ca8600en/CA8600EN.pdf

Galindo, G. (2020) 'Brussels hotel to shelter domestic violence victims amid coronavirus quarantine', The Brussels Times, 7 April, https://www.brusselstimes.com/brussels/105172/brussels-hotel-to-shelter-domestic-violence-victims-amid-coronavirus-quarantine/

Gulyani, S., Talukdar, G. and Jack, D. (2010), Poverty, Living Conditions, and Infrastructure Access: A Comparison of Slums in Dakar, Johannesburg, and Nairobi, World Bank, 2010.

Illmer, A. (2020) 'Covid-19: Singapore migrant workers infections were three times higher', BBC, 16 December, https://www.bbc.com/news/world-asia-55314862

ILO (2017) World Social Protection Report 2017-19: Universal Social Protection to Achieve the Sustainable Development Goals, Geneva

ILO (2020a) 'COVID-19 leads to massive labour income losses worldwide', 23 September, https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_755875/lang--en/index.htm

ILO (2020b) 'ILO Monitor: COVID-19 and the world of work: Third edition — Updated estimates and analysis', 29 April, https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_743146.pdf

ILO (2020c) 'Temporary wage subsidies: Country examples', May 2020, https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_745667.pdf

Jenelius, E. and Cebecauer, M. (2020) 'Impacts of COVID-19 on public transport ridership in Sweden: Analysis of ticket validations, sales and passenger counts', Transportation Research Interdisciplinary Perspectives, 8: 100242

King, R., Orloff, M., Virsilas, T. and Pande, T. (2020) Confronting the Urban Housing Crisis in the Global South: Adequate, Secure, and Affordable Housing, World Resources Institute, Washington, DC

Lakner, C., Yonzan, N., Mahler, D., Castaneda Aguilar, R. and Wu, H. (2021), 'Updated estimates of the impact of COVID-19 on global poverty: Looking back at 2020 and the outlook for 2021', World Bank, 11 January, https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty-looking-back-2020-and-outlook-2021; World Bank (2020) 'COVID-19 to add as many as 150 million extreme poor by 2021', 7 October, https://www.worldbank.org/en/news/press-release/2020/10/07/covid-19-to-add-as-many-as-150-million-extreme-poor-by-2021

Liu, L., Miller, H. and Scheff, J. (2020) 'The impacts of COVID-19 pandemic on public transit demand in the United States', PLOS One, 18 November

Majithia, A. (2020) 'COVID-19 and Delhi's waste pickers', WIEGO, July, https://www.wiego.org/impact-covid-19

Major, L., Eyles, A. and Machin, S. (2020) 'Generation COVID: Emerging work and inequalities', Centre for Economic Performance, Paper No.011

Marsh, S. (2020) 'Covid restrictions push more under-25s than ever to sleep rough in London, charities say', The Guardian, 30 October, https://www.theguardian.com/society/2020/oct/30/covid-restrictions-push-more-under-25s-than-ever-to-sleep-rough-in-london-charities-say

Mayor of London (2020) 'COVID-19 response for people sleeping rough', https://www.london.gov.uk/what-we-do/housing-and-land/homelessness/covid-19-response-people-sleeping-rough

Mello, D. (2020) 'Risco de morrer por coronavírus varia até 10 vezes entre bairros de SP', Agência Brasil, 5 May, https://agenciabrasil.ebc.com.br/saude/noticia/2020-05/risco-de-morrer-por-coronavirus-varia-ate-10-vezes-entre-bairros-de-sp

Neiderud, C.-J. (2015) 'How urbanization affects the epidemiology of emerging infectious diseases', Infection Ecology & Epidemiology 5:1

New York City (2020) 'Mayor de Blasio and Taskforce on Racial Inclusion and Equity announce accelerated Internet Master Plan to support communities hardest-hit by COVID-19', 7 July, https://www1.nyc.gov/office-of-the-mayor/news/499-20/mayor-de-blasio-taskforce-racial-inclusion-equity-accelerated-internet-master

NITI, BMC and TIFR (2020) 'Technical details: SARS-CoV2 Serological Survey in Mumbai by NITI-BMC-TIFR', Technical details: SARS-CoV2 Serological Survey in Mumbai by NITI-BMC-TIFR

Nordling, L. (2020) 'Africa's pandemic puzzle: why so few cases and deaths?', Science 369(6505): 756-757

NRC (2020) 'An unnecessary burden: Forced evictions and COVID-19', July, https://www.nrc.no/globalassets/pdf/briefing-notes/an-unnecessary-burden-forced-evictions-and-covid-19-in-east-africa/an-unnecessary-burden_nrc-briefng-note_july-2020.pdf

OECD (2018) Settling in 2018: Indicators of Immigrant Integration, OECD Publishing, Paris/European Union, Brussels

OECD (2020a) 'Cities policy responses', 23 July, http://www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff/

OECD (2020b) 'What is the impact of the COVID-19 pandemic on immigrants and their children?', 19 October, https://www.oecd.org/coronavirus/policy-responses/what-is-the-impact-of-the-

COVID-19%20-19-pandemic-on-immigrants-and-their-children-e7cbb7de/
OECD (2020c) 'Job retention schemes during the COVID-19 -19 lockdown and beyond', August, http://www.oecd.org/coronavirus/policy-responses/job-retention-schemes-during-the-COVID-19 -19-lockdown-and-beyond-0853ba1d/
OHCHR (2005) Economic, Social and Cultural Rights: Handbook for National Human Rights Institutions, UN, New York and Geneva
Otioma, C., Madureira, A.M. and Martinez, J. (2019) 'Spatial analysis of urban digital divide in Kigali, Rwanda', GeoJournal 84: 719–741
Prusa, A., García Nice, B. and Soledad, O. (2020) 'Pandemic of violence: Protecting women during COVID-19', Weekly Asado, 15 May, https://www.wilsoncenter.org/blog-post/pandemic-violence-protecting-women-during-covid-19
Reeves, P. (2020) 'COVID-19 infection rate in Rio's favelas far exceeds official count, a new study says', NPR, 25 June, https://www.npr.org/sections/coronavirus-live-updates/2020/06/25/882350283/covid-19-infection-rate-in-rios-favelas-far-exceeds-official-count-a-new-study-s?t=1613470305213
Reuters (2020) 'Coronavirus hits migrant workers in Qatar', 19 March, https://www.reuters.com/article/uk-health-coronavirus-qatar/coronavirus-hits-migrant-workers-in-qatar-idUKKBN2162D4
Rodi´c, I. and Wilson, D. (2017) 'Resolving governance issues to achieve priority Sustainable Development Goals related to solid waste management in developing countries', Sustainability 9(404)
RTVE (2021) 'Radiografía del coronavirus en residencias: más de 31.300 muertos con COVID-19 o síntomas compatibles', 15 February, https://www.rtve.es/noticias/20210215/radiografia-del-coronavirus-residencias-ancianos-espana/2011609.shtml
Sinha, R., Michelsen, J., Ackura, E. and Nije, L. (2020) 'COVID-19's impact on the waste sector', IFC, June, https://www.ifc.org/wps/wcm/connect/dfbceda0-847d-4c16-9772-15c6afdc8d85/202006-COVID-19-impact-on-waste-sector.pdf?MOD=AJPERES&CVID=na-eKpl
Sly, E. (2021) '"Explosion" in coronavirus numbers among London homeless', The Independent, 3 February, https://www.independent.co.uk/news/uk/covid-homelessness-london-infections-b1797106.html
Souli, S. (2020) 'Greek island refugee camps face coronavirus "disaster", aid groups warn', The New Humanitarian, 27 March, https://www.thenewhumanitarian.org/news/2020/03/27/greece-island-refugee-camps-coronavirus
Spash, C. (2020) 'The economy' as if people mattered: revisiting critiques of economic growth in a time of crisis, Globalizations
Special Rapporteur on the right to adequate housing (2020) COVID-19 Guidance Note: Prohibition of Evictions', 28 April, https://www.ohchr.org/Documents/Issues/Housing/SR_housing_COVID-19_guidance_evictions.pdf
Tan, Y. (2020) 'Covid-19 Singapore: A "pandemic of inequality" exposed', BBC, 17 September, https://www.bbc.com/news/world-asia-54082861
The Economic Times (2020) '400 stations done, Google to end its free WiFi journey', 18 February, https://economictimes.indiatimes.com/tech/internet/google-to-wind-down-its-free-wi-fi-project-in-india-and-globally/articleshow/74178172.cms?from=mdr#:~:text=Synopsis,that%20number%20by%20June%202018.
Townsend, M. (2020) 'UK hotels to become homeless shelters under coronavirus plan', The Guardian, 21 March, https://www.theguardian.com/world/2020/mar/21/uk-hotels-homeless-shelters-coronavirus
Turianskyi, Y. (2020) 'COVID-19: Implications for the "digital divide" in Africa', Africa Portal, 14 May, https://www.africaportal.org/features/covid-19-implications-of-the-pandemic-for-the-digital-divide-in-africa/
UCLG (2020) 'Housing: Ensuring everyone can safely #StayAtHome', 1 April, https://www.uclg.org/sites/default/files/eng_briefing_housing_lle1.pdf
UN (2020a) 'Policy brief: COVID-19 in an urban world', July, https://unsdg.un.org/sites/default/files/2020-07/sg_policy_brief_covid_urban_world.pdf
UN (2020b) 'A UN framework for the immediate socio-economic response to COVID-19', April, https://unsdg.un.org/sites/default/files/2020-04/UN-framework-for-the-immediate-socio-economic-response-to-COVID-19.pdf
UN (2020c) The Sustainable Development Goals Report 2020, UN, New York
UN (2020d) 'The world of work and COVID-19', June, https://unsdg.un.org/sites/default/files/2020-07/policy-brief-the_world_of_work_and_covid-19.pdf
UN (2020e) Shaping the Trends of Our Times, Report of the UN Economist Network
UN (2020f), 'COVID-19 and human rights: we are all in this together', April 2020, https://unsdg.un.org/resources/covid-19-and-human-rights-we-are-all-together
UN DESA (2018) Promoting Inclusion Through Social Protection The Report on the World Social Situation 2018, UN, New York2.6 y identified and addressed in urban welfare programmes. g to ensure that particular ieffective social assistance systems: ew
UNDP (2020) 'Vulnerable and key populations', https://www.undp-capacitydevelopment-health.org/en/legal-and-policy/key-populations/
UNECA (2020) COVID-19 in African: Protecting Lives and Economies, UNECA, Addis Ababa
UNEP (2020) Waste Management During the COVID-19 Pandemic: From Response to Recovery, UNEP, Osaka
UNESCO (2020) 'New UNESCO Report shows extent of global inequalities in education and calls for greater inclusion as schools re-open', 23 June, https://en.unesco.org/news/GEM-Report-2020
UN-Habitat (2020a) UN-Habitat COVID-19 Response Plan, UN-Habitat, Nairobi
UN-Habitat (2020b) 'Decongestion of IDP settlements as a prevention and control measure for COVID-19 pandemic in Somalia', July, https://unhabitat.org/sites/default/files/2020/07/decongestion_guidance_note.pdf
UN-Habitat (2020c) Rapid Assessment of Informal Settlements in Yangon: COVIF-19 Pandemics and Its Impacts on Residents of Informal Settlements, UN, Yangon
UN-Habitat (2020d) Rapid Assessment of COVID-19 in Informal Settlements in Fiji: Insights on Socio-Economic Impacts on Residents in 16 Communities Across Viti Levu, UN-Habitat, Fiji
UN-Habitat (2020e) 'Urban farming and art help vulnerable people in Fiji during the COVID pandemic', 20 November, https://fukuoka.unhabitat.org/info/news/20201130_en.html
UN-Habitat Youth (2020) 'Youth-led Coalition Against COVID-19 releases call to action', https://www.unhabitatyouth.org/youth-led-coalition-against-covid-19-releases-call-to-action/
UNHCR (2020) 'COVID-19 crisis: Kenya urged to stop all evictions and protect housing rights defenders', 22 May, https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=25901&LangID=E#:~:text=GENEVA%20(22%20May%202020)%20%E2%80%93,on%20the%20situation%20of%20human
UNICEF Bangladesh (undated) 'Safer sanitation and hygiene', https://www.unicef.org/bangladesh/en/better-access-safe-drinking-water/safer-sanitation-and-hygiene
von Seidlein, L., Alabaster, G., Deen, J., and Knudsen, J. (2021) 'Crowding has consequences: Prevention and management of COVID-19 in informal urban settlements', Building and Environment, 188: 107472
Wade, L. (2020) 'From Black Death to fatal flu, past pandemics show why people on the margins suffer most', Science, 14 May, https://www.sciencemag.org/news/2020/05/black-death-fatal-flu-past-pandemics-show-why-people-margins-suffer-most
Westwater, H. (2020) 'Rough sleeping up 21% in London over last year ahead of "inevitable rise"', The Big Issue, 9 September, https://www.bigissue.com/latest/rough-sleeping-up-21-in-london-over-last-year-ahead-of-inevitable-rise/
WFP (2020a) 'COVID-19 will double number of people facing food crises unless swift action is taken', 21 April, https://www.wfp.org/news/covid-19-will-double-number-people-facing-food-crises-unless-swift-action-taken
WFP (2020b) 'COVID-19 Level 3 emergency: External situation report 17', 2 December, https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_755875/lang--en/index.htm
WHO and UN-Habitat (2016) Global Report on Urban Health: Equitable, Healthier Cities for Sustainable Development, WHO, Geneva
WHO (2018) WHO Housing and Health Guidelines, WHO, Geneva
WHO (2020) 'Repurposing facilities for isolation and management of mild COVID-19 -19 cases', June, https://apps.who.int/iris/bitstream/handle/10665/332273/WPR-DSE-2020-006-eng.pdf?sequence=1&isAllowed=y
Wilkinson, A., Conteh, A. and Macarthy, J. (2020) 'Chronic conditions and COVID-19 in informal urban settlements: A protracted emergency', Cities & Health, Special Issue: COVID-19.
World Bank (2018), 'Population living in slums (% of urban population) - Sub-Saharan Africa', https://data.worldbank.org/indicator/EN.POP.SLUM.UR.ZS?locations=ZG
World Bank (undated) 'Land', https://www.worldbank.org/en/topic/land
World Economic Forum (2020) Accelerating Digital Inclusion in the New Normal, World Economic Forum, Geneva
Yao, H., Chen J.-H. and Xu, Y.-F. (2020) 'Patients with mental health disorders in the COVID-19 epidemic', The Lancet Psychiatry 7(4): E21
Zeberg, H. and Pääbo, S. (2020) 'The major genetic risk factor for severe COVID-19 is inherited from Neanderthals', Nature 587: 610–612.

Caring mother disinfecting son's hands while commuting by bus during COVID-19 pandemic © Shutterstock

3

Rebuilding a “New Normal” Urban Economy

The COVID-19 pandemic has forced the world to fight both a health crisis and an economic crisis simultaneously. So far, high-income countries have been able to implement economic rescue packages to support the economy, while developing countries with financial reserves have used them to contain the damage.

Commuters wearing masks to protect themselves from COVID-19. Tokyo, Japan
© Shutterstock

However, the long-term impact on the economy is still unknown: even with massive vaccination, the possibility of a major global recession remains very real as countries contend with multiple waves and new variants of the virus.

In the meantime, governments are incurring massive public debts as they seek to mitigate the devastation inflicted on the economy. This legacy of the pandemic will profoundly shape long-term growth and development. Global recovery and the reconstruction of the productive economy will need to be supported by trade, investment and innovation, but these may be undermined by protectionism and the reshoring of global supply chains. And across the developing world, particularly in less developed countries that were already suffering from financial instability and debt before the pandemic began, special multilateral support may be required in the coming years to ensure their economic revival.

Nevertheless, despite the enormity of these challenges, the integration of territorial and spatial responses to the new economic realities brought on by the pandemic is also an opportunity for transformative sustainable development. As discussed in the previous chapters, the economic consequences of the current health crisis are very much place-based, with important variations through the urban-rural continuum, but also between and within cities. In this context, bearing in mind the Sustainable Development Goals and the New Urban Agenda as global policy guidance, a "new normal" in the urban economy is needed that reformulates the role of the state, social systems, welfare and their spatial relations. This will require a combination of practical and aspirational ideas to reorder our economies.

This chapter details why a new urban economy approach to urban planning and management is necessary, and argues that policies must integrate the local, national and multilateral scales for it to succeed. This will require decisive multilateral action, changes in the relationship between central and local governments, as well as between the public, private and the people.

Box 3.1: Four major shocks facing the global economy

The pandemic cannot be treated as an isolated event, but must instead be understood in the context of four powerful underlying forces. These are:

- **Climate change:** A long time in the making, anthropogenic global warming poses unique threats to national and urban economies, particularly in developing world regions. Natural disasters, increased temperatures and other extreme weather patterns could prove devastating for many cities, particularly those situated in low-lying or coastal areas with a large proportion of poorly serviced informal settlements. Recent trends suggest this problem is getting steadily worse: 2016, 2019 and 2020 were the three hottest years globally on record.[1]

- **Extreme poverty and inequality:** The combined effects not only undermine the wellbeing, dignity and rights of poor communities, but also heighten the risk of political instability. Although the contexts are different, the protests that have erupted across the world in recent years have been linked to poverty, inequality, with spontaneous large-scale political mobilization taking place, strongly denouncing social issues.[2] Studies on the adverse effects of inequality[3] in societies indicate that its most perverse effects are in urban segregation, since people have limited opportunities and basic services.

- **The Fourth Industrial Revolution (4IR):** The 4IR introduced an array of disruptive frontier technologies, spanning artificial intelligence, robotics, the Internet of Things, 3D printing, genetic engineering, quantum computing and other innovations. The 4IR technologies are impacting jobs and employment, economic growth, and fiscal and monetary policies and resetting industries and activities, redefining value chains and supply chains.

- **COVID-19:** the worst pandemic since the Spanish flu in 1918, the virus and its accompanying lockdowns have so far cost trillions of dollars and left millions of people without a source of livelihood.

The four shocks are inextricably connected. Inequality is closely interlinked with previous pandemics: during the influenza outbreak of 2009 in the UK, the death rate was three times larger in the poorest fifth of the population than among the wealthy.[4] The 2014-16 Ebola epidemic killed more than 10,000 mostly poor and vulnerable people in Liberia, Ghana and Sierra Leone.[5] The negative impacts of climate change on the interface of the natural and human habitations is linked to zoonotic diseases, such as COVID-19, Ebola, bird flu, H1N1 flu, MERS, SARS, and Zika that pass from animals to humans. This has led to a situation where one new infectious disease appears in humans every four months.[6] Lastly, frontier technologies are now a central shaping force to the economies and societies worldwide. While bringing prosperity to some in certain locations, new technologies also increase inequality to others elsewhere and can provoke social unrest due to mass unemployment and job losses in sectors such as manufacturing.

Through urban planning, local governments need to be further empowered by the state to provide their cities with an adequate legal and regulatory framework

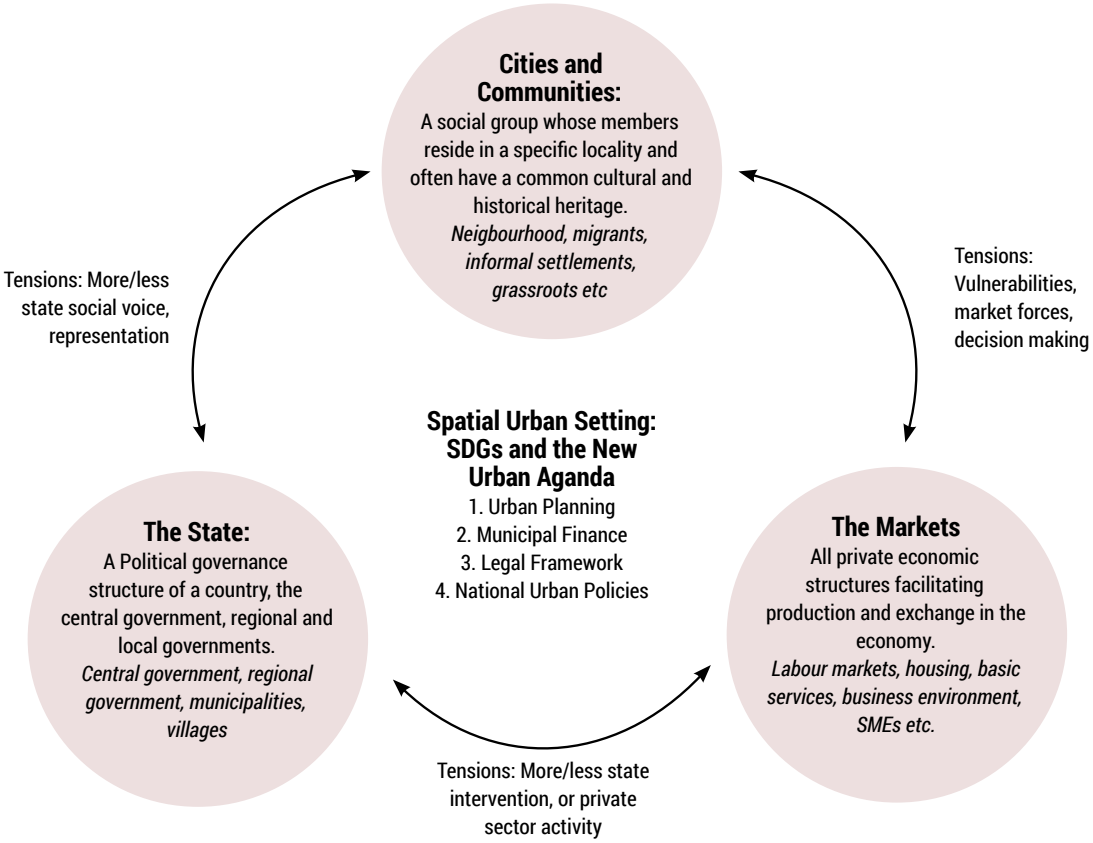
3.1. The Need For a New Economic Framework

A new normal urban economy is needed to fight pandemics and achieve sustainable growth and prosperity for all, leaving no one and no place behind. In the last two decades, through the liberal policies linked to the so-called "Washington Consensus", markets have been privileged in economic policy, leaving large numbers of communities without proper access to housing and basic services. In developing countries, communities engaged in the informal sector are not even included in decision-making. Counteracting the damage wrought by the COVID-19 pandemic requires a new economic model that not only responds to immediate concerns but also addresses these long-term challenges. This can be done by properly integrating the three pillars of a sustainable local settlement — markets, states and communities — in a balanced way, with the necessary financial resources to fulfill basic rights, societal and economic needs, including public health in cities. The proposed urban economy framework allows each of the pillars to operate and interact in a balanced way (Figure 3.1).

Food hall in Central World Shopping Center with marks on tables to ensure social distancing as a mesure to curb the spread of the COVID-19 virus. Bangkok, Thailand © Shutterstock

The state, represented by the central and local governments, needs to improve governance to allow subnational entities, such as metropolitan governments and cities, to develop sustainable financial frameworks and a clear functional and territorial demarcation of activities. Through urban planning, local governments need to be further empowered by the state to provide their cities with an adequate legal and regulatory framework so that the private sector — the market — can operate within clear parameters and policies that encourage social participation and shared prosperity. In parallel, local governments have a duty to incorporate communities, especially those without formal representation, into a more inclusive urban management approach.

Figure 3.1: A framework for a new urban economy



Source: Prepared by the authors

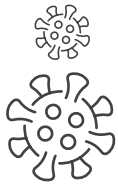
The framework underpins the critical role of cities and communities, maintaining the role of the state, and providing the proper space for the markets.[7] These three categories coexist with permanent tensions. Communities in cities claim more voice and representation in the state through participation. The markets impose their force over the state and sometimes try to replace it, resulting in frictions about participation in the economy. The state is tempted to intervene and replace the markets in times of crisis. The strength of each pillar changes depending on the context, historical setting and political economy of the place.

When these three categories are examined in the urban spatial setting, the Sustainable Development Goals and the New Urban Agenda are at the centre. The need for a well functioning state, markets and communities is imperative for cities. The state — in this case, the local government — is responsible for providing urban planning, municipal finance and legal regulations. Technical capacities are essential to perform these functions, and resources from the central or regional governments must be provided to strengthen the functions of local governments as necessary.

As mentioned earlier, markets have dominated in recent decades while communities, especially those living and working in the informal spheres of the city and the economy, have enjoyed limited participation despite being most often the main victims of crises. Calls for a fundamental restructuring of the economic system have intensified as the crisis has unfolded, with inspiring proposals on mandates and financing gaining increasing attention. These are discussed in more detail in the sections that follow.

The strength of each pillar changes depending on the context, historical setting and political economy of the place.

3.2. Assessing the Cost of COVID-19



Among developed countries, vast sums have been spent to mitigate the impacts of the pandemic on trade, business and employment.

Any framework that seeks to aid the transition to a more just and sustainable economy must also contend with the immediate realities of the pandemic and the extraordinary costs it has inflicted on almost every corner of the global economy. One study projected a total loss of more than US$16 trillion in the United States (US) alone, with almost US$7.6 trillion in lost GDP and more than US$8.5 trillion in "health loss" due to death, long-term impairments and mental illness — around four times the amount lost in the Great Recession over a decade before, comprising around 90 per cent of the country's current GDP.[8] Less evidence is available on the impact in many less developed countries, particularly in their large informal sectors, and the lasting damage the pandemic may have done to their efforts at development and poverty reduction.

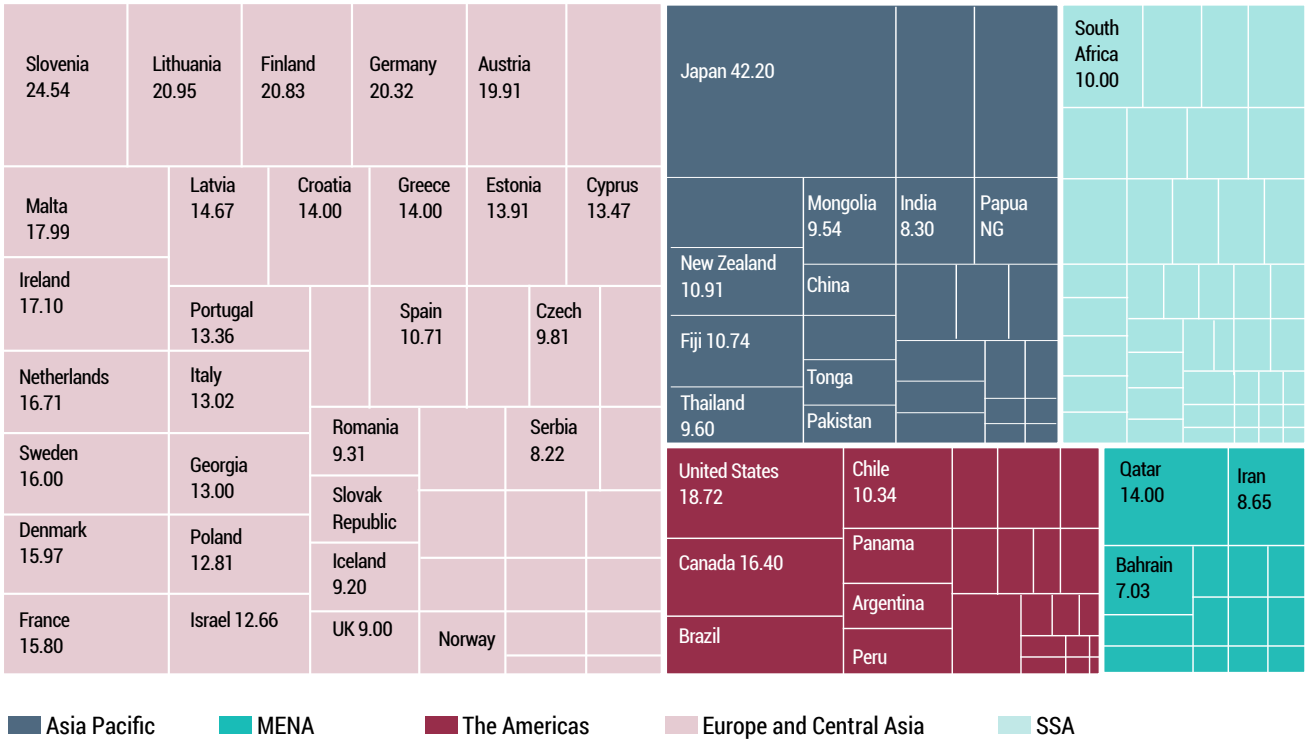
Among developed countries, vast sums have been spent to mitigate the impacts of the pandemic on trade, business and employment. Globally, in the first two months alone governments rolled out an estimated US$10 trillion in economic stimulus packages in response to the crisis, including around US$4 trillion from Western European governments, about 30 times today's value of the Marshall Plan.[9] At the same time, measures were taken to ensure liquidity for hard-pressed local governments. The Bank of Canada's Provincial Money Market Purchase programme allowed it to directly purchase provincial money-market securities, supporting the liquidity of the treasuries of subnational governments. Other countries augmented budgetary measures in support of subnational governments or considered such measures. In Brazil, the national government offered additional support for health spending to subnational governments. In Sweden, in addition to other forms of financial assistance, in September 2020 almost US$0.7 billion in extra funding was approved for municipalities to cover COVID-19-related costs.[10] China issued an advance quota of US$8.6 billion in transfer payments for local governments in 2020,[11] while in Turkey the national government announced direct financial aid for regions.[12]

Local officials in Nepal hand out sanitizer and masks made by local handicraft workers to protect against COVID-19 © UN-Habitat

3.2.1. Country and city responses

The economic response of cities, at a global level, is much more difficult to assess. Cities mounted wide-ranging health responses, with expenditures for screening, monitoring, quarantine, isolation measures, ensuring public order and more. On the economic response side, cities have also implemented measures to protect livelihoods, jobs and businesses. These include providing social protection to those who cannot work, allowing delays on tax payments and supporting local businesses. Normally most local governments operate within restrictive financial and fiscal rules, but in some countries national governments have taken exceptional and temporary measures in providing fiscal and budgetary leeway to subnational governments. For example, Spain has relaxed its budgetary rules for subnational governments, allowing municipalities to incur deficits temporarily.

Figure 3.2: Economic responses by countries (as % of GDP in first weeks of pandemic)



Source: Elgin et al., 2020

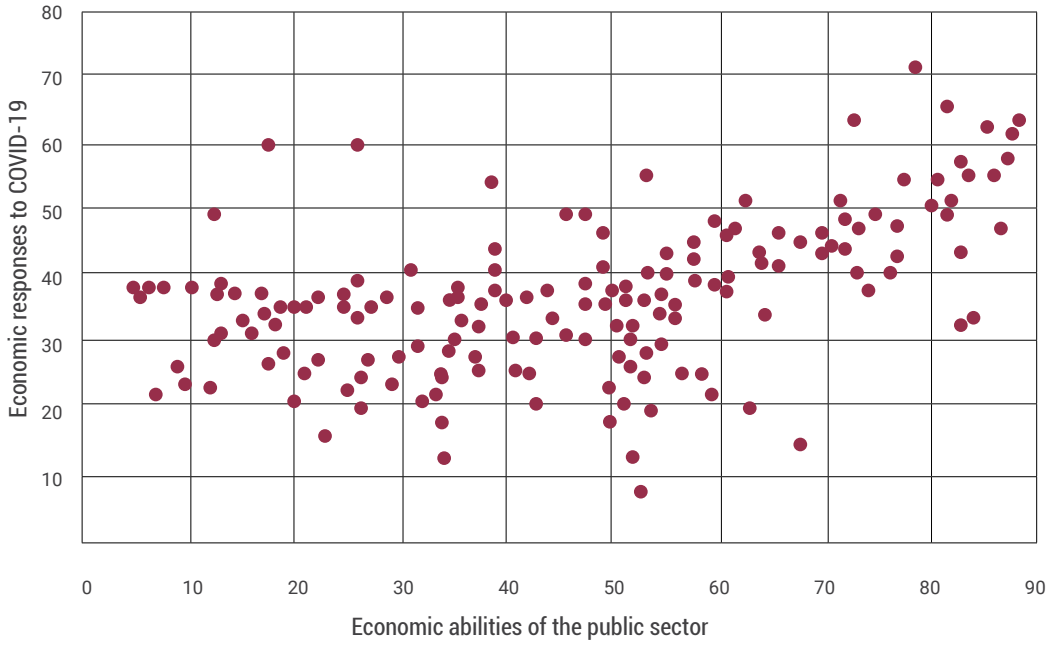
To develop a better global picture of how countries have responded to the pandemic, UN-Habitat and CitiIQ aggregated primary social and economic statistics available worldwide.[13] Figure 3.2 presents a breakdown of COVID-19-related spending in different countries, region by region, and suggests that governments have shown a more intense economic response[14] in Western and Eastern Europe, East Asia and Australasia.

Strikingly, though some of the most significant spending as a proportion of GDP has come from high-income countries — Japan (42.2 per cent), the US (18.7 per cent), Canada (16.4 per cent), as well as many countries across Europe — developing countries have also allocated large funds, such as Chile (10.3 per cent), Thailand (9.6 per cent) and South Africa (10 per cent). Even elsewhere in sub-Saharan Africa, where resources are often more constrained, countries are providing support to families and the health system through economic packages. India and Egypt are even providing cash transfer initiatives. By contrast, countries like South Korea have included support for digitalization and the green economy, reflecting their different needs and priorities. It should be note that the data shows national fiscal packages and excludes fiscal efforts being undertaken by regional blocs. Specifically, the European Union (EU) is in the process of implementing two important economic recovery packages: a €750 billion stimulus agreement passed in July 2020[15] and a seven-year (2021-2027) stimulus agreement agreed in December 2020 amounting to another €1.07 trillion, bringing the total allocation to €1.8 trillion.[16]

The data suggests that the economic response to COVID-19 seems to be positively correlated with economic ability

At the urban level, economic responses depend on the social, economic and fiscal context at the national and local level, and the governance arrangements between cities, central governments and subnational entities. The economic responses and the public sector's capacity is shown in Figure 3.3, with

Figure 3.3: Economic responses and economic ability (country averages)



Source: Prepared by the authors based on UN-Habitat and Citiiq data.

the economic response running from low (0) to high (80), while economic ability ranges from 0 to 100.[17] The data suggests that the economic response to COVID-19 seems to be positively correlated with economic ability.

As most of these measures are financed by public debt, the additional spending necessary to weather the economic impact of the pandemic could pose a challenge to the future economy. According to the IMF, global public debt at the end of 2020 was around 98 per cent of global GDP, significantly higher than the 84 per cent projected for the same period in October 2019 before the pandemic hit.[18] Even in a relatively optimistic scenario where vaccines are successfully rolled out, high-income countries may see some recovery but probably not to a level that will support the repayment. In developing countries, on the other hand, some debt relief and support from financial institutions will be needed in the coming years to balance their economies.

To make supportive actions effective and sustain their gains, there is a need for a coherent multilevel governance approach to the way cities, local governments and subnational governments in coordination with central governments should plan, manage and fund social-economic responses during periods of crisis. Legal and policy frameworks are needed to allow immediate arrangements, followed by short term responses, to ensure that subnational governments have the necessary financial resources to maintain their response, including areas such as public order, health and social protection that may fall within their mandate.

Therefore, national governments need to provide emergency packages and fiscal stabilization measures for local governments, with a combination of measures such as temporarily guaranteeing debt, providing liquidity and allowing budgetary flexibility so that cities can reallocate fiscal means towards an effective response. Short term measures should support maintaining essential public services, welfare payments and investment commitments, including in economically vital sectors.

3.3. The Impacts on Urban Economies

Across the world, COVID-19 containment measures to protect public health have significantly reduced global and local economic activity. The "Great Lockdown" and its successors have disrupted production, trade and investments, triggering the worst economic crisis seen since the Second World War and an estimated contraction in the global economy of 5.2 per cent.[19] In some countries, economic activity reduced by between 20 and 30 per cent during the first lockdown at the beginning of the pandemic.[20] The effects continued to accumulate throughout 2020, with numerous countries affected: Indonesia, for instance, entered into recession in the third quarter of the year after two decades of unbroken growth.[21] As Table 3.1 shows, the impacts on the global economy have been devastating, affecting almost every sector including trade, tourism, manufacturing and entertainment. These impacts have been devastating for many urban economies.

3.3.1. Key productive sectors and labour markets

In this context, urban productive sectors and labour markets have been severely damaged by curfews and limitations on travel, tourism and other forms of movements, disrupting value chains and supply chains worldwide. While in some instances workers have ben able to continue working from home, others – especially in informal and developing contexts – have been seen their employment and livelihood opportunities significantly reduced. This sharp reduction in local economic growth is happening in developed and developing countries alike. Forecasts for a selection of major African cities for 2020 suggested that COVID-19 was likely to diminish projected growth significantly, even pushing some into recession, with an anticipated 5.9 per cent contraction in Johannesburg, one of the continent's most significant urban economies.[28]

Successive lockdowns have heavily impacted on key urban productive sectors, with closures and access restrictions in many service sector

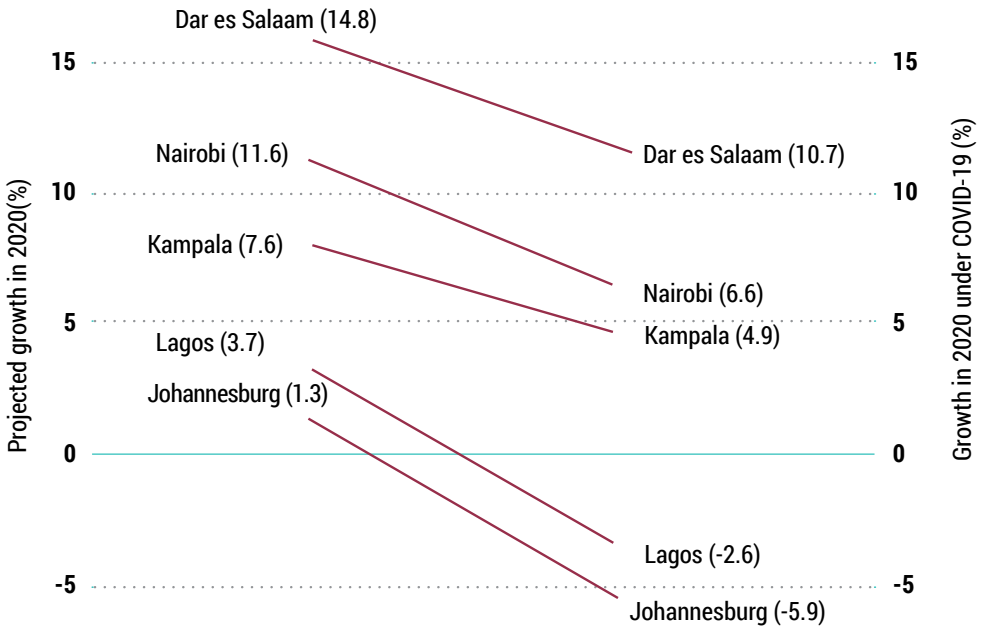
In some countries, economic activity reduced by between 20 and 30 per cent during the first lockdown at the beginning of the pandemic

Table 3.1: Damage to global productive capacities

Sector	COVID-19 Impact	Timeframe	Source
Trade	**17.7%** decline in international trade measured by the change in the monthly volume of global trade in goods	May 2019 and May 2020	UNECLAC, 2020[22]
Tourism	**74%** decline in international tourist arrivals **1 billion** fewer international tourist arrivals **US$1.3 trillion** in export revenues loss from tourism **100-120 million** direct tourism jobs at risk	Jan-Dec 2020	UNWTO, 2021[23]
Aviation	**US$371 billion** in passenger revenue loss **2.699 million** reduction in passenger numbers (international and domestic)	Jan-Dec 2020	ICAO, 2021[24]
Urban Transport	**Drastic reduction in ridership in major cities:** Madrid (-44.1%), Roma & Lazio (-53.9%), Toronto (-55.6%), Boston (-51.7%), San Francisco – San Jose (-68.3%)	Jan 2020-Aug 2020	ILO, 2020b[25]
Automotive Sector	**1.1 million jobs out of 2.6 million jobs (42.3%)** in the EU were directly affected by factory closures, more than half of these in Germany	March 2020	ILO, 2020c[26]
Entertainment and Culture	In the Philippines, the number of employees in arts, entertainment and recreation services fell by **55%**	April 2020 versus April 2019	ILO, 2020d[27]
	75.9% of the workforce in arts, entertainment and recreation in the UK furloughed at some point during the first lockdown	March-May 2020	ILO, 2020d

Source: UNECLAC, 2020; UNWTO, 2021; ICAO, 2021; ILO 2020b, c and d

Figure 3.4: Projected growth and growth under COVID-19 conditions in selected African primary cities



Source: UN-Habitat et al., 2020.

Consumer demand has become increasingly uncertain and is caught in a downward spiral in a context of protracted uncertainty

segments such as retailing, restaurants, offices and entertainment venues causing sales to drop. For instance, more than three quarters (76 per cent) of accommodation and food service companies in a global survey by the International Trade Centre published in June 2020 reported that partial and full lockdowns strongly affected their business operations in the hospitality sector and food services.[29] In many service sector segments, the employees of companies still operating have been on the frontline of the pandemic, with enhanced risks of contagion. Consumer demand has become increasingly uncertain and is caught in a downward spiral in a context of protracted uncertainty. Many industrial sectors in cities have also been impacted by a combination of forced factory closures, supply chain disruptions and the collapse of demand. Factories across the world had to work around shortages of raw materials and inputs. Just-in-time manufacturing processes were affected by order cancellations and supply shortages, hitting thousands of firms and millions of workers hard.

The crisis is also taking a significant toll on small and medium enterprises (SMEs) in countries such as Uganda.[30] In developed economies, SMEs account for approximately 99 per cent of all firms, around 70 per cent jobs and over half of value-added. They play an important role in emerging markets, too, accounting for 45 per cent of employment and over a third of GDP.[31] SMEs typically face instant liquidity challenges, triggering layoffs and bankruptcies. Their supplies and sales, often of one or a few products or services, are acutely vulnerable to disrupted supply chains or fluctuating prices and demand. Since the pandemic hit, numerous SMEs in urban areas around the world have filed for bankruptcy. The impact of the pandemic on SMEs has been especially acute.[32]

The resulting job loss in urban economies has not only been massive, but unequal. On the one hand, vast social and technological disruption brought on by the 4IR has been intensified in the crisis, with many companies and workers in the digital or knowledge economy of high-income

A bustling scene along Ilaya Street - A crowded, narrow street filled with shops and people-Divisoria, Manila, Philippines - © Shutterstock

cities switching to work from home. The labour force has become clearly divided between those workers who can work remotely and those who cannot: while many knowledge workers have been able to switch entirely to teleworking, capturing the benefits of the ongoing 4IR, many others have had no such option. Service workers, or those in the "gig economy" performing in-person services, as well as informal workers in low- and middle-income countries, very often rely on face-to-face interactions and went into lockdowns or other measures without social welfare benefits.

Consequently, the impacts of the pandemic and the various restrictions put in place to contain it have been felt disproportionately among those whose livelihoods were already precarious. In Nairobi, Kenya, a survey in informal settlements found that 96 per cent of those who had day-to-day incomes before the crisis went down to earning either "very little" or "nothing".[33] The substantial losses in income incurred will result in increased urban poverty in many places and likely exacerbate existing inequalities in many cities. Past events similar to COVID-19 have driven increases in inequality, as measured by the Gini coefficient.[34]

The resulting job loss in urban economies has not only been massive, but unequal

Furthermore, the economic effects of the pandemic also have implications for gender equality. More so than "regular" recessions, which usually affect men's employment more severely, this recession is expected to impact more heavily on sectors with high levels of female employment.[35] For instance, some 54 per cent of workers worldwide in the tourism sector, one of the worst hit areas of the economy, are women.[36] In addition, school and nursery closures during lockdowns have created

further pressures that are disproportionately felt by working mothers. COVID-19 has also proved challenging for female entrepreneurship, including women-owned microenterprises in developing countries that comprise a large share of female labour-force participation there. According to one estimate, extrapolated from data in India and the US, "female job loss rates due to COVID-19 are about 1.8 times higher than male job loss rates globally".[37]

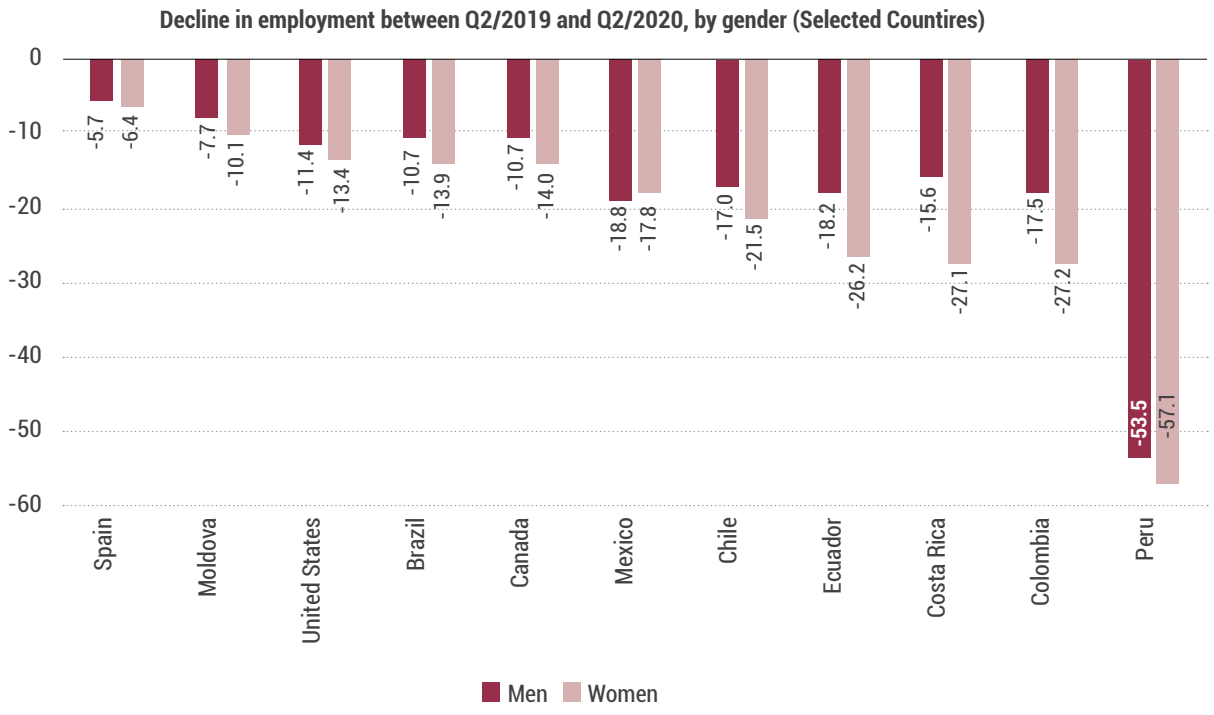
Figure 3.5 shows the decline in employment in selected countries, disaggregated by gender, between the second quarters of 2019 and 2020. Women experienced larger declines in employment in all countries, except for Mexico. Costa Rica, Colombia and Ecuador had the widest gap in employment declines between men and women at 11.5, 9.3 and 8 percentage points, respectively.

3.3.2. Fiscal contexts at a subnational level

Cities require liquidity to face the pandemic, but COVID-19 has seriously challenged many local governments' fiscal health. From paying public service workers to financing the operation of municipal services, cities have a range of costly responsibilities that have come under increasing pressures. Many have been forced to establish funds to support essential health care and emergency initiatives.

Meanwhile, municipal revenues have been shrinking due to reduced economic activity and tax cuts, temporary breaks or delayed payments put in place to ensure businesses and residents are able to survive the economic fallout from lockdowns and other restrictions. Declining sales and property taxes in heavily affected business sectors, such as brick-and-mortar retailing, hospitality, tourism and the cultural

Figure 3.5: Disproportionate impact of COVID-19 on female employment (Q2/2019 and Q2/2020 levels in selected countries)



Source: ILO, 2020c.

Box 3.2: Cities supporting the productive sector

In a context where many urban areas are struggling to prevent bankruptcies and job losses among local businesses, some have pioneered an array of initiatives with the aim of catalyzing economic recovery. A small selection of some relevant strategies from different cities are presented below:

- Houston (US) created the Greater Houston Business Recovery Center to drive a business-led recovery in the city and deliver advice on policy and financing linked to recovery plans.
- Maringa (Brazil) established a task force in June 2020 to design its Economic and Social Development Recovery Plan, drawing on collaboration between local authorities and Sebrae (Brazilian Micro and Small Business Support Service). Integrating consultations and feedback from academics, civil society organizations and businesses, the aim of the plan is to generate employment, legal reform, investment and other gains
- Nice (France) announced an employment agreement to strengthen the city's economic recovery, with an additional €3.5 million to bolster the most at-risk businesses and SMEs in the region, focusing in particular on the worst-hit sectors such as tourism, trade and industry to strengthen economic resilience.[38]

A doctor in a protective suit taking a nasal swab from a person to test for possible coronavirus infection © Shutterstock

sector, have been significant for many cities. Furthermore, the decline in public transport use also means revenue streams for transport providers – public and private – are drying up.

In combination, these pressures have led to a "scissors effect", with subnational government expenditure curves increasing while at the same time their revenue curves have declined.[39] Still, the pandemic has forced local governments to spend much more on previously unknown expenditures, such as testing and tracing, purchasing and stockpiling personal protection equipment and other medical provisions, augmenting digital service delivery capacity, including of schools, and paying for physical distancing arrangements in offices, markets and public spaces. The adverse fiscal impact on subnational governments is happening in countries of all income levels across the world. In Table 3.2 below, some initial estimations are presented.

Another factor determining cities' ability to respond to the crisis effectively is the source of their revenues. While own-source revenues are the most adaptive financing source and can be relatively easily rechanneled towards the

Table 3.2: Estimated impact on selected subnational governments' fiscal position

Region	Fiscal impacts
Africa	African local governments are expected to see a significant drop in local finances. In a best-case scenario, the decline for 2020 is estimated to be 30 per cent, rising to 65 per cent in the worst-case scenario. Revenue from licenses, fees, local service taxes, property taxes and other sources is anticipated to fall by around 50 per cent.[40]
Asia and the Pacific	A significant increase in subnational debt is expected in Australia, China and Japan as subnational governments, particularly regions and large cities, are applying a countercyclical fiscal policy to support local economies. In China, local government debt could reach a record of nearly ¥3 trillion for the first five months of 2020, up from ¥1.9 trillion in 2019. [41]
Latin America & The Caribbean	There are stabilization funds with resources from commodities and central government contributions in Mexico and other countries in the region. These are quickly declining, however, inducing a risk of decreased funding.
The Middle East & North Africa	According to estimations, Moroccan municipalities can expect a 25 per cent drop in revenue and a 10 per cent increase in expenditure in 2020 due to COVID-19. It would leave Moroccan municipalities with a fiscal deficit, making them unable to repay their debt and finance their investments, meaning residents would lack essential urban infrastructure.[42]
Europe	In Austria, a fall of between 7 and 12 per cent in state tax revenues was predicted as a result of the pandemic. At the municipal level, it has been calculated that the crisis could incur up to €2 billion in extra spending during 2020. In Finland, it was projected that the added costs and lost revenue of COVID-19 to municipalities in 2020 would come to around €1.6 – 2 billion, accounting for 4 per cent of total municipal revenues.[43]
North America	In Canada, it was estimated that municipalities could lose between Can$10 and Can$15 billion in revenue over six months, depending on the severity and duration of the pandemic-related shutdown.[44] In Phoenix (US), a significant proportion of the city's revenue comes from sales taxes related to retail sales, tourism and entertainment. Before the COVID-19 outbreak, Phoenix was projecting a US$28 million surplus for the upcoming fiscal year. In a projection where the pandemic's full impact lasted until July 2020, it was instead anticipating a US$26 million deficit as an optimistic estimate of COVID-19's impact on Phoenix's budget.[45] This deficit would grow with every month the pandemic lasts.

epidemic response, they remain low in many countries. In developing countries, the proportion of municipal own-source revenue is under 10 per cent of the total local government budgets, meaning it is insufficient for an effective epidemic response.[46] Therefore, many subnational governments, especially in developing countries, rely on external funding, such as national government transfers, leaving subnational governments dependent and vulnerable. Between 70 and 80 per cent of central government transfers come as non-discretionary grants ring-fenced for specific areas, with little leeway for city authorities to redirect these to local epidemic responses.[47] Furthermore, as national governments themselves end up in a fiscally restrained position due to the crisis, transfers to subnational governments are in some cases decreased and payments delayed. As subnational governments' transfers from central governments are often based on the previous year's activity (for example through national government equalization transfers or tax sharing), their fiscal position worsens for several years following a pandemic to a time-lagged effect. Evidence shows this happened to many subnational governments during the 2008/09 recession, with restrained subnational fiscal positions even after some recovery at the national level.[48]

A third factor to consider in cities' ability to protect their citizens is their budgetary spending rules. Subnational governments in developing countries tend to have less room for manoeuvre than national governments due to stricter fiscal rules. The main goal of such fiscal rules is to ensure fiscal sustainability at the subnational level – but, restrained by fiscal rules, in a time of crisis, subnational governments may be forced to reduce expenditure (often public investment) instead of running temporary deficits, thus creating a pro-cyclical effect which can further reduce fiscal revenue over several years. The more rigid rules are, and the shorter timeframes they apply to, the more susceptible are they to pro-cyclical tendencies.[49] To combat this pro-

cyclical effect, exemptions to fiscal rules may be necessary during a crisis. In Johannesburg, for instance — hit, like many other cities, with significant economic contraction during 2020 as a result of the pandemic — the national government's relaxation of some spending restrictions allowed local authorities to reallocate some of their budget to meet their most pressing needs. However, for many subnational governments, especially in developing countries, even this is not a legal possibility. National governments should consider relaxing rules on earmarked national transfers and possibly local borrowing, while bearing in mind the common risks inherent to subnational borrowing in many developing countries.

In some developed countries with a unitary government structure, the expansion of local government powers took the form of more borrowing and funding as well as greater fiscal room to address the immediate socio-economic effects of the pandemic. In Denmark, fiscal rules were temporarily relaxed to allow municipalities to go beyond their normal spending limits, while in Spain local governments were authorized by decree to use surplus funds to support social services. This approach — granting more borrowing to subnational levels of government to cover COVID-19-induced expenditures — was also employed by developed countries with a federal government structure. The Municipal Liquidity Facility was established by the US Federal Reserve to provide up to US$500 billion in loans to states and municipalities. In Canada, similarly, the Ontario government partnered with the federal government to deliver Can$4 billion in one-off assistance to the province's 444 municipalities.

3.3.3. Supply chains, digitalization and investment

The pandemic has disrupted value chains (the steps in the production of good and services) and supply chains (the physical integration of production at a spatial level) across the world, interrupting production and trade. Not only global manufacturing, but also tourism, restaurants, hotels and aviation will need to readjust, change and consolidate their production platforms. Before the pandemic, the global supply chain was already affected by increasing tensions between the US and China. Though companies are expanding their platforms to low-cost locations in Mexico (car parts and computers) and Vietnam (clothing, shoemaking, smartphones and other electronics), China still accounts for a large share of global manufacturing exports and will remain a formidable production hub.

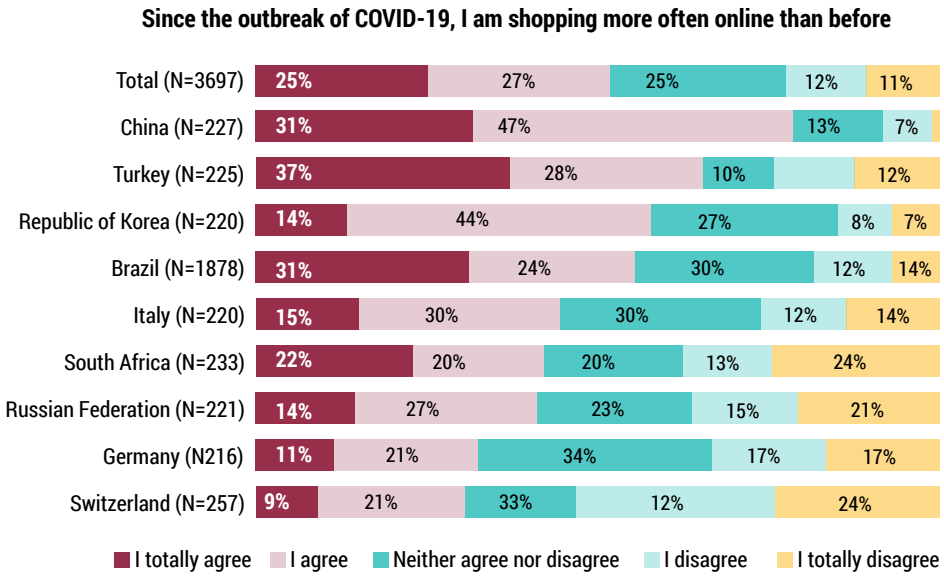
As national governments themselves end up in a fiscally restrained position due to the crisis, transfers to subnational governments are in some cases decreased and payments delayed

It is difficult to foresee the consequences of disruption in value chains, but given the central role that cities play in regional and national economies, the true impact of shutdowns and other shocks can extend well beyond the immediate impacts to the affected urban economy. For instance, one study published in the first weeks of the pandemic hypothesized the indirect effect of locked down supply chains on other regions would be double that of the direct effects in Tokyo itself. On this basis, a month of lockdown in the capital could create a total production loss of ¥27 trillion in Japan as a whole, amounting to 5.2 per cent of the country's annual GDP.[50]

Besides increased online and remote working in some sectors, the pandemic has also accelerated the development of e-commerce. In the European Union, retail sales via mail order houses or the Internet in April 2020 rose by 30 per cent compared to April 2019, at the same time as retail sales fell by 17.9 per cent, with similar increases evident in the UK, the US and China.[51] Furthermore, a survey by UNCTAD of some 3,700 consumers in nine developed and emerging economies found that over half reported shopping online more frequently (Figure 3.6).[52]

While the COVID-19 crisis has encouraged the development of a dynamic, wide-ranging e-commerce industry, many shops and stores — already threatened by the increasing tendency for consumers to use online shopping, even before the pandemic — are now facing considerable hardship in the face of physical restrictions. Quarantining reduces consumers

Figure 3.6: COVID-19 and the shift to e-commerce



Source: UNCTAD, 2020

In the European Union, retail sales via mail order houses or the Internet in April 2020 rose by 30 per cent compared to April 2019

demand for certain products – and increased unemployment lowers propensity to spend. While these are expected short-run effects, with quarantines ending and employment rebounding in the long run, consumer behaviour might change in the long run, with a preference for online retail over shopping in a city centre. These could have profound implications in many cities on the future vitality of high streets and local shops.

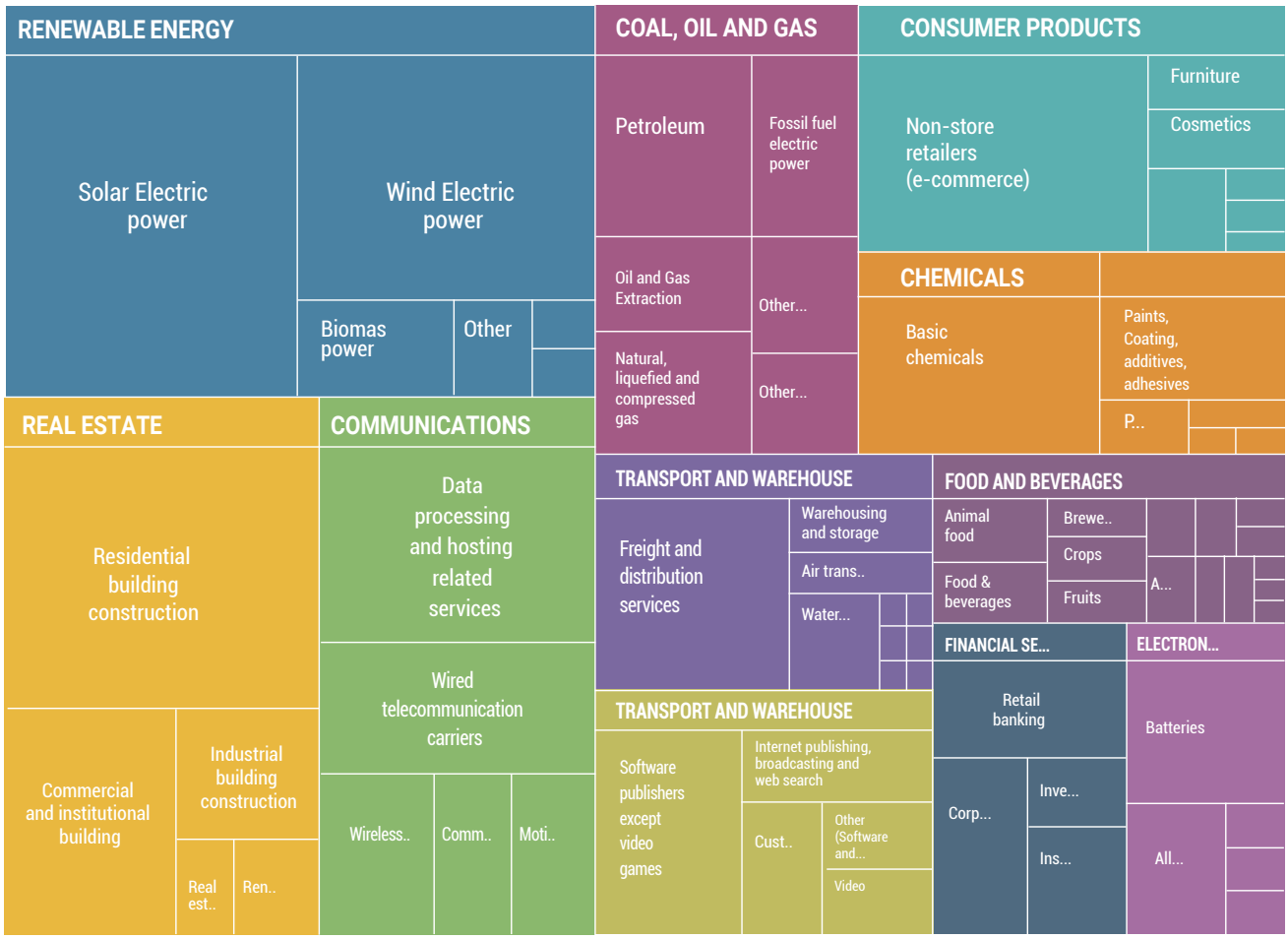
At the local level, cities will have to support industries and firms to ensure the survival of their productive fabric. One way to support this is to facilitate digital technologies to support supply chains, while also integrating, regional and national values. These will need to become more resilient, expanding suppliers to help firms resist external shocks such as a new or continued pandemic or a natural disaster. Some companies have successfully employed digital technologies to counter the disruption and uncertainty that COVID-19 has brought to supply chains (Box 3.3).

The digital divide between developed and developing countries amplifies the adverse impact on local governments and local companies alike in the latter. The need to invest

Box 3.3: Firms and SMEs exploit digitalization to counter the effects of COVID-19 on supply chains

With the arrival of COVID-19, many companies have been looking to implement digital solutions in their supply chains, for example through investing in big data and analytics. Industrial products and pharmaceutical manufacturers are looking to implement smart factory initiatives while consumer-oriented companies focus on demand-sensing technologies and preventative maintenance solutions for machinery and equipment. New and emerging technologies have also enabled companies to respond to the sudden needs created by the pandemic: for example, one company in Italy attempted to addressed a shortage of parts for life-saving ventilators in Italy using 3D printing.[53] More broadly, there is evidence that for many companies the pandemic has sped up the adoption of new technologies: in a survey by the supply chain auditor QIMA in July 2020 of more than 200 brands, almost two-thirds of respondents "reported that the pandemic has accelerated their company's resolve to digitize their supply chain in 2020".[54]

Figure 3.7: Investment in climate change and digital technologies on the rise (2020)



Source: FDI Intelligence, 2021

in more technology has come at a time of acute crisis. Innovation depends, for cities and companies alike, on access to financing. Yet the pandemic has made access to finance more challenging. In a context of heightened volatility, investors bring their money to lower-risk investments, resulting in large capital outflows from developing countries and pressure on their foreign exchange rates and reserves.

With regard to the digitalization of education, almost all cities in high-income countries are offering tutoring support and education to children. In contrast, in developing countries, often in informal settlements, children lacking internet access are unable to receive education. This digital divide will slow recovery, economic growth and worsen inequalities for years. But even in the US children are being left behind, with one study in the US suggesting that students in grades 3—8 in the fall of 2020 scored between 5 and 10 per cent lower than the average the year before, with Black, Latino and poor children the worst affected.[55] With classrooms closed for one in five children globally as of December 2020 due to the pandemic, many of the poorest and most vulnerable could be left behind.[56]

On the investment side, COVID-19 has also driven an acceleration of renewable energy and digital technologies. Investment in solar power and wind power soared during 2020 (Figure 3.7) and will likely continue in 2021 and beyond, with an emphasis on clean energy and communications technologies.

Box 3.4: Strengthening regional food production and supply

At present, countries and cities have often relied on agriculture produced in neighbouring farmlands or specialized imports to meet their nutritional requirements. These networks are potentially exposed to disruptions in the face of shocks to the wider national or global economies. Disruptions in the movement of products along supply chains were observed across the world, particularly in the transfer of food and perishable goods from processing facilities to markets in urban centres by road: by mid-April 2020, around a month after lockdowns began, the total distance driven by trucks in Europe had fallen 24 per cent below normal levels. Some countries were especially affected, such as Spain, where truck traffic initially halved in the wake of the pandemic.[57] Strengthening local markets for food and agricultural products can therefore help make food logistics more resilient.

In rural areas, self-employed and wage workers' livelihoods are particularly at risk because agri-food supply chains and markets have been disrupted due to lockdowns and restrictions on movement. In India, the closure of rail and road transport routes had dire repercussions, particularly in rural areas, as farmers were unable to sell their winter produce because many were unable to travel to markets. They also struggled to harvest crops due to a lack of seasonal workers, who rely on public transportation or have to cross borders.[58] Germany and Italy, who rely heavily on migrant workers for seasonal agricultural work, had to amend their lockdown provisions to ensure labour availability.

While localized means of production in certain sectors could shorten supply chains, suppliers and distributors should consider different modes of transport and distribution to increase the resilience of their sales models. This was particularly relevant for small-scale producers and suppliers who relied heavily on markets that had to close due to restrictions on business operations or travel bans. Many farmers were able to shorten food supply chains by selling directly to consumers. In Norway, Germany and Poland, farmers have embraced digital technologies, resorting to online platforms and e-commerce shops to connect directly with clients.[59]

Given the potential opportunities for urban carbon financing, cities may be able to use the mechanisms to secure funding for climate adaptation and mitigation investments — for example, the rollout of non-motorized transport infrastructure and the use of smart technologies to manage issues like pollution — that will also support their post-pandemic recovery. At the same time, while the positive trend is observed regarding renewable energy and digitalization, a recent study by University of Oxford Global Recovery Observatory and UNEP revealed that only a few countries have significantly increased investments more broadly on measures to tackle greenhouse gas emissions, air pollution and nature loss since the start of the pandemic. During 2020, just 2.5 per cent of the total spending of these countries benefited green initiatives, while just 18 per cent of the total spent on long-term COVID recovery measures went towards green recovery measures.

Solar panels and wind generators © Shutterstock

Through such a shift, COVID-19 may well imply significant changes for the built urban environment, as discussed in Chapter 1. If e-commerce becomes the leading place of consumption, city centres will go through physical and spatial changes. In the short term this is likely to have negative effects on local GDP and tax revenue, but in the longer term, it may free up space that can be used for residential housing, communal offices, restaurants and new types of economic activities.

Box 3.5: Multilateral financing for sustainable urban recovery

International financial institutions, regional development banks, the Group of 20 and the United Nations are currently seized with the urgency of financing global access to COVID-19 testing, treatment and vaccines. The Access to COVID-19 Tools Accelerator, including its COVAX pillar, as well as other financing facilities, will be important areas of investment that multilateral institutions will help to carry forward. In ensuring global health security, they will provide the basis for people to resume work, travel and purchase consumer goods and therefore help to build a foundation for economic recovery.

Multilateral institutions will also have a key role to play, particularly in cities, in fostering cooperation in access to information and communication technologies and the underlying electricity infrastructure and digital literacy required to utilize these effectively. Important in this regard will be the implementation of the Secretary-General's Roadmap for Digital Cooperation, launched in June 2020. The outcome of the High-Level Panel on Digital Cooperation, the Roadmap situates the United Nations as a platform and convener of diverse actors to promote global connectivity, digital public goods, inclusion, human rights, capacity, artificial intelligence, digital trust and security, and global cooperation.

Regarding sustainable infrastructure investments, Member States are promoting global financing facilities and public-private partnerships. These instruments, including those recently promoted by the ECOSOC President, will seek to support developing countries to formulate feasibility studies for prospective infrastructure projects and attract potential investors. Together with initiatives of the Bretton Woods Institutions and various United Nations entities, the global facilities will support United Nations resident coordinators in 130 countries.

3.3.4. Supporting economic density

COVID-19 has also inspired renewed discussions on the importance of density in human development and welfare. In the early stages of the pandemic, high density was considered a factor that encouraged the virus's rapid spread. Data, however, has shown that density has no demonstrable correlation with transmission (Chapter 1). But density, besides being a spatial issue, can also be defined on an economic basis based on indicators such as the number of jobs and concentration of economic activity.

The concept of economic density is central to urban economics and the theory of agglomeration. While a harmonized definition of economic density does not exist, scholars and organizations alike have studied economic concentration benefits.[60] Density in economics is linked to the positive effects of the proximity of suppliers and producers, people and goods. Density is associated with lower costs to deliver basic services, boosting innovation and entrepreneurship as well as improving energy efficiency and transport effectiveness. Empirical evidence also shows that increases in job density are associated with increasing prosperity,[61] with economic density depicted the concentration of jobs and commercial activity in a geographical location. Density is high "when there is a large amount of labour and capital per square foot":[62] for example, in highly competitive cities such as New York and London, job densities are high and peak at around 150,000 jobs per square kilometre.[63]

The localization and proximity of industries lead to productivity, another key concept in urban economics. Economics of scale enhance specialization and efficiency and produce higher productivity. An urban setting offers a combination of labour, inputs and other external and internal conditions to the industry. As productivity increases, labour expands in number and quality with the migration of talent and educational institutions, universities and colleges expanding in numbers. The combined proximity of industrial clusters reinforces the generation of knowledge spillovers and

innovation. The process produces a virtuous circle where innovation gives birth to more industries and sectors.

In developing countries, the combination of slums, informality and overcrowding is an enormous constraint. With recovery from the pandemic and productivity at the centre, urban economic principles must be adapted to developing countries by integrating the informal settlements into the formal economy and by providing their communities with adequate housing and basic services.

One of the likely causes of larger cities being more susceptible to the pandemic at the initial stages is their greater connectedness

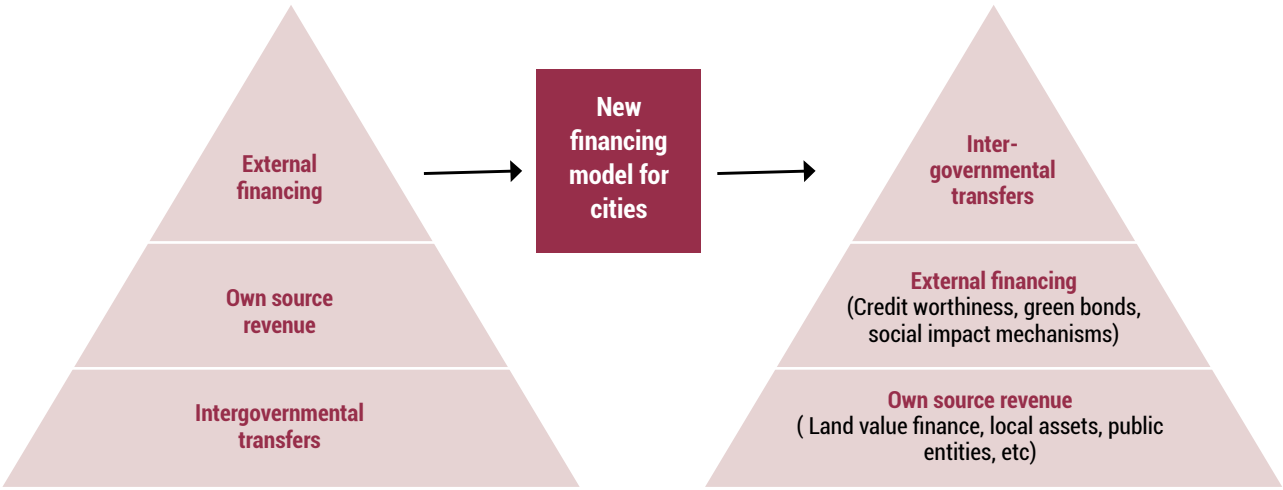
3.4. Conclusion: Moving Towards the 'New Normal'

No city has escaped the chaos and disruption of the pandemic, and in most countries the road to recovery looks uncertain. The costs of multiple lockdowns, the associated loss of employment as a result of restrictions and the heavy toll of the virus on already overburdened health systems have brought to light the underlying pressures and inequalities of the global economy. In these circumstances, there have been increasing calls for a fundamental restructuring of the current system, in response to the profound changes COVID-19 has wrought. This has inspired calls for ambitious "moonshot"[64] programmes, built on value creation and sustainability, to address both the aftershocks of the pandemic and the deeper dysfunctions of the current economic mode.

To achieve this, a more sustainable financing model that grants cities fiscal resilience is needed. These improvements rely on changing the financing model for cities from today's system, based largely on intergovernmental transfers, to a model of increased own-source revenues, better access to financial markets and less restrictive conditionalities attached to central government transfers. Furthermore, the pandemic has highlighted the need for subnational governments to have "rainy day funds" – earmarked funds for crisis times – to increase their economic resilience.

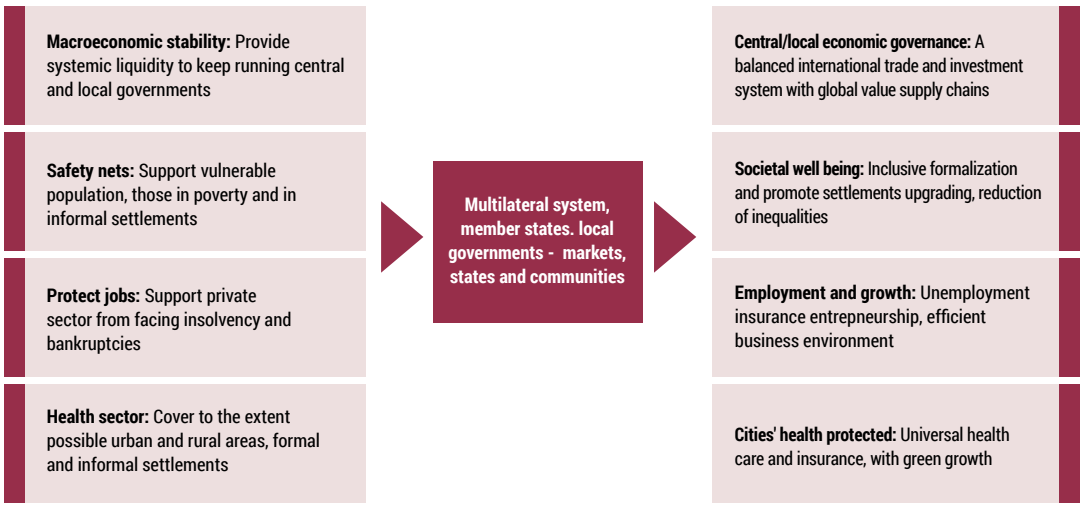
Another critical area for a successful urban structural transformation is increased private investments into cities. Urban areas, because of their productive economies, potential returns on investment and high economies of scale, are theoretically well placed to attract significant investment. Although the use of such market-based financing mechanisms is growing, they are still limited and confined mainly to prosperous municipalities in advanced economies. Legal

Figure 3.8: A new financing model for cities



Source: Authors

Figure 3.9: A new social contract: Local, national and multilateral collaboration



Source: Ibid

frameworks in many countries today do not allow subnational governments to take on debt. Lack of creditworthiness at the local level is the major demand-side constraint to optimal decentralization, while shallow financial markets constitute a major supply-side constraint. These roadblocks can, however, be removed by concerted multi-stakeholder efforts at a national level. As they are removed, well-designed and engineered financing arrangements should be made available to unlock the long-term funds needed for local infrastructure investments.

Finally, to implement a new normal and the medium - and long-term measures that the world needs, multilateral action is needed to preserve the main functioning pieces of the global economy (Figure 3.9). The pandemic is a global problem, requiring multilateral action and resources comparable to previous examples of global multilateral action, such as the creation of the United Nations systems and the Bretton Woods organizations after the Second World War. To be successful, however, this global action needs to be recognized by a wide variety of stakeholders and adequately funded. Furthermore, as outlined at the beginning of the chapter, the three core elements of markets, states and communities must be effectively integrated, with a focus not only on the picture at a national level but also the social and economic realities at the city level.

Recommendations

Financial mechanisms and credit

- **Provide adequate financial support to cities to aid their economic recovery:** While national responses to the principle, such as universal public health provisions or welfare support, should support urban productive sectors and their workers, local governments also have a host of city-specific challenges to address. Emergency funding should be extended directly to help cities maintain already overstretched service provision and infrastructure while also targeting their populations, particularly vulnerable communities, with social protection, tax breaks, stimulus programmes and other relief. Cities should consider the re-municipalization of their services to achieve this: besides potentially providing local governments with additional sources of revenue, a move to localized public provision could support the expansion of coverage into underserved or excluded areas such as informal settlements.

- **Strengthen the ability of cities to access finance and credit independently:** Despite their central economic role, cities often have limited abilities to develop independent funding sources, making them overly dependent on central government assistance that is often tied to specific conditionalities or restrictions. In addition to allowing local governments more leeway over their budgetary decision making, national and international credit markets should also be reformed to allow cities to develop public-private partnerships and apply directly for grants or loans, particularly as part of emergency responses to COVID-19 and climate change.

- **Strengthen multilateral financing and cooperation:** Through ambitious programmes such as universal health care and universal basic incomes, countries and cities have the opportunity of building more resilient budgets and fiscal frameworks to support local service delivery and economic development. These objectives cannot be achieved solely by cities or countries, but require committed multilateral action from international organizations, development banks and national governments to protect cities and their local economies: for example, the establishment of dedicated global funds to finance urban responses to COVID-19 and other challenges such as climate change.

- **Employ innovative financing mechanisms to fund progressive welfare systems:** While the benefits of a stronger protection framework for workers will be substantial, cities will need to ensure these programmes can be funded through appropriate mechanisms such as land-based financing and property taxation. Cities in the most vulnerable developing countries, where these sources may not be available or sufficient, should be targeted with alternative multilateral funding to support similar programmes.

- **Cushion at-risk urban productive sectors through targeted financial support:** City, national and international stakeholders should continue to be proactive in supporting

Passengers stand in a queue to board a train, during the ongoing COVID-19 lockdown, in Guwahati, Assam, India.© Shutterstock

urban economies through loan programs, grants, tax incentives, temporary rent deferrals and other policies that give a lifeline to urban economic sectors.

Sustainable economy

- **Incentivize sustainable production and consumption patterns through subsidies and knowledge transfers, with a focus on rural as well as urban areas:** For instance, targeted grants can support the transition to clean energy alternatives such as green roofs, solar panels or electric charging points by providing financial incentives and subsidies, while the provision of green, affordable technologies to farmers and producers could eliminate practices such as agricultural and waste burning. Within cities, local governments should also remove hidden incentives that may be perversely contributing to polluting practices, such as the provision of free on-street parking for private vehicles, and stipulate that subsidies for business, development and other activities have "green strings attached".

- **Address dysfunctional and exploitative development practices such as land speculation and unserviceable sprawl:** Enforcing clear regulatory frameworks over land use and housing markets will not only protect the rights and wellbeing of citizens, but also prevent the growth of long-term inefficiencies and distortions that undermine the urban economy. Mechanisms such as land-based financing and property taxation could also serve as vehicles to advance equitable, inclusive development.

Labour rights and protections

- **Enhance labour rights and protections for urban workers:** Welfare programmes, universal income schemes, minimum wages and health insurance have a vital role to play in ensuring the security of workers in key sectors, including informal economies, as well as the livelihoods and incomes of many others in rural or peri-urban areas sustained indirectly by urban workers through trade or remittances.

- **Develop a range of targeted measures to reduce the underlying vulnerabilities of insecure urban workers:** These should also be tailored to reach women, youth, migrants and others who are disproportionately exposed to job loss and insecurity in the wake of the pandemic. Alongside training, reskilling and other forms of support, measures should also address the broader issues that these groups face, such as the formalization of undocumented workers and the promotion of safe public spaces.

Digitalization and logistics

- **Invest in the rollout and application of digital technologies to enhance logistics and supply chains:** As the pandemic has placed added pressure on complex systems of production and consumption, often linking cities with surrounding regions and rural areas as well as global networks and international corporations, cities should focus on improving the resilience of local businesses and entrepreneurs through digital capacity building. In particular, these efforts should targets SMEs and entrepreneurs who may not have the scale or resources to invest in these areas themselves.

- **Ensure that digital expansion is equitable and inclusive:** Scalable and affordable technology gains must be made equally available for citizens in leading metropolises, smaller towns and in wealthy and informal settlements alike. With the increased importance of digital services and home working arrangements, ensuring equitable access to these technologies and the necessary upskilling for citizens to use them will be crucial to promote equitable opportunities and prevent reinforcement existing inequalities from being reinforced.

Endnotes

1. NOAA, 2021.
2. For example, see Wright, 2020.
3. For example, see Piketty, 2020.
4. Rutter, et al., 2012.
5. UNEP, 2016.
6. McDermott and Grace, 2012.
7. Rajan, 2019.
8. Cutler and Summers, 2020.
9. Cassim et al., 2020.
10. IMF, undated.
11. UNCDF, 2020a.
12. OECD, 2020a.
13. UN-Habitat and CitiIQ, 2020.
14. Economic response is a dimension designed by CitiIQ as a normalized measure based on a weighted average of GDP Per Capita and change in Unemployment. This measure gauges the extent to which a city is responding to the economic impacts and needs arising as a result of COVID-19ovid. A higher level of unemployment following a COVID-19 outbreak signals a negative level of economic response and this will also reflected in the GDP per capita.
15. European Council, 2020.
16. European Council, undated.
17. Economic ability is an indicator designed by CitiIQ. It is a normalized indicator, a weighted average of GDP per capita; poverty level; purchasing power; proportion of informal business; and credit rating or foreign investment. This is a measure of preparedness and the extent to which a city will respond quickly to a crisis.
18. IMF, 2021.
19. World Bank, 2020.
20. OECD, 2020b.
21. Asia Times, 2020.
22. UNECLAC, 2020.
23. UNWTO, 2021.
24. ICAO, 2021.
25. ILO, 2020a.
26. ILO (2020b.
27. ILO, 2020d).
28. UN-Habitat et al, 2020.
29. ITC, 2020.
30. Lakuma and Sunday, 2020.
31. OECD, 2017.
32. ITC, 2020.
33. TIFA, 2020.
34. Furceri et al., 2020.
35. Alon et al., 2020.
36. UNWTO, 2021.
37. Madgavkar et al., 2020.
38. OECD, 2020a.
39. OECD, 2020c.
40. UN-Habitat et al., 2020.
41. OECD, 2020d.
42. Maria et al., 2020.
43. OECD, 2020d.
44. OECD, 2020d.
45. Boehm, 2020.
46. UNCDF, 2020b.
47. UNCDF, 2020b.
48. OECD (2020d)
49. OECD. 2020c.
50. Inoue and Toda, 2020.
51. OECD, 2020e.
52. UNCTAD, 2020.
53. Cockburn, 2020.
54. QIMA, 2020.
55. Einhorn, 2020.
56. UNICEF, 2020.
57. OECD, 2020f.
58. Puranam, 2020.
59. Foote, 2020.
60. Henderson et al., 2018.
61. Shearer et al., 2019.
62. Ciccone and Hall, 1993.
63. UN-Habitat, 2017.
64. Mazzucato, 2021.

Bibliography

Alon, T., Doepke, M., Olmstead-Rumsey, J. and Tertilt, M. (2020) *The Impact of COVID-19 on Gender Equality,* NBER Working Paper No. 26947, NBER, Cambridge, MA

Asia Times (2020) 'Indonesia has its first recession in two decades', 5 November, https://asiatimes.com/2020/11/indonesia-has-its-first-recession-in-two-decades/

Boehm, J. (2020) 'Phoenix considers $27M in budget cuts, including some for police oversight', AZCentral, 10 April, https://eu.azcentral.com/story/news/local/phoenix/2020/04/10/phoenix-faces-26-million-budget-deficit-covid-19-impact/5131924002/

Cassim, Z., Handjiski, B., Schubert, J. and Zouaoui, Y. (2020) *The $10 Trillion Rescue: How Governments Can Deliver Impact,* McKinsey and Company.

Ciccone, A. and Hall, R. (1993) 'Productivity and the density of economic activity', *NBER* **s4313**

Cockburn, H. (2020) 'Coronavirus: 3D printers used to supply hospital with life-saving respirator valves', 18 March, https://www.independent.co.uk/news/science/coronavirus-3d-printing-respirators-supply-hospitals-italy-covid-19-a9408961.html

Cutler, D. and Summers, L. (2020) 'The COVID-19 pandemic and the $16 trillion virus', *JAMA*, **324**(15):1495-1496

Einhorn, E. (2020) 'Covid is having a devastating impact on children — and the vaccine won't fix everything', *NBC News*, 15 December, https://www.nbcnews.com/news/education/covid-having-devastating-impact-children-vaccine-won-t-fix-everything-n1251172

Elgin, C., Basbug, G., Yalaman, A. (2020) 'Economic policy responses to a pandemic: Developing the COVID-19 Economic Stimulus Index', *Covid Economics* **3**: 40-54.

European Council (2020). Special meeting of the European Council (17, 18, 19, 20 and 21 July 2020) – Conclusions. https://www.consilium.europa.eu/media/45109/210720-euco-final-conclusions-en.pdf

European Council (undated) 'Long-term EU budget 2021-2027 and recovery package', https://www.consilium.europa.eu/en/policies/the-eu-budget/long-term-eu-budget-2021-2027/

FDI Intelligence (2021) 'The 2020 investment matrix — preliminary', 7 January, https://www.fdiintelligence.com/article/79290

Foote, N. (2020) 'Innovation spurred by COVID-19 crisis highlights 'potential of small-scale farmers', Euractiv, https://www.euractiv.com/section/agriculture-food/news/innovation-spurred-by-covid-19-crisis-highlights-potential-of-small-scale-farmers/

Furceri, D., Loungani, P., Ostry, J. and Pizzuto, P. (2020) 'Will COVID-19 affect inequality? Evidence from past pandemics', *Covid Economics*, 12: 138-57

Henderson, J. V., Nigmatulina, D., & Kriticos, S. (2018) 'Measuring urban economic density', *Centre for Economic Performance* **1569**

ICAO (2021) 'Effects of novel Coronavirus (COVID-19) on civil aviation: Economic impact analysis', 3 February, https://www.icao.int/sustainability/Documents/COVID-19/ICAO%20COVID%20 2021%2002%2003%20Economic%20Impact%20TH%20Toru.pdf

ILO (2020a) 'COVID-19 and urban passenger transport services', ILO Sectoral Brief, September https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/briefingnote/wcms_757023.pdf

ILO (2020b), 'COVID-19 and the automotive industry', ILO Sectoral Brief, March, https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/briefingnote/wcms_741343.pdf

ILO (2020c) 'ILO Monitor: COVID-19 and the world of work.', Figure 5a, 23 September, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_755910.pdf

ILO (2020d) 'COVID-19 and the media and culture sector', IOL Sectoral Brief, July, https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/briefingnote/wcms_750548.pdf

IMF (2021) 'Government support Is vital as countries race to caccinate', Fiscal Monitor Update, January, https://www.imf.org/en/Publications/FM/Issues/2021/01/20/fiscal-monitor-update-january-2021

Inoue, H., Toda, Y. (2020) 'The propagation of economic impacts through supply chains: The case of a mega-city lockdown to prevent the spread of COVID-19', *PLoS ONE* **15**(9): e0239251

ITC (2020) *SME Competitiveness Outlook 2020 - COVID-19: The Great Lockdown and its Effects of Small Business* https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/ITCSMECO2020.pdf

Lakuma, C. and Sunday, N. (2020) 'Impact of COVID-19 on micro, small, and medium businesses in Uganda', Brookings, 19 May, https://www.brookings.edu/blog/africa-in-focus/2020/05/19/impact-of-covid-19-on-micro-small-and-medium-businesses-in-uganda/

Madgavkar, A., Krishnan, M., White, O., Mahajan, D. and Azcue, X. (2020) *COVID-19 and Gender equality: Countering the Regressive Effects,* McKinsey and Co

Maria, A, Hocquard, H., Belouali, C., Zaki, L. and Ligot, J.B. (2020) 'Impact and response of the Moroccan municipalities in the context of the COVID-19 crisis', *World Bank*, 8 April, http://pubdocs.worldbank.org/en/755681591304112739/200604-Morocco-Note-impact-COVID-Municipalities-ENG.pdf

Mazzucato, M. (2021) *Mission Economy: A Moonshot Guide to Changing Capitalism,* Penguin Random House, London

McDermott, J. and Grace, D. (2012) 'Agriculture-associated disease: Adapting agriculture to improve human health', in S. Fan, and R. Pandya-Lorch (eds), Reshaping Agriculture for Nutrition and Health, International Food Policy Research Institute, Washington, D.c.

NOAA (2021) *Global Climate Report – Annual 2020,* NOAA https://www.ncdc.noaa.gov/sotc/global/202013

OECD (2017) 'Enhancing the contributions of SMEs in a global and digitalised economy', *Meeting of the OECD Council at Ministerial Level, Paris* **7**.

OECD (2020a) 'Cities policy responses', 23 July, http://www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff/

OECD (2020b) 'Editorial: After the lockdown, a tightrope walk toward recovery', *OECD Economic Outlook* 2020(1)

OECD (2020c) 'COVID-19 and fiscal relations across levels of government', 31 July, http://www.oecd.org/coronavirus/policy-responses/covid-19-and-fiscal-relations-across-levels-of-government-ab438b9f/

OECD (2020d) 'The territorial impact of COVID-19: Managing the crisis across levels of government', 10 November, https://read.oecd-ilibrary.org/view/?ref=128_128287-5agkkojaaa&title=The-territorial-impact-of-covid-19-managing-the-crisis-across-levels-of-government

OECD (2020e) 'E-commerce in the time of COVID-19', 7 October, http://www.oecd.org/coronavirus/policy-responses/e-commerce-in-the-time-of-covid-19-3a2b78e8/

OECD (2020f) *Food Supply Chains and COVID-19: Impacts and Policy Lessons,* 2 June, http://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/

Piketty, T. (2017) *Capital and Ideology*, Harvard, US

Puranam, E. (2020) 'India farmers struggle amid COVID-19 lockdown ', Al Jazeera, 1 May, https://www.aljazeera.com/videos/2020/5/1/india-farmers-struggle-amid-covid-19-lockdown

QIMA (2020) 'QiMA 2020 Q3 barometer', https://www.qima.com/qima-news/2020-q3-barometer-w-shaped-recovery

Rajan, R. (2019) *The Third Pillar: How Markets and the State Leave the Community Behind,* Penguin Press, New York

Rutter, P., Mytton, O., Mak, M. and Donaldson, L. (2012) 'Socio-economic disparities in mortality due to pandemic influenza in England', *International Journal of Public Health* **57**(4): 745-750

See IMF (undated) 'Policy responses to COVID-19: Policy tracker', https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19

Shearer, C., Vey, J. and Kim, J. (2019) *Where Jobs Are Concentrating and Why It Matters to Cities and Regions,* Brookings, Washington, D.C.

TIFA (2020) *'Social-economic impact of Covid-19 global pandemic in Nairobi's low-income areas',* Round 2 Survey Report, 30 June, http://www.tifaresearch.com/social-economic-impact-of-covid-19-global-pandemic-in-nairobis-low-income-areas/

UNCDF (2020a) *'Local government Finance: Guidance Note for Immediate Action.*

UNCDF (2020b) 'Guidance note for immediate responses to the COVID19 recommended for

local governments', 15 May, https://www.uncdf.org/article/5477/guidance-note-covid19-local-governments

UNCTAD (2020) 'COVID-19 has changed online shopping forever, survey shows', 8 October, https://unctad.org/news/covid-19-has-changed-online-shopping-forever-survey-shows

UNECLAC (2020). The effects of the coronavirus disease (COVID-19) pandemic on international Trade and logistics. https://repositorio.cepal.org/bitstream/handle/11362/45878/1/S2000496_en.pdf

UNEP (2016) UNEP Frontiers Reports 2016 Emerging Issues of Environmental Concern. United Nations Environment Programme. Nairobi, Kenya.

UN-Habitat (2017) *Economics Foundation for Sustainable Urbanization: A Study on Three-Pronged Approach,* UN-Habitat, Nairobi

UN-Habitat and CitiIQ (2020) 'City index', https://unhabitat.citiiq.com/

UN-HABITAT, UNCDF, UCLG-Africa, UNECA, Shelter Afrique (2020) *COVID-19 in African cities: Impacts, Responses and Policies Recommendations,* UN-Habitat, Nairobi

UNICEF (2020) 'COVID-19: UNICEF warns of continued damage to learning and well-being as number of children affected by school closures soars again', 7 December, https://www.unicef.org/press-releases/covid-19-unicef-warns-continued-damage-learning-and-well-being-number-children

UNWTO (2021) '2020: Worst year in tourism history with 1 billion fewer arrivals', 28 January, https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals#:~:text=2020%3A%20Worst%20Year%20in%20Tourism%20History%20with%201%20Billion%20Fewer%20International%20Arrivals,-All%20Regions&text=Global%20tourism%20suffered%20its%20worst,World%20Tourism%20Organization%20(UNWTO)

World Bank (2020) 'COVID-19 to plunge global economy into worst recession since World War II', 8 June, https://www.worldbank.org/en/news/press-release/2020/06/08/covid-19-to-plunge-global-economy-into-worst-recession-since-world-war-ii

Spraying disinfectant liquid in the Purwokerto city highway, a measure to prevent the spread of covid-19 virus, Central Java, Indonesia © Shutterstock

4

Clarifying urban legislation and governance arrangements

This chapter explores how governments of all levels and territorial actors are responding to the COVID-19 pandemic through formal and informal governance systems, legal measures, policies and institutions.

Free testing of population for COVID-19, Da Nang city, Vietnam © Shutterstock

Using a territorial approach, from the local to the international, the chapter investigates how national, subnational and local governments were assigned roles and responsibilities to respond to the crisis, and how they coordinated actions. It aims to identify and explain the diversity of responses evident in different cities and countries, the varying levels of effectiveness of their approaches and the complex interaction between national and local governments enabling or constraining multilevel governance, and the impacts of the virus on public health and wellbeing.

After a short overview of the wide-ranging governance responses and challenges that were evident from the first weeks of the pandemic, this chapter explores a number of areas in more detail. Firstly, focusing on the different levels of government — national, subnational, local — it outlines how central, regional, metropolitan and municipal authorities in different contexts worked with or against each other, and the multiple ways in which they interacted. Sometimes leading, sometimes being led, cities cooperated vertically with subnational or national governments and horizontally with other municipalities or across sectors at this level. Cities, notably, also acted independently, at times explicitly acting in defiance of central policy.

While prior arrangements and relationships played an important determining role in many cases, the pandemic also reconfigured power structures: the chapter goes on to explore the competing dynamics of delegation and recentralization that saw some city stakeholders empowered with new roles and responsibilities, while others were brought into closer alignment with the state. Finally, it looks at the assortment of governance tools and mechanisms, from digital technologies and specialized task forces to fiscal reforms and community outreach programmes, that cities have employed to strengthen their response to the disruptions that COVID-19 has brought in its wake.

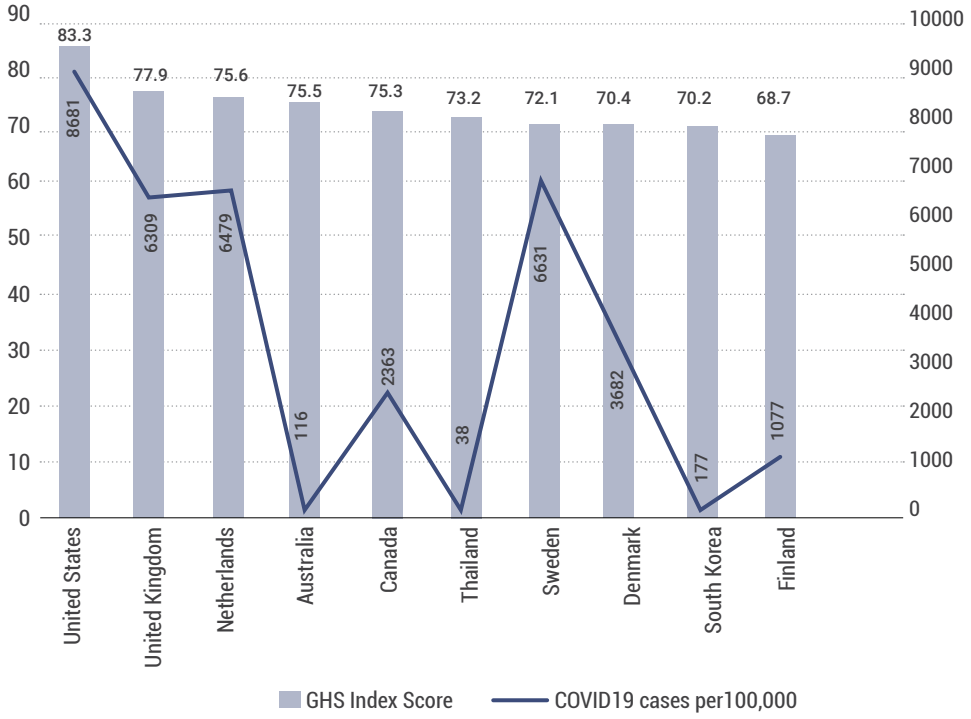
4.1. Governing A Pandemic: A Global Overview

No government was adequately prepared for COVID-19, despite frequent warnings of the imminent threat posed by the appearance of just such a novel virus: the Global Health Security (GHS) Index report, published in October 2019 on the eve of its outbreak, warned that "no country is fully prepared for epidemics or pandemics, and every country has important gaps to address."[1] Once COVID-19 had appeared, however, governments had to quickly adapt almost every aspect of their society in an attempt to contain a contagion that was still poorly understood in its transmission, physical symptoms and mortality rates. Alongside the need to rapidly upscale medical facilities and health services, widespread restrictions on movement and socialization were imposed that brought many economic sectors to a standstill. At the same time, society was forced to adapt to a new reality that transformed everything overnight, from education to employment.

Governments had to quickly adapt almost every aspect of their society in an attempt to contain a contagion that was still poorly understood in its transmission, physical symptoms and mortality rates

The role of governments at all levels — national, subnational and local — in determining the success or failure of the pandemic response in different countries was recognized early on. It may explain, at least in part, the apparent anomaly of some high-income, developed nations with well-developed health systems being among the hardest hit by the virus, while others with less resources or infrastructure reported significantly lower infection levels and mortality rates. This is reflected, too, in the 10 highest performing countries in the 2019 GHS Index's rankings (Figure 4.1).[2] What does hold true in both instances, however, is the diversity of health governance models represented: while seven of the GHS Index top 10 are universal government-funded health systems (Australia, Canada, Denmark, Finland, Sweden, Thailand and the UK), there is also a universal public insurance system (South Korea), a universal private insurance system (the Netherlands) and a non-universal insurance system (the US).

Figure 4.1: Top 10 countries by GHS Index (2019) and COVID-19 cases per 100,000 people (4 March 2021)



Source: GHS Index, 2019; New York Times, 2021

Some rich countries were too focused on preparing and strengthening their capacities for response, such as equipment and resources, but not all of them had the capabilities to apply these capacities in the specific context of crisis.

Yet the performance of these countries during the pandemic has been mixed. While some countries, such as Australia, South Korea and Thailand, have experienced markedly low levels of infection in their territories, others — in particular the Netherlands, Sweden, the UK and the US — have recorded much higher infection rates.[3] This would suggest that the association between different health systems and their outcomes, including during the current pandemic, is not decisively determined by the nature of the system alone but also a host of other complex and intersecting forces.

As this chapter will illustrate, this also applies more broadly to the governance structures as a whole: from highly centralized one-party states to decentralized democracies, there have been many different approaches to managing the pandemic and a variety of outcomes. It is not always possible to overgeneralize which works best, as each context has had its own specific complicating factors that make it difficult to extrapolate universal truths. For instance, while being a welfare state with a universal government funded health system appears to have benefitted some countries, some in this category also struggled with their response. In this context, a distinction between *capacities* and *capabilities* needs to be made: some rich countries were too focused on preparing and strengthening their capacities for response, such as equipment and resources, but not all of them had the capabilities to apply these capacities in the specific context of crisis. Consequently, these countries found difficulties in deploying their enormous capacities compared to others who already had some experience in dealing with such situations.

This chapter builds on the existing literature and analysis on governance responses during the pandemic, including a number of OECD policy briefings[4] that have highlighted the main takeaways from their survey of different cities, countries and regions:

- The COVID-19 crisis has been wide-ranging in its evolution, severity and impacts, and this variety required different and multifaceted governance responses.
- Vulnerable groups, especially concentrated in certain areas, require special attention and targeted measures.
- All levels of government have a role to play, and whilst these roles may vary in different settings and circumstances, vertical coordination and cross-jurisdictional collaboration have been essential to maximize the effectiveness of response to the COViD-19 crisis.
- Successful strategies required the introduction of ad hoc coordination measures, adaption of existing arrangements, temporary governance structures and increased flexibility for subnational authorities.
- Notwithstanding the need for new and adaptive approaches, the prior preparedness and resilience of multi-level governance systems, as well as the meaningful participation of subnational levels, have contributed significantly to overall outcomes — though the pre-existing administrative, fiscal and technical capacities at the subnational level have also been important.
- Rich, accessible and well managed data and communication across multiple levels and territories has been essential to developing, monitoring and reviewing national and subnational response measures as the pandemic has evolved.

One of the defining features of the current pandemic is its tendency to elude easy generalizations, and this is especially true in relation to its spread across the landscape of multi-level governance. Notably, "the impact of the COVID-19 crisis may differ markedly not only across countries, but also across regions and municipalities within countries, both in terms of declared cases and related deaths."[5] Bearing that in mind, this chapter offers takeaways on managing COVID-19's territorial impact, its implications for multi-level governance, subnational finance and public investment, as well as points for policy-makers to consider as they build more resilient regions.

4.1.1. The role of subnational governments

Alongside central governments and social security bodies, local and subnational governments have been at the forefront of the COVID-19 health crisis and its social and economic consequences

Alongside central governments and social security bodies, local and subnational governments have been at the forefront of the COVID-19 health crisis and its social and economic consequences. Besides being the first line of accountability for citizens due to their proximity, in many countries subnational governments are responsible for critical aspects of health care, and have also had to contend with an array of urgent social needs among the elderly, children, persons with disabilities, the homeless, migrants and other vulnerable populations. In addition, subnational governments are often responsible for the provision of welfare services and play a large role in delivering education — a sector that has, like health care, experienced widespread disruption since the beginning of the pandemic.

Subnational governments have also been ensuring the continuity of public services through the crisis, adapting these as necessary,

Road Block by Royal Malaysia Police supported with Malaysian Army and RELA during the Movement Control Order to prevent and stop the spread of COVID-19, Bedong, Malaysia - © Shutterstock

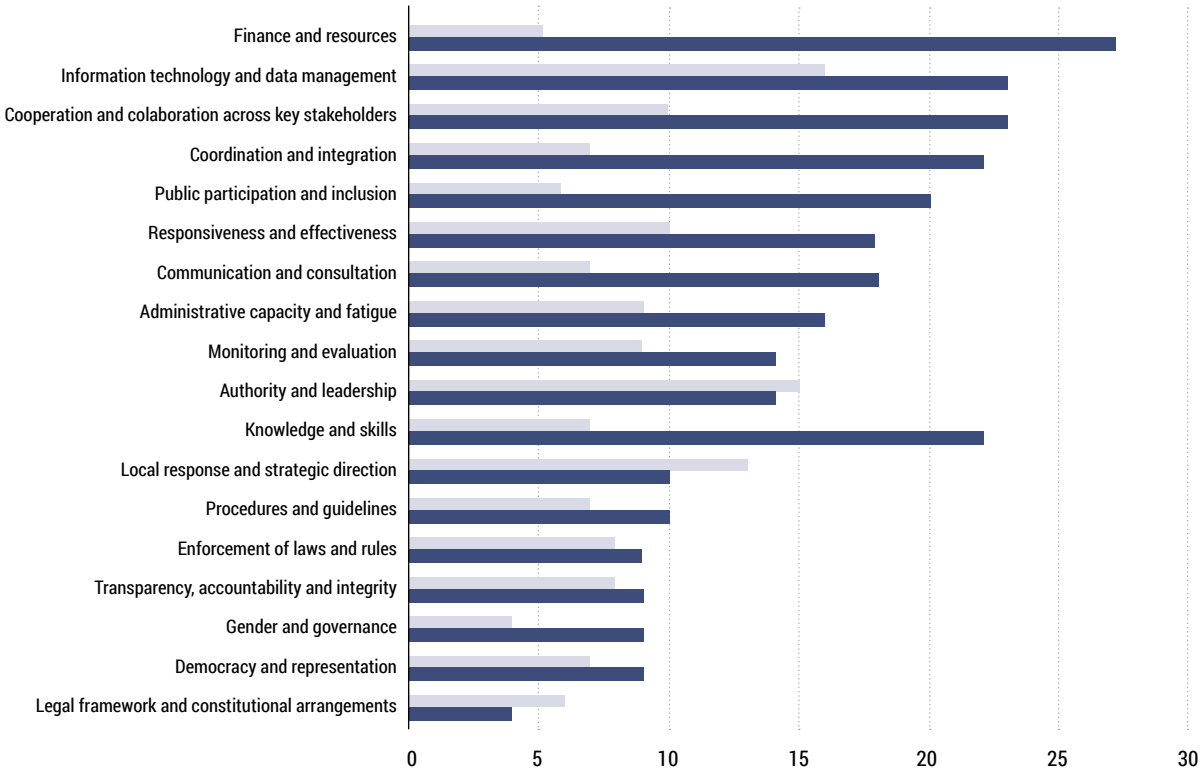
Even now, in many countries the focus continues to be on the immediate effects of the pandemic without elaborating a long-term strategy for recovery and building resilience

while protecting their own staff. From water distribution and sanitation to waste collection, public transport and security, the proper delivery of these services is fundamental in managing the pandemic effectively. In some countries, emergency services and police have been called on by ministries, regions and municipalities to assist. In addition, the crisis has required many local and subnational governments to lead initiatives in areas not necessarily in the scope of their normal responsibilities, either because it was requested by the central government or because they decided to do so to respond to emergencies that arose.

The variety and complexity of challenges this has created is illustrated by the findings of a July 2020 survey of 57 cities and regions in 35 countries across the world, with the strongest representation from Europe (40 per cent), Asia (25 per cent) and Latin America and the Caribbean (21 per cent). According to this research, "insufficient public budgets" and "uncertainty of funding" were the most commonly cited governance challenges cities and regions had to face.[6] Another part of the survey, on "Knowledge gaps and innovative practices by emergency governance domain", found that "Finance and resources", "Information technology and data management" and "Cooperation and collaboration across key stakeholders" were the most frequently reported knowledge gaps (Figure 4.2).[7]

It is perhaps not surprising that, despite the fact that the COVID-19 pandemic is likely to leave lasting changes in every aspect of territorial development and management at subnational levels, government responses have for a long period been focused on short term, reactive responses. Even now, in many countries the focus continues to be on the immediate effects of the pandemic without elaborating a long-term strategy for recovery and building resilience.

Figure 4.2: Knowledge gaps and innovative practices by emergency governance domain



Source: UCLG, Metropolis and LSE Cities (2020)

4.2. Multi-Level Governance: National, Subnational and Local Responses

Coordination and cooperation between actors are essential when responding to crises. COVID-19 underscored that multi-level governance, understood as both vertical and horizontal collaboration in the design and implementation of measures, is essential to any effective response. National, subnational (regional or metropolitan) and local governments have appreciated the magnitude, complexity and urgency of the challenge that the pandemic presents and engaged in multi-level governance to complement each other's activities and streamline their responses. Urban authorities have been crucial players in addressing the health and wider socio-economic effects of COVID-19 though diverse forms of engagement.

4.2.1. Vertical coordination: Cities in coordination with other tiers of government

Vertical coordination with the involvement of cities was undertaken for an extensive range of programmes in health, economic support, social protection and other areas. Health policies — in this context comprising action plans to address the immediate health impacts of COVID-19 — account for the majority of the measures adopted through vertical coordination between cities and other levels of government. In Cameroon, city authorities and the Ministry of Public Health collaborated in the distribution of masks and other safety measures in Douala.[8] In Peru, the Municipality of Lima made available a team of 40 health professionals from the Sisol municipal health system, including doctors and nurses, to collaborate with the Ministry of

Box 4.1: The central role of cities in the pandemic response

Prior to COVID-19, city authorities were already providing crucial services such as transportation, water, sewerage, solid waste collection and disposal, as well as health and housing. In the initial stages of the pandemic, it was generally the national government that took the lead in declaring states of emergency, closing international borders and imposing countrywide lockdowns — some jointly developed or coordinated with other levels of government, others imposed unilaterally. However, as the virus spread through cities, their contribution was brought to the fore. Many played a significant role designing and implementing a range of measures in response, from regulating lockdown restrictions and providing basic services such as food and water to the delivery of economic support and other forms of relief. The actions taken by cities in relation to the pandemic can be broadly grouped into three categories:

- *Implementation of measures aimed at containing the spread of the virus:* these include physical distancing, mandatory mask wearing, school closures, restrictions on movement, curfews and other measures associated with "lockdown".
- *Support-oriented initiatives to cushion urban populations* from the socio-economic effects of the pandemic: these range from the provision of food, water and immediate needs to economic assistance such as tax breaks and housing subsidies, as well as social support including counselling and initiatives to address gender-based violence.
- *Forward-looking strategic actions and investments* to stimulate the economy and increase the resilience of cities to future similar crises: these may include investments in inclusive transport, schools, clean energy, safer public spaces and other measures that not only may support the immediate response to the pandemic but also deliver sizeable benefits to cities in the long term.

Cities have collaborated with other levels of government in the formulation of economic policies, although at this stage, coordination in the formulation of such policies is not as common as health policies

Health in caring for and monitoring patients treated for coronavirus in their homes. It planned for 16 Sisol facilities, located around the city of Lima, to be used for the collection of samples from suspected cases of COVID-19.[9] In Kenya, city authorities and officials in the most affected areas have worked with the national government to undertake a variety of responses to the crisis: constructing emergency health facilities and distributing food in Mombasa,[10] for example, enforcing the nationwide curfew in Kisumu[11] and promoting social distancing in Kiambu.[12] In South Africa, COVID-19 lockdown regulations were jointly enforced by metropolitan police departments, national police services and national defence forces.[13] In Albania, municipalities and other local public structures engaged with central ministries during the early stages of the crisis to receive guidelines and cooperate over key areas such as maintaining order and safety.[14]

Cities have also collaborated with other levels of government in the formulation of economic policies, although at this stage, coordination in the formulation of such policies is not as common as health policies. Nonetheless, in Iceland the national government and local municipalities are initiating a special investment programme within the framework of the economic response package to the COVID-19 crisis. The investment programme will focus on transport and public works, with some additional financial support for the tourism sector.[15]

Vertical coordination between cities and other government levels has also been observed in addressing wider social challenges caused by the pandemic through various social protection and support policies. In the US, New Orleans partnered with the Federal Emergency Management Agency to provide food to vulnerable families.[16] In the Dominican Republic, the national government defined a municipal-level subsidy in the form of an economic labour benefit for informal workers which would permit them to stay at home. This benefit, created by the Ministry of Finance, grants a transfer of RD$5,000 (equivalent to US$93) for all beneficiary households and an additional RD$2,000 (US$37) for households where the head is older than 60 years.[17] The range of collaborative social support actions between various levels of government also extended to burial arrangements: in Ecuador, the mayor of Quito coordinated with national-level bodies such as the Criminalistics and Forensic Medicine Unit of the National Police and the Civil Registry to promptly deal with the huge number of casualties.[18]

Looking at the scale of collaboration, it is evident that cities engaged with higher levels of government both on an individual and a collective basis. The former refers to where a city coordinated its actions directly and independently with another level of government, while the latter is where coordination is undertaken collectively between several cities (for example, through an alliance of local authorities or pre-existing metropolitan arrangements) and another government level. This was the case with Mexico City, which entered into close cooperation with the state government to coordinate the capacity of hospitals in the region.[19] In contrast, vertical coordination has also taken place collectively through city alliances: in Spain, the Federation of Municipalities and Provinces is playing an important role in the management of the pandemic and has been regularly meeting with the national government to draft agreements for the post-pandemic recovery.

4.2.2. Horizontal coordination: Metropolitan, regional and territorial governance

In addition to vertical coordination, cities have also engaged in horizontal coordination with other cities, neighbouring municipalities, and small towns. As COVID-19 and other crises do not recognize local administrative and territorial boundaries, specific multi-level governance approaches are necessary for a proper implementation of mitigation measures. Consequently, metropolitan and regional governance partnerships have been

Box 4.2: Central funds, local delivery — financing resilience at the community level

Some national governments have responded to the impacts of COVID-19 by channelling financial assistance through municipal governments and communities, providing much needed funds while ensuring these are allocated to local needs and priorities. For example, in Canada, the government has amended the Investing in Canada Infrastructure Programme to allow provinces and municipalities to access federal funding to undertake a range of local projects, such as upgrading schools and hospitals to investing in green spaces and cycling lanes, to "support longer-term goals of sustainable, economically healthy, low-carbon, and inclusive communities".[20]

Other governments have pursued different models that have nevertheless combined central resources with local capacities to deliver effective support to help at-risk communities weather the economic challenges of the pandemic. In Kenya, an ambitious programme called Kazi Mtaani ('Jobs in the Neighbourhood') was piloted in April 2020 in eight informal settlements in Nairobi, Mombasa and other cities. The project supported poor communities by recruiting residents as paid workers into a public works programme focused on upgrading their communities, and was subsequently expanded to support hundreds of thousands of people across the country.[21]

especially valuable during the pandemic. At the metropolitan scale, for instance, cooperation between neighbouring municipalities enabled the implementation of special regulations for public transport systems and other mobility measures within urban agglomerations. At the regional level, cooperation between cities and their surrounding regions facilitated the management of food supply and other goods flows across the urban-rural continuum as well as continuity of basic service provision such as water, sanitation and waste management. Evidence suggests that metropolitan areas with institutionalized governance frameworks are more likely to coordinate their actions. In the Metropolitan Area of Guadalajara (Mexico) and Grenoble-Alpes Métropole (France), the adaptation of previous metropolitan policies linked to the rural territories such as land use plans or programmes for the agricultural sector have helped both metropolises to implement a better response to the pandemic.[22] In the US, coordination between the governors of New York, New Jersey, Connecticut and Pennsylvania in the formulation of health policies led to the creation of a common set of guidelines on social distancing and limits on recreation that were also subsequently adopted by other states.[23] In Serbia local governments established emergency task forces to enforce containment and other restrictive measures, as well as support the effectiveness of response by local community institutions.[24]

Additionally, economic policies have also been adopted through horizontal coordination between cities. In the Brussels metropolitan region, municipalities within the metropolis agreed on a four-phase plan for recovery which involved funds for aid to people and businesses affected by the pandemic.[25] The Metropolitan Area of Barcelona's ApropAMB plan allocates €16.6 million to reactivate local economies and strengthen social cohesion by financing a range of recovery projects.[26] In the US, similar measures were also taken in Los Angeles County where an Economic Resiliency Task Force was established, with 13 sector-specific work groups focusing on areas such as business, healthcare, labour and hospitality.[27] Remarkably, cities also undertook horizontal coordination for pragmatic policy reasons aimed at mutual benefit sharing in relation to the pandemic: this was the case in Denmark, where municipalities joined forces to jointly purchase protective equipment for their personnel.[28]

Finally, in some metropolises the need for coordination to address the pandemic has accelerated pending legal reforms. The Council of Mayors and the Planning Office of the Metropolitan Area of San Salvador,

In the US, coordination between the governors of New York, New Jersey, Connecticut and Pennsylvania in the formulation of health policies led to the creation of a common set of guidelines on social distancing and limits on recreation that were also subsequently adopted by other states

with the technical cooperation of UN-Habitat, presented a revised version of their Land-use and Development Law to the National Assembly with the aim of strengthening the metropolitan governance, planning and financing instruments in the existing metropolitan management system.[29] For their part, the Capital District of Bogotá and the Regional Government of Cundinamarca, driven by the need for shared cooperation to address the health crisis, are working on drafting a new legal framework to formally adopt a comprehensive management system for the metropolitan region.[30]

As more time passes and experience of the crisis grows, the more conflicts seem to be resolved through better multi-level governance

4.2.3. In isolation: Cities without support or in conflict with other tiers of government.

In some cases, policy and legal measures were designed and implemented independently by cities and, more in general, local governments without coordinating with other tiers of government or even going against the decisions taken at the central level. This seems to have happened in particular during the first wave of the pandemic: however, as more time passes and experience of the crisis grows, the more conflicts seem to be resolved through better multi-level governance. For the purposes of this analysis, five sub-categories have been identified, reflecting the most common responses developed by cities independently.

In general, it seems that the implementation of epidemic management policies at a local level without some form of coordination is not particularly common. Cities tend to collaborate with other tiers of government when formulating these strategies, or simply put in place policies designed at the central level, sometimes following a territorial approach. The same applies for financial support and social protection measures in the form of cash transfers and in-kind programmes: these appear to usually be developed through vertical coordination or designed at the national level and then implemented by cities.

Cities take the initiative in the emergency response: When the pandemic broke out, some cities took a leading role in the immediate response, enacting emergency policy and legislative measures to contain the spread of the virus,[31] including restrictions on movements, closure of public facilities and curbs on the use of public spaces. Seoul, for example, played a central role through the adoption of measures that were subsequently adopted nationally, including the installation of crisis centres, the adoption of social distancing measures and mandatory mask wearing on public transport. İzmir, meanwhile, was the first municipality in Turkey to announce its response with a COVID-19 Resilience Action Plan that built on the city's existing disaster prevention mechanisms while introducing new measures specifically designed for the management of COVID-19 and its aftermath.[32] In particular, the city adopted a "Crisis Municipalism" directive, introducing new processes for the coordination of municipal tasks and encouraging municipalities to establish their own COVID-19 task forces. In Nepal, local governments were at the forefront of efforts to contain the virus, preventing public gatherings, setting up information centres, establishing hand washing facilities and assigning isolation beds at hospitals.[33]

It is worth highlighting that some of the policy and legal measures adopted in response to the emergency were poorly justified and not always evidence-based. Poorly informed

State Disaster Response Force personnel spray disinfectant in a residential area, during nationwide lockdown, as a preventive measure against COVID-19, Guwahati, Assam, India. © Shutterstock

policies are not only less effective, but can also undermine public observance: a key element in ensuring popular compliance with public health restrictions is that the measures in place are seen to be effective and evidence-based.[34] A good example of data-driven decisions is provided by the city of New Orleans: the Mayor's Office set up a data "war room" to collate information for health and public safety officials to guide their response, including dashboards to monitor infections and assess when restrictions could be responsibly relaxed.[35]

Cities adopt measures to support businesses and economic recovery: As the pandemic spread rapidly around the world, the economic impacts were immediate and acute. Once the first lockdowns were lifted, local governments began to develop recovery plans and adopt measures to stimulate the local economy, particularly in hard-hit sectors such as tourism and entertainment. Paris, for instance, announced a raft of investments in May 2020 that included €6 million for cultural enterprises, artisans and recently established businesses and another €5 million in support to the tourism sector.[36]

Many local authorities in Spain channelled support to local businesses: Madrid lowered taxes to promote the recovery of its commerce, leisure, hospitality and culture sectors,[37] Bilbao approved a plan to promote social cohesion, culture and economic recovery with €15 million in funding[38] and Barcelona set up a designated Centre for Economic Response Coordination to monitor and forecast the economic impact of the crisis.[39] Another approach, focused on promoting spending among the local population, was pursued in Frankfurt through a concerted campaign: posters, print and online advertisements are being used to encourage citizens to support local businesses and restaurants.[40] In Buenos Aires, the public bank, Banco Ciudad, launched a new loan program with the aim of providing low-interest loans to small and medium-sized enterprises for the payment of their payrolls.[41] Meanwhile in Lima,

A key element in ensuring popular compliance with public health restrictions is that the measures in place are seen to be effective and evidence-based

where some three quarters of the population normally use public transport, the city authorities responded to the reduction in bus services in the wake of the pandemic by installing emergency bike lanes and supporting the rollout of a low-cost bicycle that, besides providing residents with an affordable model, would also aid the city's economic recovery by being manufactured locally.[42]

Cities plan long-term recovery: As the "first wave" of the pandemic appeared to subside, some cities (predominantly developed country cities with the resources and capacity to do so) began to look beyond short term measures to consider how to "build back better". In Bristol, the One City Economic Recovery Plan — built with inputs from thousands of businesses, community organizations and academics, with plans to channel £10 million over a two-year period to address some of the most pressing issues for local businesses and residents[43] — also recognised the need to look ahead, with commitments to "reduce poverty and inequality", "increase the city's resilience and environmental sustainability" and "enhance the economic and social wellbeing of every community".[44] The Municipality of Milan, the richest city in Italy, developed the comprehensive Milan 2020: Adaptation Strategy, with a range of planned actions to promote and support digitalization, local production, construction and social innovation.[45]

The small Brazilian city of Paraty has been highlighted as one of the first developing country cities to integrate long-term recovery policies

Other cities, generally relatively wealthy and well resourced, also announced forward-looking strategies in the middle months of 2020: Washington DC's ReOpen DC Plan with its aim to "to thoughtfully build toward a more equitable, resilient and vibrant city",[46] Barcelona's Barcelona Never Stops programme with its four-phase plan to move from the immediate "action plan" to "resilience", recovery" and ultimately "reinvention"[47], Melbourne's COVID-19 Reactivation and Recovery Plan "to support Melbourne's recovery and shape the future Melbourne we aspire for".[48] However, the small Brazilian city of Paraty has been highlighted as one of the first developing country cities to integrate long-term recovery policies. Besides rolling out various forms of support to mitigate the immediate impacts of the pandemic, including activities to protect informal sector workers, it also incorporated a series of planned improvements to its historic centre and sanitation system to strengthen its future position as a hub for tourism and gastronomy.[49]

As the impacts of COVID-19 accelerate the discussion on other crises, such as climate change and urban poverty, it is increasingly clear that urgent changes need to be implemented in the medium- and long-term development visions of governments and local authorities. The need for collective action, cooperation and solidarity to rebuild the social and economic fabric of cities to be more resilient and sustainable should be a key part of the public agenda — at every level of government, and in every part of the world.

Cities adopt social support measures to protect vulnerable populations: The COVID-19 crisis is hitting vulnerable populations the hardest, exacerbating inequalities and human rights violations while creating significant gaps in social protection, community engagement and access to basic services. Recognizing the disproportionate side effects that the pandemic and the numerous restrictions adopted to contain it are having on fragile populations, many governments are implementing specific strategies to engage and protect vulnerable groups and individuals.

Various measures directed at supporting informal settlers, migrants and refugees have been introduced by cities around the world, mainly in the form of food assistance and campaigns to disseminate important information related to the pandemic. Local authorities in Freetown, for example, have focused extensively on food security for its poorest residents, with food packages provided to thousands of low-income households during the national lockdown in the first phase of the pandemic and subsequent efforts to promote vegetable growing in informal settlements

Box 4.3: Communicating to the most marginalized populations

One central requirement of effective governance in any city is the ability to effectively communicate to every section of the urban population — a responsibility that takes on added weight in the context of a pandemic, when potentially at-risk communities may need clear public health information, social support and safe access to essential services. Yet there may be considerable barriers in place to achieving this: language, segregation, mistrust of authorities and the isolating effects of discrimination.

In response, various cities tailored local approaches to reach vulnerable communities. Montréal, for example, launched an awareness raising campaign to disseminate essential information on public health, housing, food aid and other forms of assistance to minorities and immigrant communities.[53] Similarly, Buenos Aires launched a public campaign aimed at disseminating legal information relating to COVID-19 for vulnerable groups such as slum dwellers, persons with disabilities, children and women.[54] The Greek city of Ioannina has also made significant efforts to improve knowledge about COVID-19 among migrants, refugees and asylum seekers, engaging NGOs, police and local radio to deliver a targeted information drive in their native languages.[55] In Italy, the city of Reggio Emilia partnered with the Centro Interculturale Mondinsieme to translate key COVID-19-related information into a variety of languages widely used by its immigrant populations, including Arabic, Chinese, Hindi, Punjabi and Urdu.[56]

through training sessions on planting, watering and composting.[50] Meanwhile, in the Indian city of Pune, local authorities announced plans to decongest its crowded central slums:[51] these had emerged as hotspots for the spread of COVID-19 in the early stages of the pandemic.[52]

Women have also faced increased levels of gender-based domestic violence: the confinement and other restrictions of lockdowns and stay-at-home directives have resulted in a surge in domestic and gender-based violence. Many cities and national governments have taken actions to address this through helplines, public awareness campaigns and cash programs specifically dedicated to women. Madrid City Council has opened 15 places in shared housing for victims of gender violence, expanding the city council's capacity as a temporary measure in response to the increase in gender-based violence during the first phase of the pandemic.[57] Malmö responded by setting up counselling centres and raising awareness online at potentially vulnerable groups through platforms such as Facebook and Snapchat.[58] However, the services and protections put in place have not been even, with clear gaps in many countries and cities. A survey of initial government responses to COVID-19 in Bangladesh, Kenya, Pakistan, Sierra Leone and Uganda reported that there was "little evidence of national programmes to prevent and protect individuals at risk of physical, sexual or psychological violence" and highlighted the need, in contexts where the prevalence of violence against women and girls had rapidly increased, to engage independent women's groups in developing solutions.[59]

The COVID-19 crisis is hitting vulnerable populations the hardest, exacerbating inequalities and human rights violations while creating significant gaps in social protection, community engagement and access to basic services

Broader social protection programmes for poor and marginalized groups have also been rolled out. Various forms of assistance have been deployed to provide economic support in the form of cash transfers, food security programmes, psychological counselling and temporary accommodation for homeless people. Some cities have mobilized community groups and solidarity networks to help drive these efforts: Lisbon arranged for the collection and distribution of donations to its most vulnerable residents through volunteers[60] while Birmingham City Council's Emergency Community Response Hub worked in coordination with charities and communities to deliver food aid.[61] The Mexico City capital government and 13 of its 16 municipalities collaborated to implement a new initiative to support families and microenterprises during the COVID-19 pandemic: families enrolled in an existing government dairy supply program received special coupons to

redeem for staples at small businesses such as supermarkets, bakeries and local markets.[62] Cities also took advantage of online platforms to support these programmes. Lima, for example, established an online psychological counselling service, *Lima te Escucha*, with the aim of helping residents cope with the impact of compulsory social isolation on mental health.[63] Similarly, Toulouse launched an online system connecting residents in need of assistance with volunteers able to help them.[64] However, access to these kinds of provisions has sometimes been a challenge and social protection schemes are not always achieving the desired effects everywhere, in part because the very vulnerabilities the programmes are intended to address prevent individuals from being able to readily access support. For example, in some countries women have difficulties in accessing digital technologies and telephones compared to men, meaning support lines for victims of gender-based violence may be difficult or impossible to access.

Cities adopt measures in conflict with other tiers of government: The management of the health emergency has highlighted critical aspects of the relationship between the central and local governments in many legal systems. This was especially evident in federal states, where strongly decentralized structures confer substantial powers to subnational levels of government. In the US, the increasing politicization of the pandemic response between the Republican-led administration's call to "open up" the country and the Democratic opposition's emphasis on mask wearing, social distancing and other measures to protect public health resulted in frequent clashes between different tiers of government, often but not exclusively

Government workers give out relief goods in front of homes to avoid human contact during the COVID-19 outbreak, Antipolo City, Philippines © Shutterstock

drawn along political lines. In Georgia, for instance, the Republican governor took legal action against the city of Atlanta after it enacted mandatory mask wearing in public spaces, a move he regarded as "unconstitutional". Similarly, some local sheriffs in states where governors had put prohibitions in place on mass gatherings reportedly refused to take action against infractions.[65]

The failure of some national governments to adopt decisions that reflected local realities led some provinces and municipalities to explicitly act against central government policy. In Mexico, for instance, despite the national government's insistence that the country was not in a state of emergency, authorities in Jalisco state developed a local lockdown strategy and other measures, including an "emergency button" that was activated when the number of local cases of COVID-19 became too high.[66] These conflicts have been even more acute in the Federative Republic of Brazil, where state governors and local authorities have acted not only without the national government's support but also clashed over roles and responsibilities that had to be resolved by the country's Supreme Court. Many governors and mayors have expressed opposition to the President's policies towards COVID-19 and what they perceived as his low prioritization of public health concerns. Strikingly, however, the large majority of state governors — 24 out of a total of 27 — decided independently to implement strict lockdowns in their jurisdictions. Consequently, in line with WHO protocols, a range of social distancing measures were enforced by local authorities, including in the major cities of São Paolo, Rio de Janeiro and Fortaleza.[67]

In other contexts, cities and municipalities have defied more cautious central government guidance in favour of easing lockdowns. In the Federal Republic of Germany, several Länder decided to relax restrictions in May 2020, encouraged by the low death rate, against the decision of Chancellor Angela Merkel for a slower, coordinated relaxation of restrictions.[68] In Ukraine, too — unlike Germany, a unitary state — a number of cities resisted the national government's imposition of restrictions, arguing that they were not appropriate for their specific situations. Both Ternopil and Lutsk, for instance, after being classified as "red" zones with strict travel restrictions in place, challenged the closure of rail transport that this designation required.[69]

Divergence between national and local governments has also emerged in other countries that, while not federal, are still characterized by accentuated forms of decentralization and a strong degree of competition among the different levels of government. In the UK, for instance, the cities of Manchester, London, Birmingham and Liverpool spoke in a united voice to the national government, successfully advocating for measures such as mandatory mask wearing on public transport.[70] In Spain, by contrast, Madrid's highest regional court opposed the lockdown mandated by the central government, arguing that the national government did not have the authority to impose such restrictions in the region.[71] The regional government of Madrid introduced, instead, a limited lockdown on the most affected areas. Having called unsuccessfully on the local government to impose stronger restrictions in and around Madrid, where infection rates were more than double the average for the country as whole,[72] in October 2020 the Spanish government enforced the state of emergency and a partial lockdown in the capital and eight surrounding towns, effectively superseding the order made by the regional government.[73] Similarly, in Italy the pandemic has reinvigorated longstanding tensions between the central state and the regions. During the first wave of the pandemic, both Calabria and Veneto questioned the legitimacy of the government's national lockdown in their regional jurisdictions and in May 2020 lifted some restrictions in their regions ahead of the central government's timeline.[74] These debates have laid bare deep-rooted geographic divides and underlying disagreements around the role of regional autonomy in Italian politics.[75]

As national governments themselves end up in a fiscally restrained position due to the crisis, transfers to subnational governments are in some cases decreased and payments delayed

Outdoor temperature check-point at a Thai street market to detect fever, Bangkok, Thailand © Shutterstock

The cases of Spain and Italy demonstrate that the tensions and even conflicts that have arisen during the pandemic have deeper roots that can be traced back to the uncertainty of the legal framework related to the decentralization process in these two countries. The crisis is only reflecting existing fractures which highlight, now more than ever, an urgent need for resolution: the need to clarify and strengthen the legal frameworks regulating the decentralization process and the allocation of institutional responsibilities. Although a single workable solution for all cities cannot exist, good governance responses should be based on dialogue, cohesion and coordination between different levels of governments, pursuing a multi-level governance system that does not fail in taking into account the various local situations. To this end, local governments should have the powers to address the health emergency according to their needs without taking illegal courses of action. At the same time, however, when local governments are not able to protect their own citizens or when they are not adequately equipped to cope with a crisis such as the COVID-19 pandemic, the central government should be allowed to assume the lead and exercise extraordinary powers to ensure a rapid and fluid response to the emergency. In the current context, as these dilemmas have been brought into sharper focus, the importance of the judiciary to resolve these disputes has increased (Box 4.4).

Box 4.4: The role of the judiciary in mediating conflicts between national and local governments

In the context of COVID-19 and the many difficult decisions it has raised, the judiciary has been playing a crucial role in balancing the three branches of government during the pandemic. The separation of powers directly affects the scope of their rights, the powers that each of them has, as well as efficiency in decision-making. The role of the judicial branch of government, among other things, is also aimed at resolving disputes between the other two branches, as well as between the executive bodies of the state on the local level. A brief survey of selected countries across the world demonstrates the significant and wide-ranging impacts that judiciaries have had in determining the powers and responsibilities of national, regional and local governments in their response.

In Brazil, at the beginning of the pandemic the Federal Supreme Court allowed states and municipalities to decide on the implementation of measures like social distancing, quarantine and suspension of public activities, unequivocally granting more power to governors and mayors on health-related public policies. At the same time, they also imposed obligations on local authorities: for instance, in April 2020 the Maranhão court ordered Maranhão State Government to impose lockdown restrictions.[76] Subsequently, following debate around the scope for regional and local governments to plan and roll out their own vaccination programmes in the absence of a clear national strategy, in December 2020 the Supreme Court ruled that states and municipalities also had the authority to implement these themselves.[77]

Another federal state, the US, saw a number of judicial challenges in relation to COVID-19: the Wisconsin Supreme Court was the first to issue a judgment that annulled the imposition of a statewide "Safer at Home" order,[78] followed in Michigan by the Supreme Court's ruling that the governor lacks the authority to extend or declare states of emergency in relation to the COVID-19 pandemic[79] and in New York by the Supreme Court's blocking of restrictions on houses of worship imposed by the governor.[80] But the courts do not always oppose local authorities: for example, in Pennsylvania the governor's restrictions were overruled as constitutional by the federal appellate court after being declared unconstitutional by the lower court decision. In Kansas, meanwhile, the Supreme Court ruled that a Republican-dominated legislative panel exceeded its authority when it tried to overturn the Democratic governor's executive order banning religious and funeral services of more than 10 people during the coronavirus pandemic.[81]

In Europe, the courts also emerged later in the year as a key arena for disputes between central governments and regional or local authorities over their respective mandates. In October 2020 the court in Madrid court struck down the government's lockdown of the Spanish capital and nine satellite cities as an interference in the "fundamental rights" of residents.[82] In Germany, a number of cases highlighted the key role that judicial decisions could play in local responses: in July a state-sanctioned lockdown in Gütersloh was lifted early after a German court ruled that the measures were disproportionate,[83] for example, a decision echoed by a court ruling in Baden-Württemberg that overturned the state government's ban on hotel stays.[84] In May, Romania's Constitutional Court also ruled that the government's emergency ordinance was unconstitutional and that the increased fines used to penalize non-compliance should be annulled.[85]

With respect to Africa, the High Court of Malawi[86] temporarily suspended the implementation of the lockdown issued by the Minister of Health in April 2020, pending judicial review. Subsequently, the Constitutional Court declared the lockdown unconstitutional and criticized the government's proposals for the adverse effects they would have on the country's population.[87] South Africa has seen the highest number of judiciary cases in relation to the lockdown since March 2020, when the President announced a national state of disaster. In one case, the applicants accused the government of not doing enough to protect the lives of citizens by easing lockdown restrictions, with the court finding that that there should be a balance between the government's response in protecting the lives of citizens as well avoiding economic catastrophe: according to the court, a strict lockdown could not be retained indefinitely and some measure of relaxation to allow the reopening of the economy would also safeguard other fundamental rights.[88] In another case, the court found that a number of regulations put in place to limit transmission of the virus, such as a ban on alcohol sales, were irrational and thus unconstitutional.[89] On another occasion, the court issued an order for the Minister of Basic Education and the Members of the Executive of eight provinces in South Africa to resume the government's programme of daily meals for school age children during the pandemic, even those who were not able to attend school in person.[90]

In Asia, the Indian example stands out: since the onset of the COVID-19 pandemic, multiple High Courts in several states have, along with the Supreme Court of India, delivered numerous judgments:[91] some were directed to support vulnerable groups (like those instructing state authorities to distribute essential commodities for transgender communities), while others were adopted from high courts in various states to review the functioning of health care infrastructure across the country (such as those that ordered the expansion of COVID-19 testing capacities). It is important to highlight some overlaps in the multiple judgments delivered across several High Courts and the Supreme Court of India, as well as some interference of the judiciary in the decisions taken by state governments. For example, Delhi had seen serious interventions by the High Court of Delhi and the Supreme Court of India that attest to the presence of a multi-tier governance system and an often overlapping division of responsibilities between state and federal government. For example, the state government's decision on 12 September 2020 to reserve 80 per cent of intensive care unit beds at 33 private hospitals across the city was immediately challenged by the Association of Healthcare Providers and was stayed by the High Court of Delhi until 12 November, with the case subsequently adjourned on 8 January 2021.[92] In February the Association of Healthcare Providers withdrew their petition after the Delhi government reduced the quota of allocated beds to 25 per cent of the total.[93]

4.3. Restructuring Powers and Responsibilities Between National and Local Governments

4.3.1. Delegation

As the immediate impacts of emergencies are often felt locally, it is important that local governments have the mandate and flexibility to act quickly, effectively and responsibly. Decentralization of responsibilities during crises "can support greater flexibility and experimentation in the face of uncertainty, making room for bottom-up, innovative approaches" that can be applied elsewhere, if successful and appropriately adapted.[94] The territorial nature of COVID-19 and its potential for differentiated impacts have made it necessary for higher levels of government to transfer powers and responsibilities to lower levels, albeit temporarily as the duration of these measures is still unknown. This delegation was aimed at adapting responses to the needs of specific localities and enabling rapid response through the structures and means already in place at the local levels.[95]

As the immediate impacts of emergencies are often felt locally, it is important that local governments have the mandate and flexibility to act quickly, effectively and responsibly

The delegation of institutional powers and responsibilities among various levels of government may be analysed depending on whether the country is a federation or a unitary state. In federal states, the transfer of powers and responsibilities has been manifested in two ways: national to subnational (regional/metropolitan) and inter-city transfer (from the city to another city body, such as the city council and mayor). One example of where powers and responsibilities were delegated from the national to the subnational levels is offered by Germany. The national government vested regions with the power to ease lockdowns in their jurisdictions, subject to an "emergency brake mechanism" that obliged them to consider reinstating thresholds if the number of infections passed a threshold of 50 new cases per 100,000 residents for a week in a row.[96] In Russia, a Presidential Decree expanded the powers of governors to fight against COVID-19, including through restrictions on movement and closure of non-essential businesses.[97]

Federal states have also witnessed a transfer of powers from the city to other city organs. In Canada, the city council of Toronto gave the mayor expanded powers to declare public health emergencies and reallocate city resources,[98] and in a similar move the city of Vancouver voted to grant city staff the authority to impose orders under its State of Emergency bylaw.[99] In New Mexico in the US, the city council of Albuquerque also expanded the powers of the mayor to declare public health emergencies and reallocate city resources.[100]

Interestingly, transfer of powers from the subnational to the city level appears to be uncommon in federal states. In general, either subnational levels themselves exercised powers in cities without delegation (for example, in the Australian State of Victoria, where police were given "extraordinary powers" to enforce restrictions in the city of Melbourne[101]) or local authorities already had the power to enact and enforce measures that preceded the pandemic, meaning they did not necessarily require any transfer of powers to respond: for instance, the city of São Paulo declared "a state of calamity" which permitted it to bypass fiscal spending restrictions and allowed for a faster procurement process.[102] Another notable, though perhaps unsurprising finding is the absence of direct transfer of powers from the national to the city level in federal states. As subnational governments in federations are by their nature meant to "connect" local communities to the national government, their position between the two may have militated against direct transfer of powers and responsibilities from the national to the city level.

Unitary states, like their federal counterparts, also engaged in the delegation of powers from the national to the subnational levels. In Indonesia, the Minister of Health issued a regulation empowering leaders of subnational regions to implement compulsory school closures and restrictions of work, transport and a host of other activities.[103] A similar measure was enacted in Chile, where a ministerial order allowed a number of regional authorities to

install customs health services at all entry points into the country, as well as ports and airports that are in their regions.[104] In Italy, a decree in the first weeks of the pandemic granted regions the power to introduce further restrictions beyond that imposed at the national level.[105] Where unitary states differed from federal models of delegation is that, in the former, there were some direct transfers of power and responsibilities from the national to the city levels. In the UK, for instance, legislation was passed in July 2020 granting local authorities (including London borough councils) new powers to respond to the pandemic through various restrictions on access to indoor, outdoor and event spaces.[106]

In unitary states in general — while power was often transferred from national to subnational levels or national to city levels — the transfer of powers from the subnational to the city levels was uncommon, likely a reflection of the often limited levels of autonomy of regions in unitary states compared to the more extensive authority vested on subnational levels in federal states.[107]

In some unitary states, the expansion of local government powers took the form of more borrowing and funding as well as greater fiscal room to address the immediate socio-economic effects of the pandemic. In Denmark, fiscal rules were temporarily relaxed to allow municipalities to go beyond their normal spending limits, while in Spain local governments were authorized by decree to use surplus funds to support social services.[108] This approach — granting more borrowing to subnational levels of government to cover COVID-19-induced expenditures — was also employed by federal states, including the Municipal Liquidity Facility established by the US Federal Reserve to provide up to $US500 billion in loans to states and municipalities.[109] In Canada, similarly, the Ontario government partnered with the federal government to deliver Can$4 billion in one-off assistance to the province's 444 municipalities.[110]

In general, these last measures have been adopted primarily by high-income countries, but the importance of cities and regional governments when dealing with external

In Italy, a decree in the first weeks of the pandemic granted regions the power to introduce further restrictions beyond that imposed at the national level

Neighborhood residents wait in line for a mandatory COVID-19 test after the locking down of Jordan district, Hong Kong © Shutterstock

In order to have the autonomy to develop policies that make sense for their own territory, issues and populations, cities need sufficient resources to fund and operationalize multilevel governance.

shocks, such as pandemics, should be taken into account by federal and unitary states alike, in both developed and developing countries, because of their closer proximity to affected populations and greater potential to deliver fast, flexible responses to emergencies as they evolve. In this context, an enhanced allocation of resources to local governments and an improved top-down exchange of information should be promoted: in fact, in order to have the autonomy to develop policies that make sense for their own territory, issues and populations, cities need sufficient resources to fund and operationalize multilevel governance.

Nevertheless, while regional, metropolitan and local governments are best informed of local circumstances and well positioned to implement measures at the local level, national governments are often best placed to oversee the design and implementation of coherent and equitable action plans. A coordinated approach could combine these positive aspects and lead to the achievement of better results.

4.3.2. Recentralization

While decentralization has its advantages (such as allowing context-specific measures and promoting flexibility), in some contexts a more centralized approach may be more appropriate: a concerted national government response may reduce local powers in order to prevent fragmentation of actions and reduce potential inequalities in resource provision, thus supporting a rapid and uniform response across the country. A good example would be where the national government takes up the responsibility to purchase medical supplies and distributes them to local authorities based on the severity of the situation to prevent competition over limited stocks. In the context of the pandemic, cities and subnational authorities have also experienced a reduction of powers and responsibilities through reclamation by the national government.

In federal and quasi-federal states, recentralization occurred at two levels: transfers of power from the subnational to the national, and from the city to the subnational. In India, for instance, while a number of states invoked the Epidemic Diseases Act to introduce infection control measures within their jurisdictions, the national government subsequently used the Disaster Management Act to impose a nationwide lockdown, thus bypassing the authority of states.[111] Some cities in the US also saw their powers pre-empted by subnational authorities: for example, the governor of Georgia issued an Executive Order that effectively annulled any prior local "stay at home" mandates, reopening public spaces such as beaches that had been closed by local authorities, with similar actions in Florida, Mississippi and Arkansas.[112]

It was not only federal states that saw some recentralization of powers and responsibilities: various unitary states also experienced a transfer of powers. Colombia issued a decree which stated that "instructions, acts and orders of the President of the Republic in matters of public order, within the framework of the health emergency caused by the COVID-19 coronavirus will be applied immediately and preferentially on the provisions of governors and mayors".[113] This effectively meant that subnational governments and city authorities were restricted in their exercise of powers as they could be overruled or superseded by the President. In Norway, although public hospitals are owned by the national government, they are usually run by regional health enterprises with a significant degree of autonomy. The pandemic, however, compelled the Ministry of Health to step in and exercise a greater degree of control over the health facilities.[114]

Accordingly, both federal states and unitary states saw a transfer of powers from higher to lower levels of government, as well as reclamation of powers by the national government. The system of government, therefore, appears not to be a decisive factor in promoting delegation or recentralization. However, political relationships and affiliations between the various levels of government seem to have played a part in the extent to which local

US Army National Guards hand out food and other essentials to people in need during the COVID-19 pandemic, Queens borough, New York City. © Shutterstock

authorities were allowed to act independently. In the US, for example, most state-wide orders pre-empting local authority actions were from Republican-leaning states against local authorities controlled by the Democratic Party.[115] Similar political divisions between different levels of government were also evident in other countries where control over the direction and management of the pandemic response were highly contested, such as the October 2020 confrontation between Spanish national government and regional authorities in Madrid over the imposition of a local lockdown there.

The complex forces of negotiation, cooperation and conflict taking place within state power structures across the world, while often rooted in long-standing relationships between cities, regions and central governments, have been accelerated by the onset of COVID-19 and continue to evolve alongside the progress of the pandemic. At this point, it is not easy to predict what will happen once the health crisis is over and whether the new balances will be permanent or just temporary interventions.

Legal frameworks in many countries today do not allow subnational governments to take on debt. Lack of creditworthiness at the local level is the major demand-side constraint to optimal decentralization, while shallow financial markets constitute a major supply-side constraint

4.4. City Governance Approaches to the Pandemic

Strong, effective and inclusive institutions are essential to overcoming the pandemic. This collation and analysis of various governance approaches throughout the world demonstrates that cities, in pursuit of this goal, have both employed pre-existing governance mechanisms and created new ones mechanisms specifically to address COVID-19.

4.4.1. Pre-existing governance mechanisms

In Uganda, local councils were mobilized to distribute promotional posters in local dialects with health precautions and information, in addition to monitoring community members and enforcing social distancing measures

Functioning and strong institutions with multi-level coordination and cooperation have proven to be an important element in a successful response to the COVID-19 emergency. As the pandemic unfolded, particularly in the initial stages, cities with pre-existing institutions, structures and mechanisms for addressing crises generally fared better than those that did not. These pre-existing governance mechanisms may be categorized under three areas:

- Fully institutionalized bodies for multi-level governance
- Local administrative structures and networks
- Existing governance practices, instruments and infrastructure

Existing bodies with greater levels of institutionalization were crucial for many cities, not only helping them prepare for the pandemic but also facilitating vertical and horizontal coordination among multiple actors. In Canada, coordination across levels of government was done through the already existing and fully institutionalized Public Health Agency, itself created in the wake of the 2003 SARS epidemic, which in turn activated the Health Portfolio Operations Centre to act as the focal point for response activities and emergency operations.[116] Similarly, in Kenya, the 'Council of Governors' — a pre-existing governance body made up by leaders of the 47 counties — created a County Governments Emergency Fund to channel resources towards the response and facilitated engagement with the national government on preparedness and response strategies at the local levels.[117] In Italy, the State-Regions Conference, a collegiate body established in 1983 to foster cooperation and dialogue between the central government and the regions and autonomous provinces, helped facilitate coordination between the national and local levels of government and ensure that provincial and regional interests were represented when discussing the adoption of measures to address the health crisis.

In some countries, local administrative structures and networks that preceded the pandemic were leveraged to deliver a swift response in cities to contain the crisis. These included structures that had been established for previous emergencies, most notably the 2014-16 Ebola virus and the 2002–2004 SARS outbreak. For instance, the Democratic Republic of Congo (DRC) drew from the country's Ebola experience and utilized similar strategies in its COVID-19 response, such as engaging local figureheads to raise awareness and communicating in local languages to ensure every community is reached.[118] In Uganda, local councils were mobilized to distribute promotional posters in local dialects with health precautions and information, in addition to monitoring community members and enforcing social distancing measures.[119] Prior experience of public health crises also encouraged some countries to invest early in precautionary measures: for example, in order to avoid the severe impacts that the country experienced with SARS in 2003, Singapore established a multi-agency COVID-19 task force chaired by two ministers with representation across the entire public service before the first case was even reported in its territory.[120] Looking at other cities with a prior history of managing a crisis, in the US, the city of Chicago built on its experience during a severe heat wave in 1995, when the city authority rolled out cooling centres and targeted outreach to protect at-risk residents. This may have informed elements of its COVID-19 response, including its

swift repurposing of buildings and infrastructure to serve as emergency hospitals and homeless shelters.[121]

While governance institutions played a huge role in facilitating an effective COVID-19 response, governance practices were just as relevant. Practices such as public participation and principles such as social cohesion, communal solidarity, transparency and trust in public institutions have been credited with positive outcomes in a number of countries. For example, in Uruguay, pre-existing governance modes of hierarchy and collective decision-making ensured widespread support for containment measures. Indeed, although many of the initial containment measures were not mandatory, business associations and unions made voluntary agreements to halt activities and supported government prevention campaigns. Long-standing institutional strength and an emphasis on welfare economics and social responsibility underlined the country's management of the pandemic.[123] Elsewhere, too, pre-existing governance instruments on disaster prevention and management were effectively deployed during the pandemic. Some of them had a broad focus while others had been specifically formulated for health emergencies. For example, as a result of Colombia's 2012 Law 1523 adopting the national disaster risk management policy, the country had already created the National Disaster Risk Management System, used by several cities to quickly establish local disaster management strategies that helped guide their response to COVID-19.[124] Another example is Peru and the approval in 2019 of Regulation No. 30895, strengthening the Ministry of Health's capacity to respond to a potential health crisis: as a result of this measure, when the pandemic first hit Latin America Peru was one of the first countries in the region to impose restrictions and approve a national plan for addressing the pandemic, even before the country registered its first case of COVID-19.[125]

The utility and relative success of pre-existing governance mechanisms in responding to COVID-19 in cities supports the contention that institutionalized governance mechanisms may hold certain advantages over ad hoc bodies formed for emergency purposes and limited durations in that in the latter case, learning and capacities are not built and preserved for the next crisis but are lost after the body is disbanded. Nonetheless, it has been observed that in many countries existing structures were not fully utilized even as parallel new structures were put in place. This led to a risk of confusion and institutional division that could undermine a coordinated response strategy.

Practices such as public participation and principles such as social cohesion, communal solidarity, transparency and trust in public institutions have been credited with positive outcomes in a number of countries

Box 4.5: Applying lessons from previous health emergencies to COVID-19 in Vietnam

Vietnam's response to the pandemic has been remarkably successful, as the previous health emergencies experienced (SARS in 2003 and Avian influenza between 2004 and 2010) made the response to COVID-19 quicker and easier for the country: it had already a well-developed public health system, as well as the infrastructures (such as emergency operations centres and surveillance systems) and the experience to manage such a crisis, resulting in an effective early detection and containment strategy.[122] The response consisted of a "whole of government" strategy, with strong central coordination and reinforcement of neighbourhoods, but also a "whole of society" approach, engaging multi-sectoral stakeholders in decision-making processes: a committed multi-level governance approach. Although some of the actions undertaken by Vietnam are not replicable in other countries (the country has a one-party government that facilitated a highly centralized action strategy), some lessons learnt could be applicable to other countries: investment in public health infrastructures, clear and consistent communication since the very first stages of the crisis, community engagement and participation, as well as early action and the different methods used for contact tracing and for quarantines.

4.4.2. New governance mechanisms

Notably, vertical coordination has also taken place through less institutionalized means such as 'agreements', as in Germany, where tougher measures were agreed between 11 cities and the national government

In addition to pre-existing governance mechanisms, the magnitude, urgency and complexity of the challenge forced countries to adjust their governance processes and practices. The most notable adjustments have been the formation of special task forces or equivalent bodies and the adoption of digital services to facilitate governance. At the same time, the extensive and multi-layered effects of the pandemic, coupled with the need to coordinate measures with multiple actors, have underlined the importance of non-governmental stakeholders in urban governance. Furthermore, the need to increase the effectiveness of government measures and ensure compliance with them has led to the adoption of measures aimed at enhancing trust in institutions, accountability, transparency and community engagement. Lastly, the recognition that cities need to continue (and in most cases, enhance) the provision of services has informed the introduction of flexibility in regulatory frameworks and administrative procedures in areas such as procurement.

Residents queue by a mobile COVID-19 testing van parked in a slum area. Old Delhi/India
© Shutterstock

- **Special task forces or other support bodies**
- **Digital technologies and data collection**
- **Partnerships with non-state actors**
- **Trust building, transparency and community engagement**
- **Relaxation of regulations and administrative procedures**

These special interventions will be, in some cases, temporary and limited to the duration of the crisis (for example, ad hoc task forces or the relaxation of regulatory frameworks and administrative procedures to allow a flexible emergency response). In other cases, however, they represent an opportunity for advancing technology and digitalization, building strong, trustworthy, transparent and accountable institutions that can support more participatory and inclusive models of governance. Therefore, it is desirable that countries capitalize on this opportunity and consider how many of the adaptations put in place for the pandemic could, with the appropriate amendments, continue to deliver benefits for countries after the recovery. Some of these governance measures are discussed in the sections below.

Special task forces or other support bodies: COVID-19 has led to the formation of special bodies and task forces to address the pandemic in cities and ensure multi-level coordination. These take various forms and were created to cover different areas of governance: Chile's Social Committee for COVID-19, made up of representatives of municipal associations, government authorities, academics and health professionals;[126] Australia's National Cabinet, comprising the Prime Minister and

the First Ministers of each Australian state and territory, tasked with coordinating and delivering a consistent national response;[127] Kenya's National Coordination Committee on the Response to the Coronavirus Pandemic, with representation from both the national and subnational levels. In South Africa, meanwhile, the National Command Council — chaired by the President and comprising numerous ministers and director-generals as well as the heads of the National Defence Force and the Police Service — is tasked with ensuring clear guidance, coordination and coherence in dealing with the pandemic, enabling the national government to coordinate with provincial structures on how provincial, metropolitan and local authorities should handle the crisis. Notably, vertical coordination has also taken place through less institutionalized means such as 'agreements', as in Germany, where tougher measures were agreed between 11 cities and the national government.[128] The government of Georgia established the National Intersectoral Coordination Council, which became the main decision-making body regarding the rules and restrictions relating to COVID-19 within the country.[129] In Armenia, a Crisis Management Centre, under the authority of the Deputy Prime Minister, was established to ensure centralized management of the crisis.[130]

In other countries, too, task forces have been formed to address the wide-ranging and often connected impacts of the pandemic. These have been formed at both the national and subnational levels and spearheaded by various levels of government. Examples include the Toronto Office of Recovery and Rebuild[135] in Canada and Chicago's COVID-19 Recovery Taskforce in the US, the latter mobilizing experts from a broad cross-section of representatives from industry, regional government and community-based organizations to focus not on a range of areas, from business and policy development to mental health and social change.[136]

Cities have also seen the formation of special bodies linked to the pandemic. In Senegal, local authorities partnered with the Senegalese national fund by forming a task force called "Force COVID-19": overseen by the President of the Association of Mayors of Senegal, it has been instrumental in raising funds, receiving medical equipment from donors and disbursing them to health facilities in a coordinated manner.[137] In a similar move, in Côte d'Ivoire, Abidjan Autonomous District established a task force for the implementation of its action plan to fight the spread of the virus, with a budget focused on the distribution of food kits to the most deprived populations.[138] In Turkey, city response and coordination have been undertaken through "pandemic boards" established by governorates for a more decentralized response.

Digital technologies and data collection: The use of technology for more inclusive forms of "smart" governance, better service delivery and evidence-based decision-making was already underway before the arrival of COVID-19, but the pandemic has accelerating the integration of the digital into urban life.[139] Many cities have

Box 4.6: Urban task forces to mitigate the economic damage of COVID-19

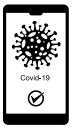
With urban areas account for around 55 per cent of the world's population and more than 80 per cent of global GDP,[131] the economic impacts of the pandemic are concentrated in cities. To meet these challenges, Calgary has created an Economic Resilience Task Force to develop recommendations on economic relief measures to support residents and businesses through the pandemic, with the aim of promoting "a coordinated short term response, medium-term recovery and long-term resilience-building activities".[132] In Brazil, Maringa also created a task force to develop the Economic and Social Development Recovery Plan, based on a partnership between the city government and SEBRAE, the national agency responsible for supporting micro and small businesses. The plan aims to boost the local economy through job creation, new investments and capacity building.[133] Cities in the US also developed their own bodies to focus on economic resilience: Denver, for instance, established an Economic Relief and Recovery Council as an advisory group to provide recommendations on mitigating and preventing further negative impacts of COVID-19.[134]

Aerial view of Appa Pada slum in Malad, MUMBAI/INDIA, which is under government-ordered isolation due to a high number of positive COVID-19 cases detected. © Shutterstock

enhanced the use of new tools and technologies to foster communication, transparency, information-sharing and stakeholder engagement. In particular, new technologies have been and will be crucial to improve collaboration on data collection and sharing. China's coronavirus response provides a good example of the importance of digital approaches to tackle the pandemic rapidly and efficiently, as well as the potential pitfalls that political interference or non-cooperation can create even with sophisticated systems already in place: indeed, despite being set up in 2008 in the wake of SARS specifically to provide a countrywide picture of an infectious disease's spread, the Chinese reporting system initially delivered limited results as a result of obstruction by local authorities in Hubei and Wuhan.[140]

A number of cities have successfully collaborated with private sector actors and tech companies to develop innovative digital tools. In some cases, capacities developed through the experience of the pandemic are now helping inform further initiatives to aid recovery: for example, having already established a strong geographic information system in the city and exploited its DataBridge data-sharing platform to guide its response to the virus, Philadelphia has partnered with Mastercard to correlate point-of-sale data with mobility patterns to better understand economic trends.[141] Other cities, such as London, Madrid and New York, are using Mastercard's tools to inform decision-making on budgets, aid disbursement and investment as they plan their next steps.[142]

Regarding the use of digital tools, it is possible to identify five main functions for which these are being employed during the pandemic:



- Firstly, regional and local governments are increasingly mobilizing digital tools to track and stop the spread of the coronavirus. In Brazil, São Paulo is monitoring confirmed or suspected cases through telemedicine and launched an application for self-isolated patients[143] while city authorities in Recife are using a platform that tracks the location of individuals based on their smartphones to check compliance with social distancing measures. In Budapest, authorities employed smart technologies to locate areas where large numbers of people were concentrated.[144]

- Secondly, technological tools are used to share COVID-related information with citizens, not only promoting compliance with containment measures but also reducing anxiety and mistrust of authorities. For example, Buenos Aires developed a WhatsApp bot as a communications channel for residents to answer questions about prevention, symptoms and general information from city services about COVID-19.[145] In Oaxaca, a portal was development containing updated information — including in indigenous languages — on the number of contagions per region, jurisdiction and municipality. The portal also included a WhatsApp bot that helps answer questions on registered cases, the nearest health centres, prevention measures and official announcements.[146] In Bulgaria a special group was established by the National Association of Municipalities for mayors to share information, experiences and best practices to respond to the crisis, as well as secure essential health supplies from companies.[147]

- Thirdly, digital tools have been employed in the context of COVID-19 to support the provision of social services amidst the disruptions of the pandemic. One area was in education as school closures left many children struggling to transition to online learning: for instance, to support children engaged in remote learning, Vienna offered a free tutoring initiative for pupils in various subjects.[148] In Israel, Tel-Aviv launched an initiative called 'Big Brother' in which high school students teach elementary pupils as part of a personal commitment project which was facilitated by the city through distribution of laptops and tablets to children who did not have access to the devices.[149] In Malta, an online platform called YouSafe was created to allow local council officials and staff members to maintain close communication with residents throughout the crisis.[150]

- Fourthly, digital tools have been utilized to expand opportunities for participatory governance and collect feedback from the population on long-term strategies for recovery. In Australia, Melbourne opened an online platform for residents to participate and share how the crisis has changed their priorities and perspectives on the future of the city, to inform the long-term recovery plan.[151] Similarly, Sydney set up an online survey to garner inputs from local businesses, property owners, organizations, residents, workers, students and other groups to shape its City Recovery Strategy. The city also invited additional feedback and specifically provided support for residents with hearing or speech impairments or in need of an interpreter.[152]

- Lastly, digital tools have been instrumental in ensuring local institutions are able to maintain their democratic functions while physical gatherings and in-person meetings have not been possible. In Netherlands and Spain, for instance, local representatives may deliberate and take legally binding decisions through online sessions.[153] In South Africa, a ministerial regulation was passed to allow local governments to undertake municipal tasks, such as the adoption of integrated development plans, operations relating to municipal services and revenue collection through virtual platforms. It also called for consultation of communities through digital platforms and other methods of consultation to promote public participation throughout the pandemic.[154] Similar actions have been undertaken in the UK through the Coronavirus

Technological tools are used to share COVID-related information with citizens, not only promoting compliance with containment measures but also reducing anxiety and mistrust of authorities

Act 2020 to enable virtual meetings and decision making for local authorities at various levels.[155]

The increased use of these technological innovations, however, has led to a number of side-effects that will need to be addressed, in particular increased surveillance, security and privacy challenges.[156] As troves of data are generated by a wide array of devices and networked systems, there is a risk of improper use. Coupled with data security concerns and the vulnerability of computing systems to hacking, crashing and viruses, a large amount of personal information is at risk of misuse. Furthermore, the fact that these technological tools have been developed with the involvement of private entities may raise issues of data access, ownership and control. At the end, without an all-encompassing focus on the community's needs, solutions may be misguided. It is thus important that such initiatives strike a reasonable balance between individual rights on the one hand and public interests on the other during the pandemic period, and their necessity reconsidered after the health crisis is contained.

Maximizing trust in institutions and the health authorities is a key pillar in the management of the crisis, yet trust can vary enormously from country to country

Partnerships with non-state actors: NGOs, community-based groups, faith-based organizations, civil society and the private sector have been important stakeholders in urban governance in the context of COVID-19. These actors have strengthened city response strategies by bridging service provision gaps, providing targeted assistance through direct cash transfers, food and other commodities, as well as participating in the production and distribution of health kits. São Paulo's *Cidade Solidária*, for instance, a partnership between the City Hall and civil society organization, coordinated donations and volunteers to tackle the pandemic's social and economic effects. In Mauritania, members of the Network of Locally Elected Women established an awareness campaign in various local languages in different districts.[158] In Québéc RÉMIRI, an established network of municipal workers, community activists and academics, began to stage regular meetings to share knowledge and discuss different aspects of the pandemic response in their city.[159]

The financial and technical resources of the private sector and research institutions have also been harnessed by some countries to provide essential goods and services as well as offer economic reprieve. In Mexico City, for instance, commercial entities such as SANTANDER México and BBVA México developed, in collaboration with local authorities, a mobile application to help residents stay informed, assess symptoms and provide authorities with reliable real-time information.[160] In some cities, the involvement of non-state actors has looked beyond the immediate pandemic response to the post-pandemic future, like Montréal, where city authorities have engaged universities and businesses to research the opportunities for work, study and physical recreation in the years to come.[161]

Trust building, transparency and community engagement: Behaviour change, participation and compliance with social distancing measures are essential elements in a successful pandemic response. Since most citizens cannot possibly understand the complexities and trade-offs behind every policy measures, trust is essential — the belief that leaders are placing public interests first, on the basis of sound scientific advice and with no hidden agendas. Maximizing trust in institutions and the health authorities is a key pillar in the management of the crisis, yet trust can vary enormously from country to country: according to data from the Harvard

Box 4.7: SDG Cities — an innovative approach to digital governance

SDG Cities is a global collaborative initiative supported by UN-Habitat that aims to accelerate the achievement of the Sustainable Development Goals (SDGs) in cities by supporting an interconnected process of data collection, strategic planning and the development and financing of SDG and COVID-19 recovery impact projects — levering blends of public and private finance to maximize impact. In parallel, it diagnoses and builds core capacities of local government in planning, governance and finance. Through the deployment of digital tools throughout, the initiative aims to reach over 1,000 cities worldwide.[157]

Box 4.8: Enabling community-led responses to the pandemic

Alongside the governance measures adopted by cities with the involvement and support of non-state actors, community groups and civil society have themselves played a central role in strengthening pandemic response strategies and driving citizen-led solutions. While non-governmental solutions were often seen in cities in low-income countries where the weakness, or even absence, of an effective state strategy resulted in NGOs and communities filling the gap, there have also been notable community initiatives in higher income countries as well.[162] For example, Forlì Città Aperta — a volunteering association established in the Italian city of Forlì a decade ago — committed to inform all migrants, regardless of their residency status, about the measures to be followed during lockdown and how to stay safe. A fundraising drive was also promoted for those who did not meet the national or local criteria to receive financial assistance if they lost their livelihoods.[163] Similarly, in the Swedish city of Botkyrka a community association called the Pakistan Cultural Society used its radio channel to disseminate information on COVID-19 to residents who due to language barriers had not been able to access official health bulletins and updates.[164]

Humanitarian Initiative's global survey, some 88.2 per cent of respondents in Singapore were "confident" or had "total confidence" in the ability of authorities to control the pandemic, compared to just 18 per cent in the US.[165]

To foster trust, communications, health guidance and legislation must be clear, transparent and consistent: opaque or contradictory messaging can undermine public faith in the necessity and value of observing restrictions. Cities and subnational therefore have an important role to play in enhancing participation and access to relevant information. In the Buenos Aires Metropolitan Area, for example, thanks in part to the development of innovative participatory mechanisms by municipalities before the pandemic began,[166] an agile and engaged communication network was already in place that city authorities were able to exploit throughout the crisis to announce regulations, raise awareness and reach at-risk groups such as children, slum dwellers and persons with disabilities with targeted information drives.[167] As with other aspects of governance and service provision, it is essential that information is messaged effectively to all of the urban population, with no group or community excluded due to discrimination, language barriers or poverty. Many cities have tailored specific campaigns, often in partnership with NGOs or local groups, to reach immigrant communities and other minorities who may otherwise be exposed to greater risks of infection if this information is not available to them.

To foster trust, communications, health guidance and legislation must be clear, transparent and consistent: opaque or contradictory messaging can undermine public faith in the necessity and value of observing restrictions

As discussed earlier in this chapter, some local authorities have developed new online channels of communication and consultation with citizens and stakeholders to promote participation and come to a better understanding of community

A training in how to make sanitizer in Kathmandu Valley, Nepal © UNHabitat

needs. Besides the invaluable insights this can bring to decision-making, the process of promoting discussion and dialogue is crucial in itself to bolstering public faith in local and national government. On the other hand, when authorities seek to suppress or silence legitimate concerns and reporting, misinformation and distrust can quickly creep in. At times, local and national governments have justified crackdowns and punitive measures as necessary steps to managing the pandemic effectively. Yet in practice, disproportionate or draconian policies have not only led to unacceptable restrictions on civic freedoms, but also — by alienating citizens and communities — proved counterproductive in terms of containing the virus.

These issues were evident from outset, with Chinese authorities criticized for their lack of transparency and efforts to minimize the threat posed by the virus, including online censorship and detention of whistle blowers for "rumour-mongering".[172] In Bangladesh, authorities arrested dozens of people, including medical staff and opposition activists, for "spreading rumours"[173] and in Thailand, some health workers have were been threatened with disciplinary action for speaking publicly about supply shortages.[174] In other countries, such as Kenya and Uganda, excessive penalties imposed for infractions of lockdown restrictions have led to rising resentment against authorities, thereby undermining public willingness to comply.[175]

Moreover, as powers become concentrated and large amounts of money are infused into the economy to alleviate the crisis, the risks of corruption have increased. It is therefore most important that anti-corruption measures are streamlined into all pandemic-related processes. Transparency, oversight and accountability are essential anti-corruption and governance tools: at this moment, those tools are more important than ever to ensure that governments keep public health priorities at the top of their agendas and do not take advantage of, or benefit from, their emergency powers. As the International Monetary Fund has advised, even as public actors "do what it takes" to contain the pandemic, they should "keep the receipts".[180]

In many countries, subnational governments are responsible for critical aspects of overburdened health care including emergency services and hospitals in addition to social protection —

Many cities have tailored specific campaigns, often in partnership with NGOs or local groups, to reach immigrant communities and other minorities who may otherwise be exposed to greater risks of infection if this information is not available to them

Box 4.9: Fighting fake news with transparency and trust-building

Community engagement and belief in public health information is a crucial element in any successful pandemic response. This was evident during the outbreak of Ebola in 2014, when a widespread lack of faith in authorities led to the proliferation of conspiracy theories and a disregard for many basic protocols to prevent transmission, significantly contributing to the spread of the disease.[168] Consequently, clear and accessible information on COVID-19 can save lives — particularly in a context where false and misleading claims can easily fill the gap in the absence of good messaging.

Many cities have established their own online platforms specifically to provide citizens with a reliable information source, such as São Paulo's online channel to provide citizens with accurate information on the virus and to debunk fake news.[169] In Rome, the website RomaAiutaRoma was launched authorities to serve as a one-stop information source for residents to access updates, news on local initiatives, advice on family wellbeing and other useful content. Similarly, in Nepal the COVID-19 Transparency Portal was set up in selected districts to help local governments maintain transparency and communication with citizens during the pandemic.[170] Non-governmental initiatives have also supported this process. One example, active in Nepal and a number of other countries, is the Coronavirus Civacts Campaign: describing itself as a "myth-debunking and fact-checking campaign to keep communities safe", it brings together a network of trusted volunteers to counter the circulation of harmful rumours and untruths about the pandemic.[171]

Box 4.10: Ensuring proportionality and human rights protections during a pandemic

Despite the unprecedented challenges posed by the pandemic, it is vital that government responses remain proportionate, participatory and in line with established human rights standards. Restrictions, emergency laws and ordinances should be clearly defined by law, without room for ambiguity or misinterpretation by officials to prevent the arbitrary or excessive use of power. This is especially critical at a moment of crisis, when governments are conferred with more authority to allow more flexibility to support their efforts in restoring order. While dealing with a serious threat to health, it is true that some limitations on rights are admitted,[176] but the UN's Siracusa Principles[177] identify standards for the justification of such limitations and detail requirements for laws that directly restrict individual freedoms during a public health emergency. For example, limitations should not be more restrictive than necessary for the achievement of the purpose of the limitation.[178] As the UN High Commissioner for Human Rights Michelle Bachelet stated, "Emergency powers should not be a weapon government can wield to quash dissent, control the population, and even perpetuate their time in power. They should be used to cope effectively with the pandemic – nothing more, nothing less".[179]

notably for care of the elderly, children and other vulnerable populations. Along with the broader contraction of economic activities, many of the tax policy decisions taken to relieve businesses and individuals such as deferrals and special exemptions have seen local government revenues decline further. While cities generally rely on fiscal transfers from national governments, particularly at a time of crisis, many are seeing this support scaled back when it is needed most: in Cape Town, for example, large and unprecedented expenditure items are being pushed down onto the city, at the same time as local revenues are drastically declining. Accordingly, it is essential that local authorities utilize their funds in a manner that will best serve the needs of their communities. Participatory budgeting may offer an effective solution: besides improving transparency in municipal expenditures, it can enhance public engagement in decision-making and ensure investments are channelled where they are most needed, in the process strengthening social cohesion and trust.[181]

Relaxation of regulations and administrative procedures: Rigid regulations can prevent action when it is most urgently needed, delay rapid responses and make subnational actors fully dependent on the national level at a time when proactive measures by local governments may be vital to contain a multi-dimensional and ever-evolving crisis. Some countries have thus recognized the need for flexibility and eased administrative procedures to enable cities to respond nimbly to the pandemic. In China, for instance, emergency provisions were put in place for the construction of urgent projects such as health facilities, with the usual bidding and procurement requirements relaxed or suspended to prevent delays.[182] In Italy, simplified procedures were adopted by 14 regions to ease the usual bureaucratic requirements for smaller businesses, such as deferred deadlines for application submissions.[183] Other countries, too, such as Iceland and Slovenia, also allowed municipalities to reorient their budget priorities to meet the changing needs of the pandemic.[184] Mexico City also issued a decree for extraordinary actions to fight the pandemic, providing more flexible rules in public procurement processes to speed up contracting.[185]

The flipside to the relaxation of regulatory frameworks and administrative procedures, however, is the erosion of accountability and increased room for the mismanagement of resources. As discussed in the previous section, notwithstanding the need for cities and countries to react quickly to the new and unexpected challenges of the pandemic, it is vital that oversight and transparency remain in place to ensure that governance structures are not themselves corroded by corruption.

Notwithstanding the need for cities and countries to react quickly to the new and unexpected challenges of the pandemic, it is vital that oversight and transparency remain in place to ensure that governance structures are not themselves corroded by corruption

Training on handwashing for prevention of COVID-19 for over 2,000 households organized by UN-Habitat in Tboung Khmum, south east Cambodia. © UN-Habitat

Box 4.11: Next steps for the New Urban Agenda

Following the conclusion of Habitat III, the United Nations General Assembly adopted resolution A/RES/75/224 in December 2020 and called on the President of the 76th Session to convene a High-Level Meeting on the implementation of the NUA. This event, referred to as "Quito+6", will be held six years after Habitat III to provide the international community with a platform to take stock of the impact of COVID-19 and the measures necessary to revitalize the implementation of the NUA.

The United Nations system is well placed to support the General Assembly as it prepares for Quito+6. In 2018, the Secretary-General declared urbanization a megatrend and called for a whole system approach to support countries in implementing the NUA. In 2019, the Chief Executives Board endorsed a system-wide United Nations strategy for sustainable urban development. Building upon the transformative commitments of the NUA, the strategy outlines ways to harness the transformative power of urbanization to reduce poverty and inequality, promote prosperity and economic transformation, advance climate action and environmental sustainability, and ensure urban crisis reduction and recovery.

The Secretary-General's policy brief, *COVID in an Urban World*, issued in July 2020, in the midst of the pandemic, highlighted the urban dimensions of the pandemic and has very much inspired the development of this volume. More recently, the Secretary-General established the United Nations Task Force on the Future of Cities and will deliver a keynote address on this topic later in 2021. These related efforts will help Member States, as well as the United Nations system, revitalize the global framework for sustainable urbanization.

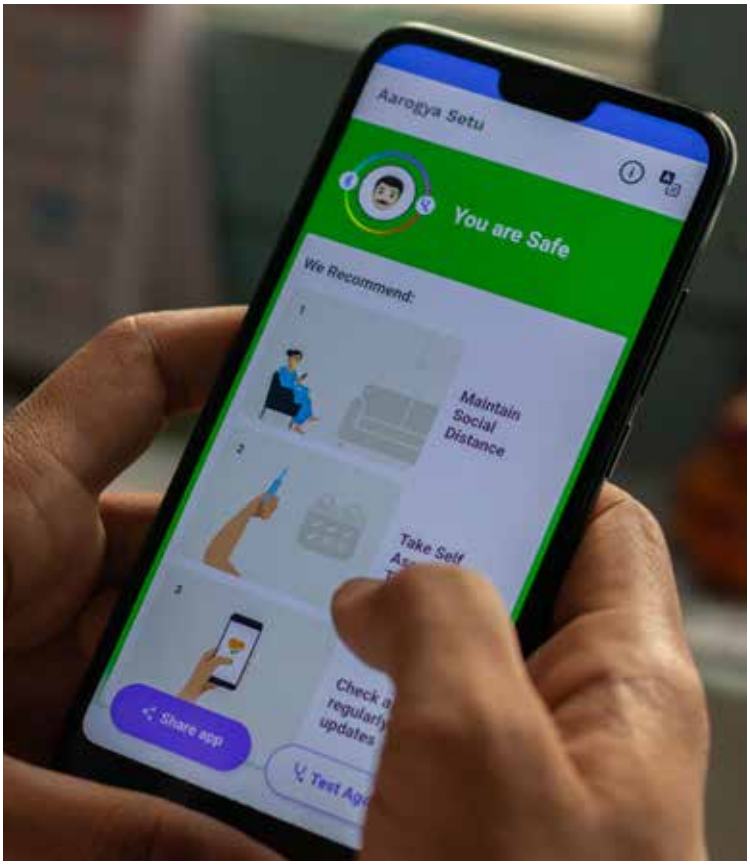
4.5 Conclusion

Most countries and cities were unprepared for the outbreak of the pandemic in March 2020. The first stage of the pandemic was characterized by the activation of local authorities in all areas — the announcement of lockdowns, closure of learning facilities, the emergency reconfiguration of health care systems with the necessary hospital beds and medicines — in general, a quick response to an unfolding crisis. During the second stage of the pandemic, countries tried to learn how to live with COVID-19 and began exploring solutions to address its negative social and economic impacts. The next stage is the process of rebuilding and recovery: a phase that some countries began working on early on, in the first months of the pandemic, but which others (predominantly low-income countries with less resources to draw on) have yet to begin as they continue to struggle with the immediate effects of the virus.

The pandemic has shown that well-developed health infrastructure, while essential, is not in itself a guarantee of an effective emergency response. Some countries already had significant health infrastructure in place before the pandemic, but still lacked the relevant capabilities and knowledge to achieve positive results. On the other hand, countries that had experienced previous crises (such as the Ebola, SARS and Avian influenza epidemics) and built strong institutions, systems and processes as a result were generally able to respond to the COVID-19 pandemic more efficiently and effectively. Crucially, the most successful government strategies typically combined solid, adequately funded public health systems and specialized infrastructures (for example, emergency operations centres and monitoring systems) with community engagement and clear, transparent information and messaging. Cities that are open, communicative and participatory tend to secure popular support more easily, strengthening the resilience of societies and their willingness to fight together for a “common good”. Misinformation, uncertainty or lack of clarity, on the other hand, as well as the use of arbitrary or abusive extraordinary powers, only serve to generate distrust and resistance to government policies — thereby undermining the effectiveness of any response.

In this regard, the use (or misuse) of digital technologies (a process that has been dramatically accelerated by the pandemic) is telling. On the one hand, these innovations have transformed urban governance and proved indispensable in supporting responses to the pandemic. Some local governments, recognizing the opportunities that these new tools and data sources offer, have been quick to integrate them into their governance approaches. To this end, through tracking apps, remote meetings, online surveys and other e-government practices, many cities have transformed their approach to

While the range of city and county contexts means there is no single approach that can or should be universally prescribed, it is clear from the very different examples showcased here that multi-level governance and an integrated approach generally help achieve the best results



Man using Aarogya Setu medical app launched by the government of India for self-assesment for COVID-19 symptoms © Shutterstock

More fundamentally, it is still unclear what sort of governance will emerge from the current crisis: stronger and more invigorated, with greater creativity and collaboration through multi-level partnerships, or further fragmented by institutional rivalries and financial burdens.

public participation, data collection and policy design. Nevertheless, if not properly regulated, this increased surveillance could undermine democratic governance and human rights.

Another factor that has proved effective across a range of different contexts was the development of targeted, context-specific strategies to address the often highly localized spread of the virus. At the beginning of the pandemic, some governments adopted a universal countrywide approach, ignoring territorial differences in the diffusion of the virus and health care capacities. Once the shortcomings of this approach became evident, however, an increasing number of countries started adopting territory-specific approaches tailored to local infection levels and resources.

As outlined throughout this chapter, the complexity of governance systems and their interaction with different social, legal, political and economic contexts mitigate against overly simplistic prescriptions on which approach delivers the best outcomes. Instead, what the research here has outlined is a range of considerations and potential ways forward for national and subnational governments to consider as they continue to hone their response and recovery to the pandemic. While the range of city and county contexts means there is no single approach that can or should be universally prescribed, it is clear from the very different examples showcased here that multi-level governance and an integrated approach generally help achieve the best results. Cooperating vertically (among different levels of government) and horizontally (between local governments and sectoral authorities), with an integrated and coordinated strategy that also includes municipal associations, health professionals, academics, NGOs and communities, is key to addressing the pandemic and implementing a meaningful recovery.

At the same time, though in varied and sometimes opposed ways, power at different levels of government has been rebalanced in the wake of the pandemic. In some countries, the failure of national leaders to respond quickly has reinforced the influence of subnational governments. In some cases, cities took the initiative in the immediate response to the threat posed by the health emergency; other cities received additional powers that had been voluntarily transferred from national to subnational levels of governments to address the crisis at the local level. In other countries, however, the national governments took the lead, recentralizing some powers from subnational governments in certain instances or acquiring extraordinary powers by declaring a state of emergency. However, at this stage, it is difficult to predict if this rebalancing of power will have long lasting effects on countries' internal organization. Nor, importantly, is it always the case that one or other approach is best. Indeed, the pandemic has illustrated

Box 4.12: Implementing sustainable development through Voluntary Local Reviews

Currently 58 Member States submit Voluntary National Reviews (VNRs) annually to ECOSOC to report on progress on the achievement of Sustainable Development Goals (SDGs). This process of assessment and reporting are an essential element in monitoring country progress. However, an important catalyst for amalgamating city and local governments into national planning processes that intergovernmental bodies can support are Voluntary Local Reviews (VLRs) — now being prepared or developed by over 1,000 cities and local governments in parallel to the VNRs. They report on progress at the local level towards SDG attainment and often use the 17 goals as a framework for local planning. Recognition of VLRs by ECOSOC at the HLPF could go far in elevating them as inputs to VNRs. In turn, VLR-VNR alignment could foster new ways of aggregating local planning for national economic planning and development.

that in different contexts there is value in both strengthening decentralization (for example, by enabling more flexible and participatory responses) and in recentralization (especially with regards to ensuring a consistent and adequately resourced country wide response).

More fundamentally, it is still unclear what sort of governance will emerge from the current crisis: stronger and more invigorated, with greater creativity and collaboration through multi-level partnerships, or further fragmented by institutional rivalries and financial burdens. The outcome could profoundly influence the extent to which cities and countries recover from the effects of COVID-19. National, subnational and local governments have played a fundamental role in in mitigating the pandemic's effects through resilience building, social support and increased delivery of basic services, reversing chronic underinvestment in many cities and settlements. Yet their ability to do this varies greatly and in many cases is inadequate as a result of decades of underfunding and increased outsourcing of service delivery. The downscaling of the public sector in some countries appears to have left them more vulnerable to preventing and managing the pandemic, as well as other pressing challenges such as inequality and climate change. In many cases, the pandemic has simply accelerated a protracted governance crisis that has been years or decades in the making. Revitalizing and enhancing these increasingly complex governance systems will be crucial to ensuring global security and prosperity.

Recommendations

Multi-level governance

- **Incorporate territorial and spatial governance approaches into national, subnational and local pandemic responses.** The implementation of territorial approaches that take into account local situations and needs have proven to be far more effective in securing public support and compliance, resulting in better health and economic outcomes.

- **Promote an integrated and cooperative approach between different levels of governance:** In this context, metropolitan and regional management systems as well as "whole of society" approaches represent the surest way to achieve meaningful multi-level governance and maximize results. On the other hand, when there is competition or division between different levels of governments, political confusion and institutional friction are more likely to arise.

Resilience and preparedness

- **Maintain and strengthen health care, social welfare and other protections:** An effective, responsive and capable public sector is essential to meet needs, build resilience and manage crises as they evolve. National and local governments should not seek to address budgetary shortfalls by scaling back services and welfare support: instead, countries should commit to expansive budgetary spending, building accessible social welfare systems based on progressive tax models and redistributive fiscal policies.

- **Ensure emergency preparedness is effectively integrated into health governance at all levels:** The current crisis has highlighted important disparities between those countries with established early warning and response systems, on the one hand, and those that lacked these mechanisms — even those with strong, well funded health systems. Crucially, many of the countries best prepared for the current pandemics were those who had experienced recent public health crises and were attuned to the need for an effective "whole system" approach. It is therefore paramount that countries learn from the current crisis to build appropriate governance mechanisms to respond effectively to future emergencies.

Transparency and participation

- **Enhance public engagement by strengthening democratic decision-making structures:** It is more important now than ever, as local resources and funds become even more stretched, that national and subnational governments commit to ensuring that these are channelled where they are needed most. Taking steps to establish inclusive and accessible mechanisms such as participatory budgeting will not only help make expenditure more targeted and efficient, but also strengthen trust.

- **Promote transparency and trust building to maximize public support and compliance:** Evidence-based, proportionate and inclusive measures are the most effective approach to managing and imposing restrictions, accompanied by clear, accessible guidance. Community participation in this process is key and should be tailored to take into account gender, ethnicity, class and other factors to ensure all sections of society are recognized and engaged.

- **Exploit the opportunities that digital technologies offer for improved governance, but alongside a clear commitment to equitable access and human rights:** The pandemic has highlighted the value of online platforms and applications for information and service provision. However, it is essential that access is extended to ensure everyone can enjoy these benefits. In addition, appropriate protections around privacy and freedom must be put in place to prevent misuse by authorities.

Recovery and cooperation

- **Ensure crisis management strategies incorporate long-term recovery strategies that align with aspirational goals around social inclusion and sustainability:** The current crisis offers a unique opportunity to rethink the future and plan effective policies to address challenges such as climate change, inequality, migration and the erosion of human rights. The need to achieve collective action, cooperation and solidarity to "build back better", repairing the social fabric while transitioning to a more sustainable future, is now clearer than ever.

- **Adopt a global focus to rebuilding that recognizes the need for all countries and cities to be included in any lasting recovery:** Though nowhere has been untouched by the pandemic, the impacts could be especially acute in some developing countries, potentially leaving them in a protracted state of crisis. Consequently, richer countries, international agencies and other actors have a duty to provide appropriate technical support, financial assistance and experience sharing as the world navigates a path to recovery together.

Endnotes

1. GHS Index, 2019.
2. GHS Index, 2019.
3. The New York Times, 2021.
4. OECD, 2020a and 2020b.
5. OECD, 2020a.
6. UCLG et al., 2020.
7. UCLG et al., 2020.
8. UCLG Africa 2020.
9. Metropolitan Lima Municpal Council, 2020a.
10. The Council of Governors, 2020; Kenya News Agency, 2020.
11. Kiruga, 2020.
12. County Government of Kiambu, 2020.
13. Dullah Omar Institute, 2020.
14. Co-Plan and Association for Local Autonomy, 2020.
15. Government of Iceland, 2020; OECD, 2020a.
16. City of New Orleans, 2020.
17. UNDP, 2020a.
18. EMGIRS, 2020.
19. Saliba, 2020.
20. Government of Canada, 2020.
21. Government of Kenya, 2020.
22. Both cases were presented during the UN-Habitat webinar 'Urban-Rural Linkages in the times of COVID-19: Metropolitan perspectives', 14 May 2020, https://unhabitat.org/webinar-urban-rural-linkages-in-the-time-of-covid-19-metropolitan-perspectives
23. Edwin, 2020.
24. UNDP, 2020b.
25. Brussels Capital-Region, 2020.
26. AMB. 2020.
27. Los Angeles County, undated.
28. OECD, 2020a.
29. Portillo, 2020.
30. City of Bogotá, 2020.
31. Mesmer, 2020.
32. Izmir Metropolitan Municipality, 2020.
33. Dhrubaraj, 2020/
34. Umbach et al., 2020.
35. Wray, 2020a.
36. Paris, 2020.
37. Madrid City Council, 2020a.
38. Kulturklik, 2020.
39. Barcelona, undated.
40. Frankfurt City Government, undated.
41. Buenos Aires City Government, undated and untitled.
42. C40 Knowledge, 2020.
43. Bristol City Council, 2020a.
44. Bristol One City, 2020b.
45. Milan, 2020.
46. District of Columbia, 2020.
47. Barcelona, 2020.
48. Melbourne, 2020.
49. OECD, 2020b.
50. WHO, 2020.
51. World Bank, 2020.
52. IndiaToday, 2020.
53. Council of Europe, 2020a.
54. ACIJ, undated.
55. Council of Europe, 2020a.
56. Council of Europe, 2020b.
57. Madrid City Council, 2020b/
58. Eurocities, 2020.
59. Maintains, 2020.
60. Council of Europe, 2020a.
61. Birmingham City Council, 2020.
62. Mexico City, 2020a.
63. Metropolitan Lima Municipal Council, 2020b.
64. OECD, 2020b.
65. Greenblatt, 2020.
66. Jalisco State Government, undated
67. Sandy and Milhorance, 2020.
68. Financial Times, 2020.
69. Segodnya, 2020a and 2020b.
70. Ducourtieux, 2020.
71. Raphael, 2020.
72. Jones et al., 2020.
73. BBCa, 2020.
74. France24, 2020.
75. Rubinelli, 2020.
76. Alves et al., 2020.
77. Bustamante et al., 2020.
78. Gordon and Bernstein, 2020.
79. Slotkin, 2020.
80. Totenberg, 2020/
81. Mclean, 2020.
82. Pinedo and Landauro, 2020.
83. BBC, 2020b.
84. Knight, 2020.
85. Romania Inside, 2020.
86. High Court of Malawi, 2020.
87. Kaponda, 2020.
88. High Court of South Africa, Gauteng Division, 2020a.
89. High Court of South Africa, Gauteng Division, 2020b.
90. High Court of South Africa, Gauteng Division, 2020c.
91. Most of these judgments have been voluntarily archived at https://covid-india.in/ for wider dissemination.
92. Banka, 2020; ANI News, 2021.
93. Hindustan Times, 2021.
94. Silberzahn, 2020.
95. OECD, 2020a.
96. Han et al., 2020.
97. President of Russia, 2020.
98. DeClerq, 2020.
99. Lexology, 2020.
100. Albuquerque, 2020.
101. Parliament of Victoria 2020.
102. Scalzaretto, 2020.
103. ICNL, undated.
104. Government of Chile, 2020).
105. Government of Italy, 2020.
106. UK Department of Health and Social Care, 2020.
107. However, as noted above, subnational delegation of powers to the city in federal states was also rare, although in these cases the issue was not lack of authority to delegate.
108. OECD, 2020a.
109. Federal Reserve, 2020.
110. Province of Ontario, 2020.
111. James, 2020.
112. Foster, 2020.
113. Republic of Colombia, 2020.
114. Christensen, 2020.
115. Foster, 2020.
116. Government of Canada undated.
117. Government of Kenya, 2020b
118. Sawyer, 2020.
119. Awany, 2020.
120. Lim, 2020.
121. Kling, 2020.
122. Pollack, 2020.
123. Henderson, H. (2020) 'Uruguay's unified response to COVID-19 has helped it avoid the same fate as its neighbours', ABC News, 21 July,
124. For further details see Government of Colombia, 2020 and 2012.
125. Republic of Peru, 2020.
126. OECD, 2020a.
127. OECD, 2020a.
128. DW, 2020.
129. Bieliei et al., 2020.
130. Council of Europe, 2021.
131. World Bank, undated.
132. Calgary, undated.
133. Maringá, 2020.
134. Denver, undated.
135. Toronto, undated.
136. Chicago, undated.
137. UCLG Africa 2020.
138. UCLG Africa, 2020.
139. Bandarin et al., 2020.
140. Yang, 2020.
141. Wray, 2020a.
142. Wray, 2020b.
143. São Paulo, 2020.
144. OECD, 2020b.
145. Andres, 2020.
146. Open Government Partnership, undated.
147. Council of Europe, 2020c.
148. World Bank, 2020.
149. Tel Aviv-Yafo Municipality, 2020.
150. Council of Europe, 2020c.
151. Melbourne, undated.
152. Sydney, 2020.
153. OECD, 2020a.
154. Cooperative Governance and Traditional Affairs, 2020.
155. Local Government Lawyer, 2020.
156. Sachs, 2020.
157. UN-Habitat, 2020.
158. UCLG Africa, 2020.
159. Council of Europe, undated.
160. BBVA, 2020.
161. OECD, 2020b.
162. Council of Europe, undated.
163. Council of Europe, undated.
164. Council of Europe, undated.
165. Harvard Humanitarian Initiative, 2021.
166. Foglia and Rofman, 2020.
167. ACIJ, undated.
168. Maintains, 2020.
169. São Paulo, undated.
170. Open Government Partnership, undated.
171. Coronavirus CivActs Campaign, undated.
172. Human Rights Watch, 2020a.
173. Human Rights Watch, 2020b.
174. Pahsuk, 2020.
175. Maintains, 2020.
176. Articles 8, 9, 10, 11, 12 of the European Convention on Human Rights (ECHR) allow restrictions of some human rights for the protection of health.
177. UNCHR, 1984.
178. UNCHR< 1984.
179. OHCHR, 2020.
180. IMF, 2020.
181. UN-Habitat, 2004.
182. Bird and Bird, 2020.
183. OECD, 2020c.
184. OECD, 2020a.
185. Government of Mexico City, 2020b.

Bibliography

ACIJ (undated) 'Información legal', https://acij.org.ar/covid19yderechos/

Albuquerque (2020) 'City council introduces updates to city emergency laws; provides for new public health powers to address potential coronavirus outbreaks', https://www.cabq.gov/council/find-your-councilor/district-6/news/city-council-introduces-updates-to-city-emergency-laws-provides-for-new-public-health-powers-to-address-potential-coronavirus-outbreaks

Alves, S., Ramos, E. and Delduque, M. (2020) 'Lockdown by court order: An (un)necessary measure?', *Cadernos de Saúde Públic* **36**(6):e00116020

AMB (2020) 'Mesures COVID-19: l'AMB inverteix 16,6 milions d'euros per reactivar les economies locals i la cohesió social metropolitanes', 28 July, https://www.amb.cat/web/amb/actualitat/sala-de-premsa/notes-de-premsa/detall/-/notapremsa/mesures-covid-19--l-amb-inverteix-16-6-milions-d-euros-per-reactivar-les/9544249/11696

Andres, J. (2020) 'Buenos Aires uses WhatsApp to assist COVID-19 response', *CitiesToday*, 28 April, https://cities-today.com/buenos-aires-uses-whatsapp-to-assist-covid-19-response/

ANI News (2021) 'COVID-19: HC adjourns hearing on plea against Delhi govt's decision to reserve ICU beds in Pvt hospitals', 8 January, https://www.aninews.in/news/national/general-news/covid-19-hc-adjourns-hearing-on-plea-against-delhi-govts-decision-to-reserve-icu-beds-in-pvt-hospitals20210108162442/

Awany, J. (2020) 'Traditional and community engagement is crucial for fighting epidemics like COVID-19', *LSE*, 19 May, https://blogs.lse.ac.uk/africaatlse/2020/05/19/uganda-community-engagement-and-traditional-practices-are-crucial-for-fighting-epidemics-like-covid-19/

Bandarin, F., Ciciotti, E., Cremaschi, M., Madera, G., Perulli, P. and Shendrikova, D. (2020) *Which Future For Cities After COVID-19: An International Survey*, FEEM, Milan

Banka, R. (2020) 'Covid-19 situation in Capital alarming, says Delhi high court', *Hindustan Times*, 26 November, https://www.hindustantimes.com/delhi-news/covid-19-situation-in-capital-alarming-says-delhi-high-court/story-3pDfrPf3wWvbR7qPaXXoYO.html

Barcelona (2020) 'Plan de acción', https://www.barcelona.cat/reactivacioeconomica/es/plan-de-accion

Barcelona (undated) 'New fund with 25 million euros to reactivate the city's economy', https://www.barcelona.cat/internationalwelcome/en/noticia/new-fund-with-25-million-euros-to-reactivate-the-citys-economy_938977

BBC (2020a) 'Coronavirus: Spain imposes state of emergency on Madrid', 9 October, https://www.bbc.com/news/world-europe-54478320

BBC (2020b) 'Coronavirus: Gütersloh lockdown lifted after German court ruling', 7 July, https://www.bbc.co.uk/news/world-europe-53319435

BBVA (2020) 'BBVA y Santander entregan una 'app' a la Ciudad de México para hacer frente al COVID-19', 7 May, https://www.bbva.com/es/mx/bbva-mexico-y-santander-entregan-una-app-a-la-cdmx-para-hacer-frente-al-covid-19/

Bieliei, S., Grigoryan, H., Ichkiti, G., Kandelaki, S. and Kulesa, A. (2020) 'Direction: An efficient state — Polish experiences of decentralisation and modernisation, lessons learned for Armenia and Georgia', CASE, December, https://case-research.eu/files/?id_plik=6605

Bird and Bird (2020) 'Public procurement Q & A: China and Hong Kong', https://www.twobirds.com/~/media/pdfs/in-focus/coronavirus/lsh-tracker/bird--bird-public-procurement-china-and-hk.pdf?la=en&hash=D60F7959DF6F42CCAEF1E6083553080F1FA9C65C

Birmingham City Council (2020) 'City of Birmingham COVID-19 emergency food response', https://foodfoundation.org.uk/wp-content/uploads/2020/06/BCC_Covid-Report_A4_Proof3.pdf

Bogotá (2020) 'Socialización del segundo borrador de Ley Orgánica de Región Metropolitana', 18 December, https://bogota.gov.co/asi-vamos/obras/segundo-borrador-de-ley-organica-de-region-metropolitana

Bristol City Council (2020a) 'Strategy to support Bristol's economy launched', 16 October, https://news.bristol.gov.uk/news/strategy-to-support-bristols-economy-launched

Bristol One City (2020b) *A One City Economic Recovery and Renewal Strategy*, Bristol City Council, Bristol

Brussels Capital-Region (2020) 'Le Gouvernement bruxellois approuve le plan de relance et de redéploiement pour faire face à la crise Covid-19', 7 July, https://rudivervoort.brussels/wp-content/uploads/2020/07/Plan-de-relance-Dossier-de-presse-FR.pdf

Buenos Aires City Government (undated and untitled), https://www.buenosaires.gob.ar/sites/gcaba/files/lineas_de_credito.pdf

Bustamante, T., Meyer, E. and Tirado, F. (2020) 'Opposing an idle federal government: The Brazilian Federal Supreme Court on mandatory vaccination', *VerfBlog*, 23 December, https://verfassungsblog.de/opposing-an-idle-federal-government/

C40 Knowledge (2020) 'Public transport after COVID-19: Re-building safe and connected cities', June, https://www.c40knowledgehub.org/s/article/Public-transport-after-COVID-19-re-building-safe-and-connected-cities?language=en_US

Calgary (undated), 'COVID-19 — Economic Resilience Task Force', https://www.calgary.ca/csps/cema/covid19/recovery/covid-19-economic-resilience-task-force.html

Chicago (undated) 'Recovery Task Force', https://www.chicago.gov/city/en/sites/covid-19/home/covid-19-recovery-taskforce.html

Christensen, T. (2020) 'Balancing governance capacity and legitimacy: How the Norwegian government handled the COVID19 crisis as a high performer", *The American Society of Public Administration* **80**(5): 774-779

City of Melbourne (undated) 'Participate Melbourne', https://participate.melbourne.vic.gov.au/city-future

Co-Plan and Association for Local Autonomy (2020) *The Response of Local Governments during Covid-19 Emergency in Albania: January 2020 – April 2020*

Cooperative Governance and Traditional Affairs (2020) 'Statement by Minister Nkosazana Dlamini Zuma on the Amendment of Directions', 7 May, http://www.cogta.gov.za/?p=8090

Coronavirus CivActs Campaign (undated), https://civacts.org/civactscampaign

Council of Europe (2020a) 'Initiatives of the City of Montreal during the COVID-19 crisis', 17 April, https://www.coe.int/en/web/interculturalcities/-/initiatives-of-the-city-of-montreal-during-the-covid-19-crisis

Council of Europe (2020b) 'The City of Reggio Emilia struggling with the Coronavirus health emergency ', 7 April, https://www.coe.int/en/web/interculturalcities/-/the-city-of-reggio-emilia-struggling-with-the-coronavirus-health-emergency

Council of Europe (2020c) *Democratic Governance and Covid-19*, Council of Europe, Strasbourg

Council of Europe (2021) 'Covid-19 and amalgamated municipalities in Armenia', 10 February, https://www.coe.int/en/web/yerevan/home/-/asset_publisher/KZTSm796kFrq/content/covid-19-and-amalgamated-municipalities-in-armenia?inheritRedirect=false&redirect=https%3A%2F%2Fwww.coe.int%2Fen%2Fweb%2Fyerevan%2Fhome%3Fp_p_id%3D101_INSTANCE_KZTSm796kFrq%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-1%26p_p_col_pos%3D1%26p_p_col_count%3D5

Council of Europe (undated) 'Intercultural Cities: COVID-19 Special page', https://www.coe.int/en/web/interculturalcities/covid-19-special-page#{%2262433518%22:[6]}

County Government of Kiambu (2020) 'COVID-19 preparedness', 23 March, https://kiambu.go.ke/2020/03/covid-19-preparedness/

DeClerq, K. (2020) 'Toronto city council approves extending mayor's emergency powers', *CTV News*, 30 April, https://toronto.ctvnews.ca/toronto-city-council-approves-extending-mayor-s-emergency-powers-1.4918622

Denver (undated) 'The Economic Relief & Recovery Council', https://www.denvergov.org/content/denvergov/en/denver-office-of-economic-development/economic-relief-and-recovery-council.html

Dhrubaraj, B.K. (2020) 'In Nepal, federalism, health policy, and the pandemic', *Asia Foundation*, 10 June, https://asiafoundation.org/2020/06/10/

in-nepal-federalism-health-policy-and-the-pandemic/
District of Columbia (2020) 'ReOpen DC', https://coronavirus.dc.gov/reopendc
Ducourtieux, C. (2020) 'Andy Burnham, maire de Manchester: « La crise due au Covid-19 a souligné nos hypocrisies »', *Le Monde*, 16 June, https://www.lemonde.fr/smart-cities/article/2020/06/16/andy-burnham-maire-de-manchester-la-crise-due-au-covid-19-a-souligne-nos-hypocrisies_6042975_4811534.html
Dullah Omar Institute (2020) 'Khosa v Minister of Defense: Municipalities warned on enforcing the lockdown', *Local Government Bulletin* **15**(2)
DW (2020) 'Coronavirus: Merkel and mayors agree on tougher restrictions', 9 October, https://www.dw.com/en/coronavirus-merkel-and-mayors-agree-on-tougher-restrictions/a-55215422
Edwin, B. (2020) 'Challenges to federalism and intergovernmental relations and takeaways amid the COVID-19 experience', *American Society for Public Administration* **50**(6-7): 536-42
EMGIRS (2020) 'Municipio del Distrito Metropolitano de Quito activa protocolo para el levantamiento de cadáveres en la Capital', 9 May, https://emgirs.gob.ec/index.php/noticiasep/541-municipio-del-distrito-metropolitano-de-quito-activa-protocolo-para-el-levantamiento-de-cadaveres-en-la-capital
Eurocities (2020) 'Malmo – Acting on violence against women', 24 June, https://covidnews.eurocities.eu/2020/06/24/malmo-acting-on-violence-against-women/
Federal Reserve (2020), 'Federal Reserve takes additional actions to provide up to $2.3 trillion in loans to support the economy', 9 April 2020), https://www.federalreserve.gov/newsevents/pressreleases/monetary20200409a.htm
Financial Times (2020) 'Germany's Länder break ranks with Merkel to ease lockdown', 5 May, https://www.ft.com/content/77535d00-b1ab-4066-88c0-6402cd17fd4f
Foglia, C. and Rofman, A. (2020) 'Local participatory governance in Greater Buenos Aires: A current x-ray of the 24 municipalities', *Ibero-American Journal of Municipal Studies* **21**: 113-145
Foster, S. (2020) 'As COVID-19 proliferates mayors take response lead, sometimes in conflicts with their governors', *Georgetown Law*, https://www.law.georgetown.edu/salpal/as-covid-19-proliferates-mayors-take-response-lead-sometimes-in-conflicts-with-their-governors/
France24 (2020) 'Confusion as Italy prepares to ease lockdown', 3 May, https://www.france24.com/en/20200503-confusion-as-italy-prepares-to-ease-lockdown
Frankfurt City Government (undated), 'EINKAUFEN IN FRANKFURT – Besonders jetzt!', https://www.frankfurt-am-start.de/einkaufeninfrankfurt/
GHS Index (2019) *Global Health Security Index: Building Collective Action and Accountability*, NTI, Washington, D.C.
Gordon, S. and Bernstein, S. (2020) 'Wisconsin Supreme Court invalidates state's COVID-19 stay-at-home order', *Reuters*, 14 May, https://www.reuters.com/article/us-health-coronavirus-usa-wisconsin-idUSKBN22Q04H
Government of Canada (2020) 'Infrastructure program expands to support COVID-19 community resilience', 5 August, https://www.canada.ca/en/office-infrastructure/news/2020/08/infrastructure-program-expands-to-support-covid-19-community-resilience.html
Government of Canada (undated) 'Government of Canada takes action on COVID-19', https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/canadas-reponse/government-canada-takes-action-covid-19.html
Government of Chile (2020), 'Dispone medidas sanitarias que indica por brote de COVID-19', 24 March https://www.minsal.cl/wp-content/uploads/2020/03/DO_2_1744907.pdf
Government of Colombia (2012), *Ley 1523 de 2012*, http://www.secretariasenado.gov.co/senado/basedoc/ley_1523_2012.html
Government of Colombia (2020) 'Informe Operación COVID-19', 20 April, http://portal.gestiondelriesgo.gov.co/Paginas/Slide_home/Informe-Operacion-COVID-19.aspx
Government of Iceland (2020b) 'Measures in response to COVID-19', 23 March, https://www.government.is/default.aspx?pageid=5781e635-46bb-4c79-8218-03d44073071e
Government of Italy (2020) 'Decreto Legge 25 marzo 2020, n.19. Misure urgenti per fronteggiare l'emergenza epidemiologica da COVID-19', 25 March, http://www.protezionecivile.gov.it/amministrazione-trasparente/provvedimenti/-/content-view/view/1237817
Government of Kenya (2020a) 'What is Kazi Mtaani?', https://housingandurban.go.ke/national-hygiene-programme-kazi-mtaani/
Government of Kenya (2020b) 'CS Health meets COG health committee to strengthen COVID-19 preparedness', 3 March, https://www.health.go.ke/cs-health-meets-cog-health-committee-to-strengthen-covid-19-preparedness/
Greenblatt, A. (2020) 'America's governments are at war with each other', *Governing*, 24 July, https://www.governing.com/now/Americas-Governments-Are-at-War-with-Each-Other.html
Han, E., Tan M., Turk, E., Sridhar, D., Leung G., Shibuya, K., Asgari, N., Oh, J., García-Basteiro, A., Hanefeld, J., Cook A., Hsu L., Teo Y., Heymann, D., Clark. H., McKee, M. and Legido-Quigley, H. (2020) 'Lessons learnt from easing COVID-19 restrictions: an analysis of countries and regions in Asia Pacific and Europe', *Lancet* **396**(10261):1525-1534.
Harvard Humanitarian Initiative, 'Global COVID-19 Survey', accessed 28 February 2021, http://covid-19data.org/
Henderson, H. (2020) 'Uruguay's unified response to COVID-19 has helped it avoid the same fate as its neighbours', *ABC News*, 21 July,
High Court of Malawi (2020) *State on the Application of Kathumba & Ors v The President & Ors*, Judicial Review Cause No. 22 of 2020, MWHC 8 (28 April 2020), https://malawilii.org/mw/judgment/high-court-general-division/2020/8
High Court of South Africa, Gauteng Division (2020a) *One South Africa Movement and Another v President of the Republic of South Africa and Other*, 1 July, http://www.saflii.org/za/cases/ZAGPPHC/2020/249.html
High Court of South Africa, Gauteng Division (2020b) *De Beer and Others v Minister of Cooperative Governance and Traditional* Affairs (21542/2020) [2020] ZAGPPHC 184; 2020 (11) BCLR 1349 (GP), 2 June, http://www.saflii.org/za/cases/ZAGPPHC/2020/184.html
High Court of South Africa, Gauteng Division (2020c) *Equal Education and Others v Minister of Basic Education and Others (22588/2020) [2020] ZAGPPHC 306; [2020] 4 All SA 102 (GP); 2021 (1) SA 198 (GP)*, 17 July, http://www.saflii.org/za/cases/ZAGPPHC/2020/306.html
Hindustan Times (2021) 'Hospitals relieved as Delhi govt reduces number of reserved Covid-19 ICU beds', 2 February.
Human Rights Watch (2020a) 'China: Respect rights in coronavirus response', 30 January, https://www.hrw.org/news/2020/01/30/china-respect-rights-coronavirus-response
Human Rights Watch (2020b) 'Bangladesh: End wave of COVID-19 "rumor" arrests', 30 March, https://www.hrw.org/news/2020/03/31/bangladesh-end-wave-covid-19-rumor-arrests
ICNL (undated), 'COVID-19 Civic Freedom Tracker', https://www.icnl.org/covid19tracker/?location=&issue=&date=&type
IMF (2020) 'Keeping the receipts: Transparency, accountability, and legitimacy in emergency responses', 20 April, https://www.imf.org/en/Publications/SPROLLs/covid19-special-notes
IndiaToday (2020) 'Pune slum pockets contribute in majority of Covid-19 cases', 14 April, https://www.indiatoday.in/india/story/pune-slum-pockets-contribute-in-majority-of-covid-19-cases-1666901-2020-04-14
Izmir Metropolitan Municipality (2020) 'COVID-19 Resilience Action Plan from Izmir', https://covidnews.eurocities.eu/wp-content/uploads/2020/06/Resilience-Action-Plan-of-Izmir-1.pdf
Jalisco State Government (undated) 'Conoce en qué consiste el botón de emergencia y a partir de cuáles indicadores podría activarse', https://www.jalisco.gob.mx/es/gobierno/comunicados/conoce-en-que-consiste-el-boton-de-emergencia-y-partir-de-cuales-indicadores
James, K. (2020) 'Covid-19 and the need for clear centre state roles', 3 April, *Vidhi Centre for Legal Policy*, https://vidhilegalpolicy.in/blog/covid-19-and-the-need-for-clear-centre-state-roles/
Jones, S., Oltermann, P. and Giuffrida, A. (2020) 'Coronavirus: Spain declares emergency in Madrid as Berlin emerges as hotspot', *The Guardian*, 9 October, https://www.theguardian.com/world/2020/oct/09/coronavirus-spain-declares-emergency-in-madrid-as-berlin-emerges-as-hotspot
Kaponda, C. (2020) 'No COVID-19 lockdown still threatens livelihoods and trade in Malawi', *LSE*, 25 September, https://blogs.lse.ac.uk/africaatlse/2020/09/25/no-covid19-lockdown-threatens-livelihoods-trade-trust-malawi/
Kenya News Agency (2020) 'More COVID-19 relief in Mombasa', 8 May, https://www.kenyanews.go.ke/more-covid-19-relief-in-mombasa/
Kiruga, M. (2020) 'Kenya's fight against coronavirus difficult with its two-tiered governance system', *The Africa Report*, 17 April, https://www.

theafricareport.com/26354/kenyas-fight-against-coronavirus-difficult-with-its-two-tiered-governance-system/

Kling, S. (2020) 'Shut down or adapt? Pandemic-era infrastructure in a divided Chicago', in A.F. de Losada and H. Abdullah (eds.) *Cities on the Frontline: Managing the Coronavirus Crisis*, CIDOB, Barcelona

Knight, B. (2020) 'Coronavirus: Can German courts overturn all lockdown measures?', 2 November, https://www.dw.com/en/coronavirus-can-german-courts-overturn-all-lockdown-measures/a-55477209

Kulturklik (2020) 'Bilbao aprueba un plan para la cohesión social, la reactivación económica, el empleo y la cultura de 15 millones de euros con más de 50 medidas de carácter excepcional', 8 May, https://www.kulturklik.euskadi.eus/z12-detalle/es/contenidos/noticia/2020050811512418/es_def/index.shtml

Lexology (2020) 'COVID-19: Can they do that? Part IX: Enforcement of Emergency Measures', 7 April, https://www.lexology.com/library/detail.aspx?g=090fab9b-9247-4834-92aa-d470702c1393

Lim, J. (2020) 'Singapore's experience of COVID-19: The first wave', *Resilient Cities Network*, March, https://resilientcitiesnetwork.org/urban_resiliences/singapore-s-experience-covid-19-first-wave/

Local Government Lawyer (2020) 'Virtual local authority meetings', 6 April, https://www.localgovernmentlawyer.co.uk/governance/314-governance-a-risk-articles/43304-virtual-local-authority-meetings

Los Angeles County (undated) 'L.A. Country Economic Resiliency Task Force', https://covid19.lacounty.gov/economic-resiliency-task-force

Madrid City Council (2020a) 'El Ayuntamiento rebaja impuestos para impulsar la recuperación de comercio, ocio, hostelería y cultura', 29 May, https://diario.madrid.es/blog/notas-de-prensa/el-ayuntamiento-rebaja-impuestos-para-impulsar-la-recuperacion-de-comercio-ocio-hosteleria-y-cultura/

Madrid City Council (2020b) 'El Ayuntamiento de Madrid pone en marcha 15 plazas en viviendas compartidas para víctimas de violencia de género', 11 June, https://www.madrid.es/portales/munimadrid/es/Inicio/El-Ayuntamiento/Todas-las-noticias/El-Ayuntamiento-de-Madrid-pone-en-marcha-15-plazas-en-viviendas-compartidas-para-victimas-de-violencia-de-genero/?vgnextfmt=default&vgnextoid=7200a37e3f2a2710VgnVCM1000001d4a900aRCRD&vgnextchannel=e40362215c483510VgnVCM2000001f4a900aRCRD

Maintains (2020) *Initial COVID-19 responses in Bangladesh, Kenya, Pakistan, Sierra Leone and Uganda: Documentation and learning from March to May 2020*, OPM, Oxford

Maringá (2020) 'Coronavirus', 29 June, http://www2.maringa.pr.gov.br/site/index.php?sessao=8e54409f63558e&id=36586

Mclean, J. (2020) 'Kansas Supreme Court sides with governor, preserving ban on large church services' NPR, 11 April, https://www.npr.org/templates/story/story.php?storyId=832665145

Melbourne (2020) *COVID-19 Reactivation and Recovery Plan*, City of Melbourne, Melbourne

Mesmer, P. (2020) 'Park Won-soon, maire de Séoul: «Nous voulons faire de Séoul une référence de l'après-Covid», *Le Monde*, 16 June, https://www.lemonde.fr/international/article/2020/06/16/park-won-soon-maire-de-seoul-nous-voulons-faire-de-seoul-une-reference-de-l-apres-covid_6043041_3210.html

Metropolitan Lima Municpal Council (2020a) 'Alcalde Muñoz pone a disposición del Minsa grupo de médicos de Sisol para casos de Coronavirus', 11 March, http://www.munlima.gob.pe/noticias/item/39706-alcalde-munoz-pone-a-disposicion-del-minsa-grupo-de-medicos-de-sisol-para-casos-de-coronavirus

Metropolitan Lima Municipal Council (2020b) 'Lima te escucha: Orientación psicológica en línea', 2 April, http://www.munlima.gob.pe

Mexico City (2020a) 'La Gaceta Oficial de la Ciudad de México', 30 June, https://data.consejeria.cdmx.gob.mx/portal_old/uploads/gacetas/965c2e9bcf4921a303678c3eeb36a863.pdf

Mexico City (2020b) 'Gaceta Oficial de la Ciudad de México', 30 March, https://data.consejeria.cdmx.gob.mx/portal_old/uploads/gacetas/ddcac298af1eb9c3e3235ac7890a9a32.pdf

Milan (2020) 'Milan 2020 adaptation strategy', https://www.comune.milano.it/documents/20126/7117896/Milano+2020.+Adaptation+strategy.pdf/d11a0983-6ce5-5385-d173-efcc28b45413?t=1589366192908

New Orleans (2020) 'City of New Orleans launches unprecedented COVID-19 meal assistance program in partnership with FEMA and local restaurants; residents encouraged to apply', 30 June, https://nola.gov/mayor/news/june-2020/city-of-new-orleans-launches-unprecedented-covid-19-meal-assistance-program-in-partnership-with-fema/

OECD (2020a) 'The territorial impact of COVID-19: Managing the crisis across levels of government', 10 November, http://www.oecd.org/coronavirus/policy-responses/the-territorial-impact-of-covid-19-managing-the-crisis-across-levels-of-government-d3e314e1/

OECD (2020b), 'Cities policy responses', 23 July 2020, http://www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff/

OECD (2020c) 'Italian regional SME policy responses', 22 April, https://www.helvetas.org/en/switzerland/how-you-can-help/follow-us/blog/inclusive-systems/Local-governments-during-COVID-19

OHCHR (2020) 'COVID-19: Exceptional measures should not be cover for human rights abuses and violations – Bachelet', Geneva, www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25828&LangID=E

Open Government Partnership (undated), 'Collecting open government approaches to COVID-19', https://www.opengovpartnership.org/collecting-open-government-approaches-to-covid-19/

Pahsuk, S. (2020) 'Protect medical workers in Thailand from COVID-19', Human Rights Watch, 15 April, https://www.hrw.org/news/2020/04/15/protect-medical-workers-thailand-covid-19

Paris (2020) 'Les temps forts du Conseil de Paris de mai 2020', 18 May, https://www.paris.fr/pages/suivez-en-direct-le-conseil-de-paris-7805

Parliament of Victoria (2020) 'Emergency powers, public health and COVID-19', https://www.parliament.vic.gov.au/publications/research-papers/download/36-research-papers/13962-emergency-powers-public-health-and-covid-19

Pinedo, E. and Landauro, I. (2020) 'Madrid court annuls central government's COVID-19 curbs on city', Reuters, 8 October, https://www.reuters.com/article/uk-health-coronavirus-spain-madrid/madrid-court-annuls-central-governments-covid-19-curbs-on-city-idUKKBN26T1M6?edition-redirect=in

Pollack, T. et al (2020) 'Emerging COVID-19 success story: Vietnam's commitment to containment', *Our World in Data*, 30 June, https://ourworldindata.org/covid-exemplar-vietnam

Portillo, A. (2020) 'Estudian reformas a Ley de Ordenamiento y Desarrollo Territorial', Legislative Assembly of the Republic of El Salvador, 7 December, https://www.asamblea.gob.sv/node/10848

President of Russia (2020) 'Decree on determining the procedure for extending the action of measures to ensure the sanitary and epidemiological well-being of the population', 11 May, http://www.kremlin.ru/events/president/news/63341

Province of Ontario (2020), 'Historic agreement delivers up to $4 billion to support municipalities and transit', 27 July, https://news.ontario.ca/en/release/57758/historic-agreement-delivers-up-to-4-billion-to-support-municipalities-and-transit

Raphael, M. (2020) 'In Spain, Madrid's highest court annuls a federal lockdown', *The New York Times*, 8 October, https://www.nytimes.com/2020/10/08/world/in-spain-madrids-highest-court-annuls-a-federal-lockdown.html

Republic of Colombia (2020), *Decreto 418 de 2020*, https://dapre.presidencia.gov.co/normativa/normativa/DECRETO%20418%20DEL%2018%20DE%20MARZO%20DE%202020.pd

Republic of Peru (2020) 'Resolución ministerial', 31 January, https://cdn.www.gob.pe/uploads/document/file/505245/resolucion-ministerial-039-2020-MINSA.PDF

Romania Inside (2020) 'Record fines issued by Romanian authorities during COVID-19 state of emergency are unconstitutional', 6 May, https://www.romania-insider.com/romania-covid-19-state-emergency-fines-unconstitutional

Rubinelli, L. (2020) 'The Italian state, its regions and the virus', *The Political Quarterly* 91(3): 553-60

Sachs, J. (2020) 'The 3rd OECD Roundtable on Cities and Regions for the SDGs, Session 2: Long-term pandemic recovery strategies and the SDGs in cities and regions', 17 November, https://www.oecd.org/cfe/regionaldevelopment/sdgs-cities-regions-roundtable.htm

Saliba, F. (2020) 'Claudia Sheinbaum, maire de Mexico: «La mégalopole de demain sera plus participative» https://www.lemonde.fr/smart-cities/article/2020/06/21/claudia-sheinbaum-maire-de-mexico-la-megalopole-de-demain-sera-plus-participative_6043603_4811534.html

Sandy, M. and Milhorance, F. (2020) 'Brazil's president still insists the coronavirus is overblown. These governors are fighting back', *Time*, 6 April, https://time.com/5816243/brazil-jair-bolsonaro-

coronavirus-governors/
São Paulo (2020) 'SP vai ampliar enfrentamento ao coronavírus com 1 mil novos leitos de UTI', 12 March, http://www.saopaulo.sp.gov.br/ultimas-noticias/governo-de-sao-paulo-anuncia-novas-medidas-de-combate-ao-coronavirus/
São Paulo (undated), 'SP contro o novo coronavirus: Saiba como se proteger https://www.saopaulo.sp.gov.br/coronavirus
Sawyer, I. (2020) 'Congo's Ebola Fight Has Lessons for Covid-19', *Human Rights Watch*, 26 March, https://www.hrw.org/news/2020/03/26/congos-ebola-fight-has-lessons-covid-19
Scalzaretto, N. (2020) 'Following federal government, São Paulo state to declare public calamity', *The Brazilian Report*, 20 March, https://brazilian.report/coronavirus-brazil-live-blog/2020/03/20/following-federal-government-sao-paulo-state-to-declare-public-calamity/
Segodnya (2020a) 'Lutsk will not stop transport due to quarantine "red" zone - mayor's advisor', 3 August, https://www.segodnya.ua/regions/lvov/luck-ne-budet-ostanavlivat-transport-i-zakryvat-zavedeniya-iz-za-karantinnoy-krasnoy-zony-1467346.html
Segodnya (2020b) 'Ternopil authorities opposed referring the city to the "red" zone', 3 August, https://www.segodnya.ua/regions/lvov/vlasti-ternopolya-vystupili-protiv-otneseniya-goroda-k-krasnoy-zone-1467632.html
Silberzahn, P. (2020), 'Gérer une situation de crise: faut-il une approche centralisée ou décentralisée?', 23 March, https://philippesilberzahn.com/2020/03/23/gerer-une-situation-de-crise-faut-il-une-approche-centralisee-ou-decentralisee/
Slotkin, J. (2020) 'Michigan Supreme Court rules against governor's emergency powers', *NPR*, 3 October, https://www.npr.org/sections/coronavirus-live-updates/2020/10/03/919891538/michigan-supreme-court-rules-against-governors-emergency-powers
Sydney (2020) 'Survey: Sydney's recovery plan', https://www.cityofsydney.nsw.gov.au/vision-setting/survey-sydneys-recovery-plan
Tel Aviv-Yafo Municipality (2020) 'Tel Aviv-Yafo Municipality's response to the COVID-19 pandemic', https://www.tel-aviv.gov.il/en/Documents/Tel%20Aviv-Yafo%20Municipalitys%20response%20to%20the%20COVID-19%20pandemic-%20May%202020%20update.pdf
The Council of Governors (2020) 'Mombasa Governorate demonstrates great leadership in the COVID-19 response', 1 June, https://www.cog.go.ke/component/k2/item/207-mombasa-county-demonstrates-great-leadership-in-the-covid-19-response
The New York Times (2021) 'Coronavirus world map: Tracking the global outbreak', accessed 28 February, https://www.nytimes.com/interactive/2020/world/coronavirus-maps.html
Toronto (undated) 'COVID-19: Impacts & Opportunities Report from Toronto's Office of Recovery & Rebuild', https://www.toronto.ca/home/covid-19/covid-19-reopening-recovery-rebuild/covid-19-about-reopening-recovery-rebuild/
Totenberg, N. (2020) 'Supreme Court says New York can't limit attendance in houses of worship due to COVID', *NPR*, 26 November, https://www.npr.org/sections/coronavirus-live-updates/2020/11/26/939264852/supreme-court-says-new-york-cant-limit-attendance-in-houses-of-worship-due-to-co
UCLG Africa (2020) 'COVID-19: African local and regional governments on the front line', 23 April, https://www.uclga.org/news/covid-19-african-local-and-regional-governments-on-the-front-line/
UCLG, Metropolis and LSE Cities (2020) 'The COVID-19 response: Governance challenges and innovations by cities and regions', LSE Analytics Note 2, July, https://www.lse.ac.uk/Cities/publications/Policy-Briefs-and-Analytics-Notes/Analytics-Note-02-The-COVID-19-Response-Governance-Challenges-and-Innovations-by-Cities-and-Regions
UK Department of Health and Social Care (2020) 'Local authority powers to impose restrictions: Health protection', updated 10 December, https://www.gov.uk/government/publications/local-authority-powers-to-impose-restrictions-under-coronavirus-regulations/local-authority-powers-to-impose-restrictions-health-protection-coronavirus-restrictions-england-no3-regulations-2020
Umbach, G., Guidi C. and Russo, M. (2020) *Evidence-Based Policy Making: From Data To Decision-Making*, European University Institute, Florence
UN-Habitat (2004) *72 Frequently Asked Questions About Participatory Budgeting*, UN-Habitat, Nairobi
UN-Habitat (2020) 'SDG cities', https://unhabitat.org/sites/default/files/2020/01/fp5-sdg_cities_v261119.pdf
UNCHR (1984) 'The Siracusa Principles on the limitation and derogation of provisions in the International Covenant on Civil and Political Rights', United Nations document E/CN.4/1985/4, 28 September, https://undocs.org/en/E/CN.4/1985/4
UNDP (2020a) 'Impacto económico y social del COVID-19 y opciones de política en la república dominicana', 23 July, https://www.latinamerica.undp.org/content/rblac/es/home/library/crisis_prevention_and_recovery/impacto-economico-y-social-del-covid-19-y-opciones-de-politica-e.html
UNDP (2020b) 'COVID 19 socio economic response plan', October, COVID-19 Socio-Economic Impact Assessment, https://serbia.un.org/sites/default/files/2020-09/seia_report%20%281%29.pdf
WHO (2020) 'Freetown tackles a dual challenge to protect its citizens from COVID-19 amidst food insecurity', 23 October, https://www.who.int/news-room/feature-stories/detail/freetown-tackles-a-dual-challenge-to-protect-its-citizens-from-covid-19-amidst-food-insecurity
World Bank (2020a) 'Global responses to COVID-19 in cities and slums: Practices from around the world', GSG Urban Poverty and Housing Working Document, 15 May, http://pubdocs.worldbank.org/en/829971589899181351/May15-Response-to-COVID-in-Slums-and-Cities.pdf
World Bank (2020b) 'How countries are using edtech (including online learning, radio, television, texting) to support access to remote learning during the COVID-19 pandemic', https://www.worldbank.org/en/topic/edutech/brief/how-countries-are-using-edtech-to-support-remote-learning-during-the-covid-19-pandemic
World Bank (undated) 'Urban development', https://www.worldbank.org/en/topic/urbandevelopment/overview
Wray, S. (2020a) 'How cities are using data to plan for COVID-19', *CitiesToday*, 10 June, https://cities-today.com/cities-look-to-data-to-inform-next-steps-on-covid-19/
Wray, S. (2020b) 'Mastercard provides economic performance data to aid city recovery', 4 June, https://cities-today.com/industry/mastercard-provides-economic-performance-data-to-aid-city-recovery/
Yang, K. (2020) 'What can COVID-19 tell us about evidence-based management?', *The American Review of Public Administration* **50**(6-7)

5

Conclusion

This publication has examined the interplay between COVID-19 and cities through the lenses of urban morphology, inequality, urban economy and governance. The chapters dedicated to these issues each provided in-depth analysis of how the pandemic and various health directives impacted on urban areas, and the actions of cities to respond to and recover from the pandemic.

Free testing of population for COVID-19, Da Nang city, Vietnam © Shutterstock

This concluding chapter draws upon the analysis of the four perspectives to take a broader view and highlight important takeaways. This involves some critical reflection on COVID-19, pinpointing key challenges cities face navigating recovery and preparing for health crises in future. The analysis then explores some of the silver linings of the pandemic, spaces of opportunity made possible by COVID-19 that if properly harnessed offer great potential. Drawing upon this critical discussion of challenges and opportunities, the implications for policy and investment moving forward are then considered. The final section examines the role of intergovernmental institutions in supporting policy and investments emerging from COVID-19 and the broader implications for the future of multilateralism.

5.1. Critical Reflections

5.1.1. Health crises, urbanization and the role of the state

While seized with the current crisis, we are neither the first generation nor the last to confront a pandemic. History shows us that health crises have challenged humans for millennia. The historical precedents also reveal that the way governments respond to the crisis has deeply shaped the role and structures of the state. Pandemics require public action and societal change on a massive scale. There is no replacement for basic services and the provision of other public goods: these can only be provided by governments. The state, in its different forms, plays an essential role in ensuring people weather the storm and prepare for change.

Among the various levels of government, municipalities, in close coordination with different levels of government, have a special relationship with health crises. Pandemics manifest most immediately in cities, placing enormous pressure on local and community leaders to mount an effective response and to facilitate a sustainable recovery. This has been increasingly so with the advent of urbanization as human activity concentrated in urban areas has generated interconnected city networks across the planet. Historically, city governments have not only stepped up their role to manage crises, but also taken steps to prevent future ones. Sanitation and systems of waste management — and the very notion of public health — emerged from earlier health emergencies.

Today, as in the past, a truly transformative city response is needed, one that combines mixed-use land management, public space, affordable housing, urban design and inclusive planning practices. Now as before, pandemics trigger innovation and underscore the crucial role of public institutions. Rising to this challenge, however, poses tremendous burdens. Many governments and cities lack the capacity to detect, assess, report and respond to public health events. Much work remains to be done before a lasting foundation for global health security can be built.

5.1.2. Narratives on COVID-19 and cities

Despite the extraordinarily effective role many have played in responding to COVID-19, cities have been viewed critically during the pandemic. Popular narratives have emerged about how cities and their large, dense populations constitute a threat to public health. The discourse on cities has extended to include prophecies about the imminent demise of the metropolis. As those in a position to do so vacate cities and work from smaller, less-dense cities and rural areas, corporations will relocate, rental markets will collapse and skyscrapers will resemble dinosaurs on the verge of extinction.

Available data reveals a different narrative. Per capita, the number of COVID-19 cases and deaths is in some cases similar or higher in smaller cities and rural districts than in large metropolitan areas. There is no decisive correlation between infection rates and city size. Nor does density appear to be a determinant of COVID-19: studies comparing highly dense neighborhoods with more

sparsely concentrated built environments found no correlation between density and infection or mortality rates. Available data indicates that rather than density, the key determinants of rates of infection and mortality are unequal access to basic services, poverty and overcrowded living conditions, pre-existing health conditions and some forms of proximity jobs. As for the "cities are dying" narrative, trends show that people are indeed leaving big cities but for multiple reasons and with consequences that may well be positive. The outmigration from large cities that is impacting on real estate markets will over time render them more accessible and inclusive. The in-migration to small cities and towns will drive innovation, perhaps increasing prices but improving basic services and urban amenities. The result is likely to be a rebalancing, not demise, of urban areas within regions, particularly in developing country cities.

Competing narratives on COVID-19 and cities will continue to be a feature of the pandemic and its aftermath. They are likely not resolvable in our lifetimes. Moving forward, however, managing divergent perceptions of our collective urban future will be as important as urban policy and practice. This will involve re-examining assumptions about city form and function, looking critically at questions of proximity, accessibility, mobility, use of public space and the design of a more ecological city.

5.1.3. Pre-existing conditions and the deterioration of the social fabric

The first year of the pandemic has produced marked differences in how COVID-19 is experienced. Those in a position to do so have, as the saying goes, sought higher ground. They work from home while continuing to receive a pay slip assured of their next rent or mortgage payment. Home schooling poses challenges, but they have occupations and access to internet that provide options which, once instituted, prove workable. They have confined contact with the outside world to limited excursions in privately-owned vehicles to food stores, pharmacies and lightly patronaged retail stores, or elect to order most of these services online delivered to their homes. They seek recreation in parks and other public spaces. They accept social distancing, wearing of face masks, repeated handwashing, lockdowns, curfews and travel restrictions, largely because adapting to these public health directives is possible.

Those not afforded the higher ground operate in significantly different circumstances. Many have lost their jobs or work away from their homes in occupations that put them in contact for long periods of time with others who they may or may not know, increasing risk of exposure to the virus. For them the threat of eviction is real and constant. Home schooling places their children's education at odds with their ability to earn income. They commute each day, often using systems of transport that also put them in contact with others. Be it buses, trains or footpaths, they must find a way to gain access to essential services as few have the resources or formal accommodation to order online. Recreation is confined to commuting since they lack both time for and access to public space. Many recognize the importance of public health directives but find it difficult to adhere to them. Water may or may not be readily available. Social distancing is often not possible. Lockdowns, curfews and travel restrictions pose a direct threat to their livelihoods.

The two socio-economic worlds of COVID-19 are real and have long-term social and political consequences. The deterioration of the social fabric, however, extends well beyond class. The pandemic has been experienced differently by women as they navigate pressures to earn income, manage home schooling and care for family. Persons with limited mobility, immigrants, the elderly, the spatially segregated and minorities face unique challenges, even outright discrimination. The intersection of poverty and inequality informs our understanding of how the pandemic has profited and deepened historical divisions and created new vulnerabilities. Such knowledge

will be essential in our collective efforts to restore the social fabric of cities. Yet there is a fundamental failure to recognize that the pandemic is experienced in vastly different ways — a lack of empathy that extends to our politics, undermining our shared sense of solidarity and leaving us ill-equipped to understand a public health crisis, let alone recover from it.

5.1.4. Fiscal shocks, cities and the "scissors effect"

The pandemic has created a particularly hard fiscal shock for cities that is sometimes characterized as the "scissors effect." On the one hand, cities are incurring increases in expenditure to respond to the crisis, while on the other hand the pandemic has radically hit the tax base, denying the city key sources of revenue. Local governments in most countries are prohibited from running a deficit and may incur debt only at proscribed levels. Faced with declining revenues, they must reduce expenditures to maintain a balance of payments. Mayors and county executives faced with such budget challenges are left with little choice other than to reduce the size of the civil service. Cutting jobs in local government may help balance budgets, but it further reduces the tax base and undermines the ability of the city to provide basic services precisely at a time when those services are needed most.

The contested issue of central government fiscal transfers to local governments is a hot topic of debate in many countries. While most countries are in favor of stimulus packages that include support to local governments, many are apprehensive about the political tensions surrounding decisions about how, where and how much funding will be made available. The "scissors effect" and its consequences are more pronounced in countries that are heavily centralized. Local governments are on the front lines of the pandemic but lack the authority to raise their own revenues and are therefore almost entirely dependent on fiscal transfers to respond to COVID-19. Importantly, cities that do have fiscal autonomy often lack strategies to support urban economies, and they lack the capacity to properly assess and collect revenues and use them with the highest social returns.

5.2. Emerging Lessons and Opportunities

5.2.1. The importance of the state, cities and multi-level coordination

While countries have responded differently to the pandemic, there are important common lessons emerging from the health crisis. The first is that people recognize the role of the state. Communities and their organizations, private industry, academia and professional associations have each contributed to the recovery and the emerging socio-economic response, but governments have generally provided the lead. This has significantly shifted popular opinion and ideological views about government. Even civil libertarians and other proponents of small government normally inclined to be suspicious of public largesse have accepted the need for government leadership in response to the pandemic and steps to mount a recovery. Will this last beyond the pandemic? That is not clear, but what we can say is that there is currently global recognition of the importance of the public sector and of public goods, including health policies and outcomes, in developed and developing countries alike.

A second observation is that cities are important. Not only have they served as the frontline of the pandemic, but they have also carried a significant portion of the health recovery and socio-economic response efforts — so much so that the quality of recovery and response is very much tied to the leadership and capacity of municipal governments. With much riding on cities, there is growing interest in how to strengthen municipal governments, particularly their response mechanisms, planning capacity and fiscal autonomy.

The third is that multi-level coordination among tiers of government matters. Shared understanding about the division of labour among national, subnational and local governments significantly influences the ability of government to contain the pandemic. Coordination also strengthens the application of health directives and the introduction of appropriate social and economic responses with community and neighbourhood solutions. Lives and livelihoods rest on the success or failure of multi-level coordination.

5.2.2. Regional integration, economic rebalancing and the health-climate-planning nexus

In our efforts to study the emerging lessons of the pandemic, we are often inclined to view it from a national perspective and, as this study has emphasized, also from a municipal vantage point. Equally important, however, is the space between the city and the state — the regional unit of analysis. In many countries, the response to the pandemic involved dialogue among a number of local governments and networks of cities within a subregion. This was particularly the case in large metropolitan areas surrounding cities: encompassing multiple provincial governments, these required health directives that transcended individual administrative jurisdictions. Officials from different local governments and municipalities sought horizontal coordination to ensure consistency and compliance. Regional interventions also served to articulate territorial responses in which some urban centres served as intermediaries to rural areas and poorly connected or peripheral places.

Furthermore, the regional unit of analysis lends itself to the prevention of future health shocks. Networks of contiguous local governments within a subregion of a country constitute an ecosystem that, if properly managed, can ensure the sustainability of food systems, water resources, air quality, land use, forests and road-rail-air-shipping transport links. Regional planning and resource management enables officials from multiple jurisdictions to work together to reduce health risks, including the transmission of zoonotic diseases and the deterioration of air quality.

In addition to providing opportunities to link health and climate to sustainable management of resources, regional analysis is also helpful in understanding the economic manifestations of the pandemic. As mentioned, COVID-19 has triggered outmigration of populations from urban areas within subnational regions. Economic rebalancing of this kind benefits greatly from a regional perspective.

5.2.3. Investing in social protection and livelihoods

When we consider the extent of the measures taken by countries to respond to the pandemic, the sheer scale and scope of the response is extraordinary. Countries varied greatly in the amounts of resources they could bring to bear, but all nations have moved what they have available to respond at scale. There has been overall a dedicated focus to ensuring job retention and income security to reduce socio-economic vulnerabilities. Where possible, social protections have been extended to health care, education and food security. Housing measures have included moratoria on evictions, rental assistance and leniency towards mortgage and debt payments. Countries have overwhelmingly invested in infrastructure to improve living conditions and mitigate potential health risks. These include isolation facilities and emergency shelters, as well as extended access to water and hygiene stations in informal settlements and slums. Some countries have broadened infrastructure investments to improve the safety of transportation and develop more inclusive systems of mobility. As the pandemic exposed gaps in access to and knowledge of information and communication technology, many governments have made digital inclusion a cornerstone of their respective stimulus packages.

Have these social protection and livelihood response measures been adequate? Have they

succeeded in reaching vulnerable groups? Were they tailored to meet the needs of women, people experiencing disabilities and the elderly? In most instances, probably not. However, the degree of commitment displayed by countries across the world to address the pandemic suggests the possibility of more balanced social and economic development in future — a scenario previously thought unimaginable.

5.2.4. Fiscal stimulus packages as the seeds of transformation

In a world where the pandemic has painfully exposed growing inequality and multi-dimensional poverty, these social protection and livelihood measures could mark the beginnings of a wider strategy for inclusion and non-discrimination. Whether this will extend to long-run social protections, universal basic incomes and the realization of housing rights remains an open question. But the scale and commitment of the immediate response to the pandemic opens up the possibility of such a trajectory. The fiscal stimulus programmes now being rolled out in many countries are also emerging as trial runs for carbon-neutrality and an ecological future for cities. How each nation arrives at its climate strategy will vary, but these investments provide a basis for countries, cities and communities to commit to renewable energy, sustainable production and consumption patterns, managing natural resources, food systems and waste more effectively, preferably through a subnational regional approach. The immediate response to the "scissors effect", fiscal transfers as a component of the stimulus package in countries in a position to dedicate resources for this purpose, may do little more than plug a hole. However, they stimulate a dialogue about how to increase the fiscal space for local governments, increase local economic development, overcome the digital divide and improve the ability of municipal authorities to assess and collect endogenous revenues. Together, they could serve as the seeds of transformative change.

5.3. Implications for Policy and Investment

5.3.1. Harness the transformative potential of the pandemic response

The overriding objective of governments in the next five years will be to tap the political will, collective action and economic investments of their pandemic response to bring about the structural changes necessary to achieve sustainable development. While the response so far has been extraordinary, commitment for longer-term action, however promising, is not a given. Harnessing the transformative potential of the response to COVID-19 will require a robust policy agenda to maintain momentum and mobilize resources. Elements of this agenda include policies designed to address the key issues raised in this report. These include city planning integrated with sustainable regional subnational development; social protection, equality and non-discrimination; investment in sustainable infrastructure, digital connectivity, basic services and viable urban economies; and public sector capacity, structures and vertical coordination.

5.3.2. Revitalize public sector capacities and engender dialogue among levels of government

The response to the pandemic garnered widespread appreciation for the public sector and recognition of the important role of the state. At the same time, COVID-19 also exposed weaknesses in governance systems. Civil servants lacked capacity and institutional arrangements to contain the virus, mount a response and ensure recovery. National and local governments in many instances failed to offer consistent messages about the pandemic and to align efforts to deploy much needed social and economic resources. To address these challenges, countries will need to establish policy frameworks and legislation to upgrade public institutions, not only through professional training but also the provision of modern technology and equipment, digital literacy and opportunities for education and career advancement.

Policy and legislation will also be needed to identify appropriate institutional arrangements to devolve public administration, particularly the provision of basic services and the fiscal authority to collect and manage local revenues. The ability of central governments to devolve power is tied closely to the legacy of earlier governance systems and efforts to move beyond these. Decentralization will necessarily take different forms and it will often remain fluid, negotiated, evolving. For policy makers, it is crucially important that the governance structures are widely understood and that there are mechanisms for dialogue and, where necessary, mediation and conflict resolution. The pandemic triggered the creation of task forces and councils, particularly in countries that experience tension. These were imperfect, but they demonstrate the importance of dialogue so essential for vertical coordination.

5.3.3. Make cities inclusive, well-planned and regionally integrated

Policies to improve regional and urban planning are essential. Among these the guidelines for participatory planning and budgeting are particularly important. The way the pandemic has played out in many cities has a great deal to do with how municipal governments work with communities, private industry and especially minority groups and the working poor, who are so often left out of decision-making processes. Inclusive cities are aware of the needs of their population and better organized to work with them to respond to the crisis.

Urban design and corresponding regulatory frameworks at once build resilience and foster sustainable development. Municipalities that anticipate disasters and plan for them are better placed to respond. So too are cities with integrated land use management that limited the need for motorized transport and other considerations to rethink proximity, accessibility and multi-use of large premises — the proverbial 20-minute city. Cities with adequate public space and affordable, well-serviced housing are resilient, as are municipalities with well-designed neighborhood density that create efficient energy use, provide residents with better access to services and prevent overcrowding.

Policies and planning processes designed to integrate cities into the ecosystems of subnational regions foster resilience and sustainable development. Regionally integrated cities are more likely to ensure their health directives are consistent with those of surrounding administrative jurisdictions, thereby improving public health and increasing social cohesion. Cities participating in regional planning processes enable their municipalities to contribute to and benefit from a circular economy. This not only reduces greenhouse gas emissions and improves air quality, but also protects and manages food systems, water and other natural resources.

5.3.4. Establish a new social contract for collective recovery

COVID-19 has made clear the necessity to remove pre-existing conditions of inequality and discrimination, as well as address new forms of vulnerability emerging from the pandemic. Restoring the social fabric will involve more than policy frameworks: it will require a new social contract. Only through shared responsibility and collective action can national, local and non-governmental actors come together to ensure all people realize their potential as members of an interconnected, fragile planetary ecosystem.

While each country will arrive at its own commitments, there are three core objectives that can be regarded as universal:

- ***Health:*** Health care for all is not only about access to health care. It is also about prevention measures including healthy urban design that reduces spatial inequality, improvement of air quality and managed urbanization that protects biodiversity and mitigates the spread of zoonotic diseases.

- ***Housing and basic services****:* Housing for all begins with policy alternatives to

violent forced evictions. This involves a gradual phased lifting of moratoria on evictions with the introduction of rental assistance, durable mediation mechanisms for landlords and tenants and, in the case of informal settlements, transparent, participatory solutions. It also includes ensuring availability of the conditions that make housing adequate, notably land tenure security, water and sanitation, electricity and digital connectivity, as well as proximity to livelihoods and basic services.

- ***Income:*** Basic income for all is perhaps the most ambitious element of the new social contract. Universal basic incomes halt extreme poverty and offer low-income households the ability to stabilize, meet their basic needs and establish viable livelihoods. Once again, the pandemic has proved to be a testing ground, particularly with the application of temporary basic incomes. These and other social protection floors set precedents and demonstrate the potential for a new social contract.

Advancing these elements begins with their recognition as human rights, with duty-bearers and rights-holders achieving a common understanding of their shared responsibility for the gradual realization of these rights through agreed actions. These include strengthening the capacities of public sector duty-bearers to collect and analyze data, formulate policy and monitor implementation, and empowering individual rights-holders to organize and participate effectively.

Cities are key to achieving this change. Places where alliances are woven, consensus is built, conflicts settled, dreams made and realities are achieved. They were where the old normal was generated, but also where a new normal can emerge — one where health, housing and security are prioritized for the most vulnerable not only out of social necessity, but also from a profound commitment to human rights for all. Large, dense and heterogeneous, cities are the ideal space to apply a new concept of solidarity that replaces walls with bridges, borders with connections.

5.3.5. Invest in sustainable infrastructure, digital inclusion and viable urban economies

The consequences of COVID-19 have led governments to mobilize unprecedented levels of public financing to respond to the health, social and economic hardships of the pandemic. While there are huge disparities among nations, the fiscal stimulus in each country as a proportion of national income is massive. Large public investment is essential for recovery and it demonstrates the crucial role of government in times of crisis. Yet how can governments direct these and future investments toward the long-term challenges made visible and exacerbated by the pandemic? How might they be used to stimulate local economies and increase endogenous sources of revenue? Two important areas of investment highlighted in this report are sustainable infrastructure and digital inclusion.

Whether the objective is revitalizing or building new infrastructures, such as roads, energy grids, bridges, power plants, rail, ports, storm drainage systems and waste treatment plants, the operative word is sustainable. Investments in infrastructure can save energy, reduce methane emissions and enable low-carbon mobility planning to promote a green transition. They can also ensure inclusive growth by creating jobs for historically marginalized populations as well as those forced into unemployment by the pandemic. Regarding digital inclusion, the objective is not only to mobilize capital for broadband, high-speed internet access. It is also to invest in quality electricity connections to enable the smooth transition to digitally enabled processes, and in the human capital needed to sustain them — especially data literacy, digital systems and technological skills that will attract productive companies and foster local economic development and entrepreneurship.

In addition to channelling resources towards sustainable infrastructure and digital inclusion,

governments will need to invest in urban economies. The fiscal transfers from central to local governments emerging in many economic stimulus packages, as well as support to small businesses, are much needed but they offer temporary solutions. Long-term financing can only come from endogenous sources of financing. The features of the new financing model for cities include own-source revenues, access to financial markets, reduced conditionality of central government transfers and earmarked funds for times of crisis. They also include situating urban economies within regional subnational planning processes, anticipating the implications of the pandemic and the need to relocalize production processes that reflect changing lifestyles, wider broadband access and new technologies.

Furthermore, in their recovery from the pandemic many cities face dire economic straits that only investing in social capital may help avert. Given the unprecedented challenges created by the pandemic and the need for a collective response, these could extend beyond top-down policy frameworks to a direct engagement with citizens themselves. One proposal is to compliment Lefebvre'e right to the city with its corollary "duty to the city" — that is, the duty of owners to ensure that their urban property does not remain vacant. Municipal governments could incentivize such an agreement through flexible zoning, vacancy taxes and assisted repurposing in an attempt to encourage owners to repurpose their properties to have a positive social impact in their cities. In Barcelona, for instance, city authorities are now proposing a permanent ban on short term lets of private rooms and properties to protect long-term housing stock for residents from being siphoned off as tourism rentals. Such an approach may seem radical, but "exceptional times require exceptional measures", as Carlo Ratti and Saskia Sassen have argued in a recent piece for CityLab, and "ultimately, the duty to the city could bring all parts of society together to build more inclusive and resilient cities".

5.4. Implications for Multilateralism

5.4.1. Inclusive multilateralism

In elevating the role of the state, the advent of COVID-19 has underscored the relevance of multilateralism. Now more than ever, countries need intergovernmental platforms to help identify solutions to shared problems and arrive at common approaches to global policy challenges. This extends beyond much needed coordinated health and humanitarian assistance. As we have seen, it also includes opportunities for governments to promote coherent global policies on housing, basic services, income support, urban and regional planning, neighborhood and building design, local economic development, infrastructure investment and digital technology access.

In revealing the crucial role of cities, the pandemic has also demonstrated the need for inclusive multilateralism. It has shown the potential utility of intergovernmental platforms that provide opportunities for national governments to engage in dialogue with cities and local governments. Inclusive multilateralism will be particularly important for translating policy into action at the local level, identifying appropriate means of implementation. Coordination among multiple levels of government, as this report shows, has proven to be decisive in the effectiveness of COVID-19 response measures and will likely be instrumental for recovery. Structured dialogue among national and local governments in intergovernmental meetings can foster vertical coordination not only to react to future emergency situations, but also to advance sustainable development.

Inclusive multilateralism will also encourage governments to include cities and local governments to undertake national economic planning and development. Countries that amalgamate municipal and subnational

development plans are well placed to establish national strategic plans that are territorially balanced and enjoy popular support, making them more likely to be implemented and achieve results.

5.4.2. Implementation of the New Urban Agenda

The impact on cities of the COVID-19 crisis and response places before the international community the important task of determining how best to advance, and potentially modify, global frameworks for sustainable urbanization. In 2016, at Habitat III, the United Nations Conference on Housing and Sustainable Urban Development, in Quito, Ecuador, Member States adopted the New Urban Agenda (NUA), a framework to harness the transformative power of urbanization. The NUA incorporates issues of resilience and disaster preparedness but like most international agreements, it did not anticipate the onset of COVID-19 and its devastating impact on cities.

With the benefit of hindsight and analysis, we can see that the NUA did not grasp the extent of poverty and structural inequality that has since been laid bare by the pandemic. Nor did it anticipate the new vulnerabilities generated by an extreme health crisis, warranting a more explicit human rights-based approach grounded in principles of social and economic justice. The NUA also did not factor in the importance of digital access and the investments in infrastructure required to develop inclusive and sustainable urban economies. This said, however, the guiding principles, transformative commitments and means of implementation of the NUA remain relevant, in some ways even prescient. They promote a national approach to urbanization and call for greater coordination among cities and national governments, and advocate for greater fiscal autonomy for cities and local governments. The NUA places emphasis on inclusive urban planning, public space and the importance of well-designed, healthy density in cities — guidelines that will be essential for effective pandemic recovery.

The Secretary-General in his July 2020 address to the Nelson Mandela Annual Lecture, entitled "Tackling the inequality pandemic: A new social contract for a new era", articulated a vision for our collective future to address inequality head on. Noting that "COVID-19 has been likened to an X-Ray, revealing fractures in the fragile skeleton of the societies we have built", he argued that by rendering visible multiple forms of discrimination, racism and xenophobia, the pandemic has given us a once-in-a-generation chance to take the actions needed to confront the structures underpinning this systematic inequality. The prize, if we choose to take it, could be extraordinary: "an opportunity to build back a more equal and sustainable world".

Cities and Pandemics: Towards a More Just, Green and Healthy Future

From the early days of the pandemic, cities have been on the frontline of COVID-19. The spread of the virus globally through travel, trade and mobility meant that a large number of the first detected infections appeared in urban areas, prompting many to question their future. Yet in the months that followed, as the challenges of the pandemic have evolved, so too has our understanding of the disease and its complex relationship with cities. Cities and Pandemics: Towards a More Just, Green and Healthy Future presents an overview of the situation to date and outlines a range of bold measures that could deliver a lasting and sustainable recovery from the current crisis.

While COVID-19 continues to produce painful lessons on the shortcomings and failures of many cities to protect their own citizens, it also points the way forward for a better, more sustainable urban future. Some of the most effective responses to the pandemic have been designed and led by cities, building on their ability to concentrate knowledge, resources and infrastructure. From enhanced service provision to the repurposing of local economies to meet the changing needs of residents, urban areas have demonstrated a remarkable capacity for adaptation in the face of this crisis.

Moving from a mindset of emergency to recovery, cities have the opportunity to continue to focus on strengthening public health, economic resilience and service access for all. The longstanding divisions and inequalities highlighted by the pandemic mean that a return to normality is no longer enough: what is needed now is transformative change. With inclusive policies, community engagement and a meaningful transition to a more sustainable approach, cities could emerge from the catastrophe of COVID-19 stronger and more resilient than before.

UN HABITAT
FOR A BETTER URBAN FUTURE

UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME
P.O. Box 30030, Nairobi 00100, Kenya
www.UN-Habitat.org

@UN-Habitat

HS Number: HS/058/20E
ISBN Number: 978-92-1-132877-6