

THE FUTURE OF ASIAN & PACIFIC CITIES

TRANSFORMATIVE PATHWAYS TOWARDS
SUSTAINABLE URBAN DEVELOPMENT
IN THE POST COVID-19 ERA



Discussion Paper

Based on input from the Expert Group Meeting, 5 October 2020

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Abbreviations

ADB	Asian Development Bank
AI	Artificial Intelligence
APSED III	Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies
CVD	Cardiovascular Disease
DALY	Disability Adjusted Life Year
EDRM	Emergency and Disaster Risk Management
EMR	Electronic Medical Records
ESCAP	Economic and Social Commission for Asia and the Pacific
GDP	Gross Domestic Product
HiAP	Health in All Policies
ICT	Information and Communications Technology
ICU	Intensive Care Unit
IG-UTP	International Guidelines on Urban and Territorial Planning
IHR	International Health Regulations
MRES	Middle East Respiratory Syndrome
MSMEs	Micro, Small and Medium Enterprises
NCD	Non-Communicable Disease
OECD	Organisation for Economic Cooperation and Development
PPE	Personal Protective Equipment
SARS	Severe Acute Respiratory Syndrome
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
UHC	Universal Health Coverage
UNDRR	United Nations Office for Disaster Risk Reduction
UTP	Urban and Territorial Planning
WASH	Water, Sanitation & Hygiene
WHO	World Health Organization

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Executive summary:

Introduction - Health and the future of Asia-Pacific cities

Cities in the Asia-Pacific region have been heavily hit by the COVID-19 pandemic. Hyperconnected in a global web of urban networks, cities in the region have been the first hotspots. Although its impact was unprecedented, the disease was not unexpected, as similar contagious respiratory illnesses have previously occurred in the region. At the same time, unsustainable urbanization in the region, magnified by climate change, is a significant contributing factor to the emergence of new and more frequent zoonotic diseases.

The impact of the COVID-19 pandemic on urban dwellers has placed a focus on the spatial and socio-economic aspects of cities. In addition, the crises not only demands attention for infectious diseases, but also for the serious increase of non-communicable diseases, often called the invisible pandemic, that are related to unhealthy environments and explain the more serious complications among COVID-19 victims. The various cycles of lockdowns and containments also have increased mental health issues among all generations. All these facts help to raise awareness that there is a need not just to look beyond the immediate COVID-19 response and economic recovery in the short term, but also to invest in sustainable urban development that strengthens health systems and urban resilience.

The COVID-19 pandemic has shown that health determinants are of huge concern if we want to address pandemics and other major causes of death and disability that have an enormous societal and economic cost. But the response on COVID-19 also provided a glimpse into a different way of life, without abandoning sustainable urban development principles such as compact city development and green climate investments. Many cities in the Asia Pacific region have already been experimenting with new ways of working and commuting and are now looking to make these changes more permanent. Therefore, we need to take this opportunity to build back better and to move forward better.

Cities must be at the centre of this need of multi-level governance and multi-sector programmes, so to be able to address a range of complex health determinants as well as tackle existing inequities.

By strengthening an urban health approach, local government play an important role in reducing health disparities.

In the midst of what is an unprecedented global public health crisis, this paper adds an urban health focus and offers long-term health strategies to build back Asia-Pacific cities that are healthier, more equitable and, ultimately, stronger for all residents. Given the diversity of cities in the Asia-Pacific region, it is impossible to prescribe a one-size-fits-all approach to improve public health. Therefore, this discussion paper starts with a critical review of development pathways that have been put forward in the *Future of Asian and Pacific Cities* flagship report that ESCAP and UN-Habitat produced in late 2019. It offers tailored recommendations for preparing and controlling infectious disease outbreaks like COVID-19, and for adopting a Health for All Policy approach that can take into account the major impact that the COVID-19 pandemic is having, and will have on cities in the long term.

The four pillars and 15 transformative policy pathways outlined in the Future of Asian and Pacific Cities Report remain the basis for moving towards sustainable development. The COVID-19 pandemic has highlighted the need to also invest in areas that improve determinants of health. This can be done through acceleration of existing pathways, focusing on health in each pillar, as well as adding a selected number of additional pathways as described in chapters 4 to 7.

■ Pillar 1: The future of urban and territorial planning urban and territorial planning as spatial vaccine

The relation between the COVID-19 pandemic and the built environment context has underlined the need to strengthen synergies between public health and Urban and Territorial planning (UTP), by recalling the legacy of urban planning and the modernization of cities due to other health pandemics in the past.

Physical distancing and in-place sheltering have been unobtainable in many informal settlements and low-quality housing areas. Therefore, cities

that prepare outbreak responses need to take into account the spatial characteristics of the urban environment and to valorise environmental qualities in living neighbourhoods. Yet, cities do need to refrain from moving away from density, as it is an ingredient of compact city development that allows more health benefits, more economies of scale and more environmental protection.

The use of technology and data is an opportunity for better sector integration and a deep learning potential when engaging UTP and public health professionals to build together a spatial epidemiology science for the study of spatial and temporal variations in disease risk or incidence in urban environments.

UTP needs to be seen as a key policy domain mostly in the hands of cities to make choices regarding the future path of human health, urban resilience and planetary health along the following pathways:

■ Pathway 1: Integrate sustainability and quality-of-life targets into urban planning in order to future-proof public and private investment in cities

UTP needs to mainstream evidence-based planning and design monitoring approaches and integrate explicit health targets in sustainable urban and territorial planning processes that are emerging on the national and subnational levels in Asia and the Pacific. This will ensure the public and private sector to be held accountable for urban development investments that focus on health and support efforts for health and economic resilience, and planetary health as well.

In the current situation, local authorities and communities are experimenting to make urban environments healthier and more accessible for all. In moving towards the post-COVID recovery phase, there is an opportunity for UTP to prepare for fast transition towards sustainable urban development models, implementing short-term interventions as well as adopting better norms, standards and guidelines as part of larger health resilience and economic recovery plans.

■ Pathway 2: Co-produce with citizens urban planning solutions that align technological investment with adequate local government capacities

Local government and community networks have proven to be able to collaborate effectively in controlling the spread of COVID-19 and to ensure alternative access to basic services once the lockdown measures disrupted urban economies and led to cuts in supply chains. If urban planning professionals are properly trained to communicate with non-experts and to use the latest digital techniques, UTP can leverage this system of place-making as a community-led action to reimagine public spaces and strengthen neighbourhoods as healthy living circles for multi-generational societies. It will also enhance shared literacy with the general public on how cities work in the broadest sense and on the importance of UTP.

■ Pathway 3: Identify specific urban regeneration and growth strategies that optimize urban-rural and city-region collaboration to spur sustainability and investment

The COVID-19 crisis illustrates the scale of the housing crisis and the vulnerability of those living in poor housing with inadequate access to basic services. Therefore, the recovery needs to focus on city-region coordination in order to address affordable housing for all, ensure functional regional economies during pandemics and reduce car-focused sprawl and green field development in favour of compact urban development and nature-based solutions. Based on better planning tools and greater capacity for UTP throughout the region, the sustainable expansion of city hubs and strengthening of multi-modal corridors can be achieved, thereby prioritizing small and medium-sized cities as alternate economic hubs to mega cities.

■ Pathway 4: Strengthen housing policies for all

The COVID-19 crisis has exacerbated the vulnerability of those who live in poor housing or are homeless. In the short term, Governments need to provide guidance on prohibiting evictions from residences or land, and to assist those residents who have

financially been hit the most, with subsidies to owners and renters, a moratorium on rent increases and access to alternative shelters. In the medium and long term, structural public investments in affordable housing and slum upgrading are needed.

■ Pillar 2: Urban resilience

A healthy population is a resilient population

The COVID-19 pandemic has clearly demonstrated the need to integrate public health considerations into urban resilience efforts. Given its broad spectrum of impacts, different types of resilience are needed. Resilience related to health can be created through strengthening the overall public health system enabling environmental conditions to enable people to lead healthy lives during and after disasters and emergencies. Health facilities and structures need to have capacity to accommodate additional patients due to a pandemic as well as back-up electricity, water and waste management. In addition, plans should be made for dealing with possible disruptions caused by a depleted workforce, or global supply chain restrictions resulting from an infectious disease pandemic. Resilience also requires also effective risk communication to enable better health outcomes and to rectify misinformation in a pro-active and evidence-based way. In the process of strengthening health systems and building better response protocols to disasters and emergencies, the needs of vulnerable groups, particularly populations living in informal settlements, need to be prioritized.

The following policy pathways provide a solid basis for building capacity to respond to public health events and strengthening urban resilience with regard to health more broadly.

■ Pathway 1: Invest in nature-based solutions and resilient infrastructure

Nature Based Solutions can have a multitude of health benefits and should be prioritised in the post-COVID recovery phase at various levels. In order to be able to cope with physical distancing measures, experiencing nature at neighbourhood level is important, building it into in-between or formal spaces. On a larger city-region scale, it is key to develop sustainable food systems by investing in urban agriculture. On the global and national levels the shift from fossil fuels to clean natural sources of energy needs to be accelerated.

■ Pathway 2: Understand the informal economy and support urban poor groups to be change agents

Investment in essential services is important not only to enable people to practice prevention measures in the face of infectious disease outbreaks, but also to reduce vulnerabilities to the impacts of disasters and emergencies in the first place. This requires access to essential infrastructure and services for all, but also to social safety nets or social protection mechanisms. Urban resilience systems need to build in the need of scaling of access to infrastructure, services and safety nets during times of crisis.

■ Pathway 3: Create and strengthen partnerships

Building resilience across sectors and between different levels of government requires that the health sector is part of comprehensive multisectoral and multilevel governance mechanisms for disaster risk management, including modelling of scenarios as part of risk planning. This requires forms of decentralisation of health and strengthening of Governments to innovate and invest in horizontal and vertical coordination, thereby working collaboratively with local communities.

■ Pathway 4: Utilization of data

As COVID-19 has exposed significant data gaps, it is key to invest in data driven approaches for building urban resilience. Data integration is also important to analyse 'multi-layer vulnerabilities' and to design integrated effective action on both climate resilience and pandemic preparedness in specific urban areas. Access to data and internet should also become a basic service. If harnessed correctly and applied equitably, advances in digital technology provide an important opportunity to provide underserved populations with access to education.

■ Pillar 3: Smart and inclusive cities

Bridging the urban health divide through technology Over the past decade, Asian and Pacific cities have led the way in developing leading smart city programmes, focusing on distinct priorities that reflect a wide variety of municipal needs and digital capacities across the region. Still, smart cities have not

yet realized their full potential in advancing a holistic urban health agenda. Rapid technology advances in sensing, artificial intelligence (AI), machine learning and communication technologies have created unprecedented opportunities to improve urban health and reduce inequalities. However, there have also been an increasing number of smart technology ‘overreaches’ in Asia-Pacific cities, which blur the line between surveillance and data monitoring for improved quality of life versus adequately protecting citizen privacy and personally identifying biodata.

The COVID-19 pandemic is unlike any previous infectious disease crisis, as it is the first to take hold during the age of social media and global access to communication technologies. As such, the pandemic not only shines light on the success and advantages of innovation in data and technology, but also on the dangers, weaknesses and gaps. Obtaining disaggregated, high-quality, and inclusive data has proved essential to Governments successfully monitoring, controlling and ultimately reducing the health impact of COVID-19. Technology also has proved its capacity to aid connectivity even during physical distancing. Finally, technology has brought digital democratization with new opportunities for citizens to share their voices, ideas and opinions.

As smart city frameworks continue to evolve, it is imperative that Governments create a strong foundation for advancing smart and inclusive cities for health throughout the region. If cities intentionally refocus their governance systems through a health equity lens, while incorporating data-driven decision-making, the positive impacts on human health would be immeasurable.

■ Pathway 1: Improve smart city governance across urban systems, institutions and actors to overcome inequalities and make more informed and integrated planning decisions

The smart city model is a governance approach to explore on a municipal level to build a healthier city and achieving disease prevention and health promotion goals. Having digital health focal points within city governments can help to ensure collecting and sharing of data that is relevant to improved health resilience. A healthy cities peer sharing network will enable the exchange of comprehensive up-to-date data, ideas, best practices and tools around ICT application for health.

■ Pathway 2: Encourage technology firms to become more civic minded and create sustainable smart city solutions with social enterprises

Transparent data sharing frameworks are required to harness the positive possibilities of ‘digital epidemiology’, the real time assessment of public health through technology. Transparent and explicit data sharing agreements are needed, so to allow higher-quality data collection methods and inputs, more widespread participation, improved business and public policy insights and engender greater trust in government through transparent, real-time data dashboards.

■ Pathway 3: Adopt cybersecurity safeguards in both digital and physical urban infrastructure development planning

Public and private partners in Smart City programs need to prioritise the establishment of cybersecurity safeguards and trusted health data and information channel. This will allow governments to conduct consistent, clear and evidence-driven risk communication campaigns that build trust with citizens and offer sound scientific public health strategies using digital technology. It will also facilitate battling disinformation online.

■ Pathway 4: Develop smart mobility investment plans that prioritize sustainable urban mobility options for citizens

Cities should be actively working to integrate electric vehicles (EVs) and digitally connected public transportation systems into their mobility systems. Expanding on these recommendations to prioritize urban health and a more resilient pandemic recovery means focusing on shared, sustainable and active transportation solutions. Connecting these options digitally encourages usage, improving physical activity, reducing stress, enhancing mental health, reducing injuries and strengthening the immune system.

■ Pathway 5: Expand viable smart city funding mechanisms by enabling cross-sector partnerships and business matching platforms

With a shift to online service delivery and digital or telehealth solutions, it is imperative that internet access is assured for all residents so that existing inequalities are not exacerbated. Cities should consider cultivating cross-sector partnerships with private companies and social enterprises to offer affordable internet packages to disadvantaged socio-economic groups, that is designed for all, in particular people with disabilities.

■ Pillar 4: The future of urban finance Investing in healthy cities

The COVID-19 responses and economic lockdowns have highlighted major challenges in the financing mechanisms of cities and local government. Local and subnational Governments in Asia and the Pacific are primarily responsible for disaster management, but do not have revenue and other financial resources to undertake the emergency functions. Also, their revenue is likely to experience severe negative impacts, up to 15% according to the World Bank, due to the loss of economic activity. Moreover, there will not be a complete recovery in coming years, as the pandemic has also exposed the issue of lack of diversification of local economies. Many intermediary urban centres in the region rely on domestic and international tourism that has collapsed and will not recovery for at least the next two to five years. Special economic zones and satellite industrial towns on the periphery of major metropolitan centres have given firms specialising in assembly and manufacturing for export wide access to skilled labour and major transit infrastructure, but have been unable to overcome the logistical challenges of the global supply chain disruptions. Small local firms and informal sector workers at the bottom of global garment value chains have not only lost future income, but major international garment buyers have eviscerated informal sector incomes by voiding contracts for clothing already manufactured. Therefore, municipal finance matters. Mobilising investment in new urban infrastructure has been a major success for Governments in the Asia-Pacific region, but too often has overshadowed the required changes to strengthen the basic pillars of local government finance. Performance in this area is vital to sustaining the full range of health and protective services provided by infrastructure. This means that urban finance systems must

deploy new spending programmes, backed by predictable intergovernmental funding and financial arrangements and better designed local revenue instruments, that reach into informal settlements and local informal labour markets that supply essential and lifesaving goods vital to local economic performance.

To avoid long-term contraction, cities must accelerate investment in the wider set of urban infrastructure sectors necessary to secure better environmental and public health outcomes, including traditional areas like affordable housing, water and sanitation, and public hospitals and clinics. To strengthen recovery and long-term municipal finance reforms, national COVID-19 stimulus packages also need to be complemented by devolution and technical support to regional and local Governments.

■ Pathway 1: Public private partnerships for affordable housing

National Governments should use their regulatory authority to include affordable housing in PPP portfolio reviews. An affordable housing PPP portfolio review could encourage projects that have not broken ground to revisit feasibility studies based on proactive guidance from finance ministries and national authorities.

The viability of future PPPs in affordable housing must be understood in the context of regional localisation of supply chains and the expected epidemiological dynamics of high-consequence and emerging infectious diseases. In the medium-term, business models for PPPs in affordable housing will have to integrate new design standards for housing units and the use of space within housing developments, informed by the latest public health risk assessments and engineering studies.

■ Pathway 2: Land-linked financing mechanisms

Changes in land use demand, along with national fiscal responses to the diverse impacts of COVID-19, will continue to shift the distribution of costs and benefits to during recovery between different land and property owners in different types of cities. In the aftermath of pandemic events, the value proposition of nature-based and biophilic solutions to land-linked financing

mechanisms, land restructuring, and healthy and liveable cities becomes more evident. Prioritising nature-based/ biophilic solutions in land readjustment and land-based financing mechanisms fit the continuum of food production in the mixed use industrial and rural desakota zones that characterise intermediary cities in Asia and the Pacific.

■ Pathway 3: Congestion and environmental user fees

National fiscal stimulus packages and reform programs in the wake of the COVID-19 are therefore a major opportunity to strengthen the design of policy and regulatory frameworks to update and integrate pricing structures with environmental objectives. While there are clear technical challenges to doing so, especially in the context of economic contraction, reforming tariffs requires political support. Two key steps for Asia and Pacific cities will be revising lifeline tariffs and multipart pricing schemes and increasing the flexibility of tariff levels to “price-in” environmental externalities.

■ Conclusion

Building back better – from pandemic response to health resilience in cities

The COVID-19 crisis has not only exposed significant deficits with regard to the pandemic preparedness of cities, but also – and perhaps more importantly – widespread health inequities within and between cities across the globe. Recovery strategies can therefore only be successful if they have the needs of vulnerable populations at their core. The specific actions that cities take will differ depending on their typographies, resources, demographics and needs.

However, all cities – including those in the Asia-Pacific region – should ensure that they do not just focus on recovery from disasters, but also revisit their pre-pandemic approaches. Creating urban resilience in the context of public health requires adequate long-term, cost-effective investments associated with integrated environmental protection, social security and data strengthening. The severe economic consequences of the pandemic can be used to strengthen the arguments for addressing underlying risk factors and other determinants of health.

The COVID-19 era highlights the importance for cities and local governments to adopt an urban health approach, supported by a national enabling environment, that is effective and scaled. Changing the urban environment to one that improves rather than hinders human health requires policymakers at all levels and all local government departments to make health a central point of their decision-making process. Health implications should be factored into all the decisions they take, and policies that prevent people from becoming ill as well as protect them from injuries should be prioritized. To make an impact, a multi-sectoral approach is indispensable – including urban planning, building urban resilience, supporting smart and inclusive cities, and designing urban finance mechanisms.

It is now crucial that Asia-Pacific cities maintain their focus on sustainable urban development and do not succumb to the temptation to achieve economic recovery at any cost. While the COVID-19 pandemic is unprecedented in its scale and global impact, cities now have an unprecedented opportunity to become lighthouses of innovation in sustainability, inclusion and health, for their communities and for our shared planet.





Introduction: COVID-19 and Cities in Asia and the Pacific

Since its emergence in a wet market¹ in Wuhan, China in December 2019, the virus SARS-CoV-2 has spread rapidly, resulting in a devastating worldwide pandemic, the largest global public health crisis in a century.

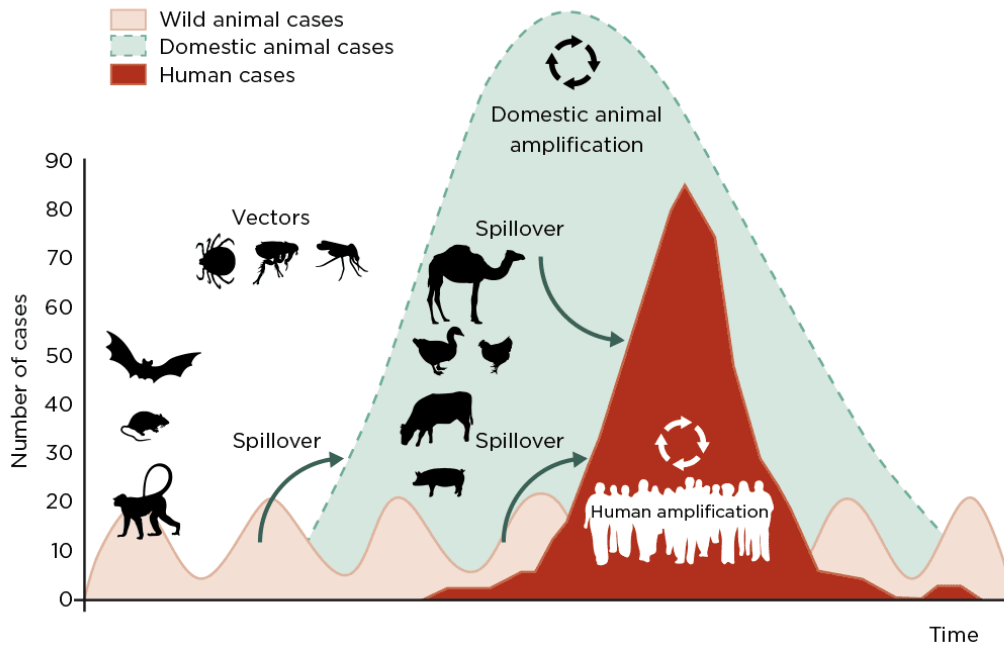
Many local governments are now concerned not only with the number of cases and deaths, but also with the immense economic impact and effects on long-term prosperity. In many Asia Pacific countries, cities are the economic engine generating over 80 percent of the federal gross domestic product (GDP) (ESCAP 2019). However, the current pandemic has unexpectedly created devastating revenue losses across local government areas, virtually overnight. International travel restrictions and localised lockdowns have caused downturns in consumer consumption, devastating local tourism industries and disrupted global supply chains. As a result, the service sector (e.g. tourism, retail, hospitality, and civil aviation) and industries reliant on international supply chains (e.g. pharmaceuticals, automobiles, electronics, and renewables) have experienced hardship and heavily affected cities that have less diverse economies. Even in cities where only a few deaths have been recorded, the economic impacts have been severe as a result of the preventative public health measures put in place—most acutely affecting those participating in the informal economy who face an impossible choice of starvation versus pandemic compliance. According to the OECD, we are currently in the midst of the greatest global recession since the Great Depression in the 1930s (OECD 2020b). It has been predicted that the economic and social development impacts of this crisis will be felt for decades. Moreover, the virus has disproportionately affected vulnerable populations such as the elderly, the immunocompromised and population groups that have been unable to access resources, proper healthcare, and practise social and /or physical distancing (e.g. informal and casual workers), thereby deepening poverty. Therefore, it will be a crucial challenge for local governments

to navigate the financial and socio-economic consequences in the months and years to come. This is an opportunity to depart from business-as usual, as some cities across the region are starting to do, while embracing transformative change to achieve sustainable urban development with a new integrated ontology of practice that ensures social equity and health resilience at both city and global levels.

While the impact of COVID-19 (the disease caused by SARS-CoV-2) is unprecedented, it is not unexpected. Similar zoonotic contagious respiratory illnesses have previously occurred in the region such as H1N1, the newer G4 EA H1N1 and other coronavirus caused diseases: Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). Zoonotic diseases (also known as zoonoses) are infectious diseases that are transmitted between animals and humans (World Health Organization n.d.) They can be transmitted through direct or indirect exposure to animals, as well as their environments (World Health Organization n.d.). Zoonotic diseases are highly prevalent in the Asia Pacific region given the complex interactions between humans, animals, and the environment (WHO and Regional Office for the Western Pacific 2017).

The growth of cities, in population, development and land area, is a significant contributing factor to the emergence of new and more frequent zoonotic diseases. This occurs through a number of complex and interlinked pathways including the expansion of urban sprawl and encroachment of human development into nature; environmental pollution; deforestation and subsequent loss of biodiversity; the destruction of natural habitats; intensive and polluting agricultural practices; and humans living and working in closer proximity to wildlife. These factors are all magnified by climate change, creating increased opportunities for zoonotic spill over events to occur. For this reason, some scientists have called the COVID-19 pandemic a massive planetary health emergency (Oni 2020).

¹ A wet market is a market that primarily sells perishable foods such as meat, fish, fruit and vegetables.

Figure 1: Transmission and amplification of zoonotic diseases

Source: Redrawn from Karesh, et al. 2012

At the same time, cities have been at the centre of the COVID-19 pandemic, with an estimated 95% of cases coming from within urban areas (Mizutori and Mohd Sharif 2020). While attempts have been made to attribute this fact to compact urban development, there is no evidence to suggest that density per se is to blame (United Nations 2020). In fact, evidence suggests the subsequent spread in cities – once COVID-19 has arrived – is not faster or deadlier than in smaller towns or sparsely populated peripheries (Carozzi, Provenzano, and Roth, n.d.). Where density is perceived as being a risk factor for COVID-19, research is revealing that the causes are multifaceted, closely related to connectivity, and linked to underlying living conditions (e.g. household overcrowding, substandard housing conditions, and lack of basic services) coupled with broader socio-economic inequalities such as a lack of affordable housing (Baker, Cira, and Lall 2020; United Nations 2020; OECD 2020a). Informal settlements and slum communities are particularly vulnerable during public health crises given the coexistence of poor living conditions coupled with poverty and precarious employment situations, such as large numbers of subsistence laborers.

The current COVID-19 crisis has served as a public reminder that urban planning and public health have closely intertwined histories. For example, geographic mapping was used in London to identify a single water pump as the source of cholera. Around the same time, landscape architects and planners in the United States were consistently promoting

greenspace as an antidote to overcrowded and polluted industrialising cities. Land use plans and zoning regulations were eventually born out of a desire to separate residences from noxious industrial air pollution. Similarly, throughout the 20th century Hanoi saw the redevelopment of its Ancient Quarter as a response to the crowding and density problems affecting the population residing there (Waibel 2004). A bottom-up planning approach was implemented in which the traditional tubular housing vernacular was redeveloped to multi-storey buildings to improve the environmental quality and living conditions of the region. This redevelopment and change in building typology resulted in improved living conditions, improved quality of life for the residents, and increased investment and economic activity in the area. Although the two disciplines drifted apart during the 20th century, calls to bring urban planning and public health back together have been increasing in recent years, particularly as an effort to design cities to prevent incidence of non-communicable diseases (NCDs) across the region.

It is unlikely that unsustainable urban development and growth will entirely cease to exist in the short term, therefore, global infectious disease pandemics in the coming years are unavoidable. Cities in the Asia Pacific region must urgently invest in the capacity to detect and respond both effectively and efficiently to infectious disease outbreaks. Monitoring and tracking systems are critical to predicting infectious disease outbreaks, managing resources, guiding response measures, monitoring

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testing and treatment capacity, and predicting future hotspots. However, infectious diseases are only one piece of the triple health burden faced by Asia Pacific cities. NCDs, such as cardiovascular diseases (CVD), diabetes, cancer and chronic respiratory diseases together with injuries are responsible for a growing majority of the urban disease and disability burden (World Health Organization n.d.; Low et al. 2015). Fortunately, there is ample evidence to suggest that strategic urban health strategies can effectively address the underlying determinants of health and drastically reduce the risk and severity of infectious, noncommunicable and injury-related death and disability. Therefore, city authorities would be prudent to invest in evidence-driven communications campaigns that inform stakeholders of the critical impact that comprehensive sustainable urban development policies can have on resident health and economic vigour.

Given the diversity of cities in the Asia Pacific region, in terms of physical forms, geography, climate, culture, socio-economic development, size, density, governance structures, and demographic trends, it is impossible to prescribe a one-size-fits-all approach. This discussion paper reinforces the continued relevance of the development pathways described in the Future of Asian Pacific Report and offers tailored recommendations on effective ways that can help cities across the region with preparedness and control of infectious disease outbreaks like COVID-19, as well as to prevent and reduce the non-communicable chronic disease burden overall. Through conscious and considered action, cities can reclaim their role as engines of sustainable human development via commitment to healthy urban planning and design, resilience, strong urban finance mechanisms and health-focused smart and inclusive city strategies.



CHAPTER 2



Objectives & Approaches

2.1 From Crisis Response to a Sustainable Recovery

The Future of Asian and Pacific Cities report, launched in 2019 by UNESCAP and UN-Habitat,² identified four key pillars and 15 pathways to support sustainable urban development across different types of cities and to respond to the global development agendas (ESCAP and UN-Habitat 2019). This complementary discussion paper was commissioned by UNESCAP given the significant impact the COVID-19 pandemic has had on all Asian and Pacific cities across all sectors and departments. The report serves as the key foundation of this discussion paper, which examines long-term health equity issues and the implications of the current pandemic on cities across the region. The specific objectives of this discussion paper are to:

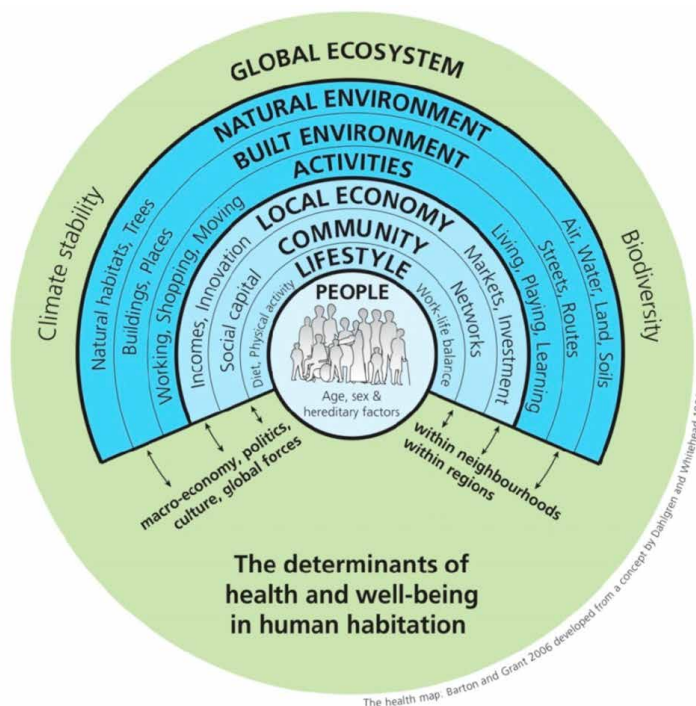
- i. Review the report and relevance of the policy pathways in the context of the COVID-19 outbreak (considering a new normal of increased health risks).
- ii. Identify challenges and opportunities of cities in Asia and the Pacific to prepare for, respond to and recover from pandemics, across different urban systems, ensuring sustainable urban development and the localisation of the SDGs.
- iii. Identify additional recommendations/pathways for Asian and Pacific Cities to adequately recover in the short term and “Build Back Better” in the future.

Cities in Asia and the Pacific already have significant experience with controlling contagious respiratory illnesses that have proved advantageous. They have also made progress in improving city and regional planning, building climate resilience and preparedness, supporting smart city and community innovation, as well as strengthening of urban finance mechanisms and local governance.

The intention of this discussion paper is neither to assess nor promote the different responses to COVID-19. Rather, it is to identify the key systems, policies and structures that are vital to enabling local governments to anticipate disruptions and to respond to future pandemics and other public health events successfully. The paper also makes linkages to other development challenges that have health implications, leveraging the 2030 Agenda for Sustainable Development as a framework for building back better. The ideas presented should be used to stimulate discussion and lead to the development of concrete guidelines for different city types. In this way, the crisis can be taken as a transformative moment for cities to lead the region in moving towards a more sustainable and inclusive urban future. The purpose of this chapter is to establish a basic understanding of key principles and approaches underpinning the recommendations made later in the paper.

² In partnership with Asian Development Bank, The Rockefeller Foundation, Singapore’s Centre for Liveable Cities and UNDP.

Figure 2: The Socioecological Determinants of Health Map



Source: Barton and Grant 2006

2.2 A sustainable urban development approach for improved public health

■ Understanding the socio-ecological model of health

In the current pandemic situation, it can be tempting to think of the health obligations of governments merely in terms of acute care, ensuring there are enough beds in Intensive Care Units (ICU), conducting community surveillance and contact tracing, and implementing infectious disease prevention measures. Therefore, it is necessary to highlight that the World Health Organization (WHO) defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization n.d.). Health is determined by three major factors: 1) Genetics; 2) Individual behaviour; and 3) the Physical and social environment. This broader view reveals the strong linkages between health and urban development. In particular, it facilitates an understanding that many aspects in urban environments act as, or influence, a determinant of people’s health and at the same time affect the global eco-system, as illustrated by the health map for the local human habitat shown in Figure 2 (Barton and Grant 2006).

Combined, the WHO’s definition and the socio-ecological model of health enables thinking and actions beyond the healthcare system, when examining how governments at all levels can improve the health of their populations. Instead of taking a medical approach, which focuses on diagnosing and treating an individual once they are sick, a public health approach is recommended. Promoting health at population level, with an emphasis on disease prevention for the whole community, is the core principle of public health. This approach also embraces a plethora of different interventions targeting environmental, human behaviour and lifestyle factors.

According to WHO, in 2012, approximately 12.6 million people died as a result of living or working in an unhealthy environment, representing 23% of all deaths (Prüss-Üstün et al. 2016). When accounting for both death and disability, the fraction of the global burden of disease due to the physical environment is 22%. In children under five years, up to 26% of all deaths could be prevented, if environmental risks were removed (Prüss-Üstün et al. 2016). By many measures, social and economic factors are

not only the largest predictor of health outcomes but also strongly influence health behaviours, the second greatest contributor to health and longevity. Consequently, research indicates that up to 80% of our health outcomes may be attributed to modifiable risk factors in the physical and social environment, which strongly influence health behaviours (Health Partners Institute and Magnan 2017; Neira, Prüss-Üstün, and Corvalan 2010).

■ Supporting policy coherence at city level

Many determinants of health are controlled by agencies or entities outside the public health or health care sector, meaning that decisions that affect the health of urban residents the most are often not made by local health departments alone. Instead, decisions are made by authorities responsible for building and maintaining housing, roads and transportation, land use planning, energy, environment, parks and recreation, waste disposal, public utilities, education, retail, and even tourism all hold the potential to influence our health in the broadest sense. In this context, and looking at the

major impact the COVID-19 pandemic has in cities, it means that intersectoral collaboration is of utmost importance at the local level to help achieve health equity and that urban development is a key policy area to invest in.

Therefore this discussion paper also highlights the relevance to leverage sustainable urban development as a key policy area within a Health in All Policies (HiAP) approach that is “an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity (World Health Organization et al. 2014). A collaborative approach incorporates health considerations into policymaking across all sectors of government, with the goal of preventing and controlling both non-communicable and infectious diseases, in order to improve the health of communities and populations. Such an approach is consistent with the key principles of the New Urban Agenda as well as the Sustainable Development Goals (SDGs).

2.3 Strengthening an Urban Health Approach

Urban health refers to the study of the determinants of health in urban populations with the explicit aim of identifying modifiable factors and improving the health of urban residents (Moscatto and Poscia 2015). The concept builds on the socio-ecological model of health, by highlighting the many complex factors influencing human health in the urban environment context (Galea and Vlahov 2005). Figure 3 illustrates how local governments can contribute to health, while addressing physical, socio-economic and environmental determinants in policy domains or governance dimensions.

Cities are at the centre of adopting an urban health approach, as they have the ability to affect the health and well-being of their residents in positive and negative ways (Drexel University 2018). In many cases, differences between neighbourhoods help explain why health disparities between different population groups exist, are exacerbated, or reinforced. However, the spread of COVID-19 is not limited to cities. Instead, the very specific conditions humans created in the built environment make some populations more vulnerable than others. This holds true for a range of other health issues such

as diabetes, cholera, road fatalities and injuries, and depression. Figure 4 below illustrates some of the ways in which the urban environment can affect health, both positively and negatively.

Local governments must be sensitive and open to understand the different relationships between the urban environment and the health of citizens, and to build capacity to identify those relevant to their specific context. This will then enable them to implement actions to remedy factors detrimental to health and create or enhance factors supportive of health. This is in line with the WHO’s prescription to build healthy, liveable cities, as outlined in its manifesto for a healthy recovery from COVID-19 (World Health Organization 2020b). It also responds to the United Nation’s (UN) Secretary General’s call to “recover better, by building more resilient, inclusive and sustainable cities” (United Nations 2020, 4).

The next chapter will outline in more detail some of the myriad ways through which cities can influence the health status of its residents. Promoting an integrated approach to improve population health is in keeping with the sentiment of the original report,

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which reminds us that “cities are complex systems that function best when overlapping priorities are addressed in an integrated manner. Attempting to solve housing, transport, solid waste or any other fundamental urban issue in isolation is a recipe for failure” (ESCAP and UN-Habitat 2019, 38). Chapters 4 - 7 of this report will demonstrate how urban

health can be strengthened through the four pillars of sustainable urban development that were defined in the Future of Asian Pacific Cities report: investing in urban and territorial planning, strengthening urban resilience, creating smart and inclusive cities and designing urban finance systems.

Figure 3: Urban Health Framework



Source: Adapted from the International Society of Urban Health.

Figure 4: Planning for health and equitable communities



Element of communities	Housing	Public and green spaces	Social infrastructure	Street networks and transportation	Water and waste infrastructure	Food environment	Energy system
Planning practices and policies that harm health. They often benefit some communities while burdening others. The difference can be stratified by income, race, ethnicity and place.	Discriminatory housing policies lead to residential segregation, insufficient, unhealthy and unaffordable housing.	Lack of land use planning and management results in lack of public space and safe areas for play, recreation and green.	Policies without city-level focus lead to under-resourced neighbourhoods that lack local services (health, education, social and economic development)	Private motorized transportation oriented planning leads to neighbourhoods that lack infrastructure for biking and walking	Lack of planning and provision of affordable infrastructure increases exposure to communicable diseases and pollutions.	Large scale food systems lead to non-sustainable agricultural practices and to unhealthy diets in food swamps.	Fossil-fueled energy systems in the transportation and housing sector have increased drastically air pollution in cities.
Planning practices and policies that improve health. Urban planners and public health practitioners can remedy past harms through equity-based practices, community engagement and multi-sector coordination.	Adopt housing policies, pro-poor subsidies for renovation, and protection for renting ensures mixed-income neighborhoods.	Invest in Nature Based Solutions and green infrastructure ensures proximity to public and green spaces for all.	Design networks of social infrastructure on neighbourhoods level, safely connected to and well managed by the community.	Invest in multi-modal transportation networks serve all neighbourhoods, in particular those that lacked investment in the past.	Promote community-led systems and incremental upgrading to ensure water, sanitation and hygiene for all.	Provide space for urban farming and healthy food markets, so to accommodate healthy diets and lifestyles.	Innovate in reduction or greening of energy in transportation and housing, so to ensure clean air indoors and outside.

CHAPTER 3



Health and the Future of Asian & Pacific Cities

3.1 The urban context and determinants of health

As the socio-ecological model of health shows, many determinants of health lie outside the health sector. Some pathways through which the urban context affects health are more direct than others. For example, unsanitary conditions facilitating the spread of diarrheal diseases; air pollution leading to respiratory illnesses such as asthma; and poor separation between road users leading to death and injury. Other pathways are more indirect, including the built environment characteristics that determine access to goods and services (e.g. healthy food and medical care); helping to make healthy behaviours and choices easier (e.g. providing safe, accessible

and affordable opportunities for physical activity); and acting as a stressor (e.g. traffic noise).

Table 1 below provides an overview of selected health *determinants* relevant to the urban context, their *relationship* to health and their *relevance* to the COVID-19 pandemic. The examples are not intended to be comprehensive, but rather illustrative in demonstrating the pathways through which the urban environment affects health outcomes. The relevance to COVID-19 has been included as a practical example to underpin the importance of creating supportive environments for health.

Table 2: Health Determinants

Health Determinant	Relationship to Health and Relevance to COVID-19	Reference to the pillars in the Future of AP Cities report
Basic Services & Infrastructure		
Energy	<ul style="list-style-type: none"> • Needed for: cooking, lighting, refrigeration, cooling & heating. • Certain fuels can cause harmful indoor pollutants and contribute to respiratory diseases. • <i>COVID-19: Pre-existing conditions such as cardiovascular diseases and respiratory infections place individuals at higher risk of experiencing severe symptoms.</i> 	<ul style="list-style-type: none"> • Urban and Territorial Planning • Urban Resilience • Smart and Inclusive cities • Urban Finance
Food	<ul style="list-style-type: none"> • Access to healthy food is important for individual health and improving resistance to infections. • Unhealthy, sugary foods can contribute to obesity and related conditions such as diabetes. • Large scale food trade systems put pressure to adopt intensive and non-sustainable agricultural practices • <i>COVID-19: Pre-existing conditions such as obesity and diabetes place individuals at higher risk of experiencing severe symptoms.</i> • <i>COVID-19 response: Lockdown measures led to cuts in supply chains and closure of markets.</i> 	<ul style="list-style-type: none"> • Urban and Territorial Planning • Urban Resilience • Urban Finance
Health services	<ul style="list-style-type: none"> • Local, affordable, and quality health services are necessary so that people can have timely access to preventive, curative, and obstetric services. • Timely access to services can help reduce health costs and productivity loss in the long-term. • <i>COVID-19: Some population groups do not receive testing and treatment.</i> • <i>COVID-19 response: Lockdown measures and needed focus of health sector on COVID-19 patients led to disruption of other curative and preventive health services.</i> 	<ul style="list-style-type: none"> • Urban and Territorial Planning • Urban Resilience • Smart and Inclusive cities • Urban Finance

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<p>Housing</p>	<ul style="list-style-type: none"> Contaminants in the home (e.g. mould, lead-paint, asbestos), insufficient protection from the elements (e.g. leaking roof) and pest infestation can contribute to a range of ailments. Crowding can lead to the spread of diseases such as tuberculosis (especially if poor ventilation) as well as psychological stress. <i>COVID-19: Overcrowding has been associated with the spread of the virus.</i> <i>COVID-19 response: Overcrowding within homes and neighbourhoods makes it difficult to adhere to physical- and social distancing as well as self-isolation requirements.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Urban Finance
<p>Information & Communication Technology (ICT)</p>	<ul style="list-style-type: none"> Information, including health information, is increasingly being disseminated via digital platforms. Telemedicine is emerging as a method to provide healthcare to remote and underserved populations. <i>COVID-19 response: access to the internet is necessary to access up-to-date information about the pandemic, use tracking apps, and take advantage of remote work and learning opportunities.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Smart and Inclusive cities
<p>Solid waste management</p>	<ul style="list-style-type: none"> Improperly disposed of waste can be a source of infection, contamination, and poisoning, with serious implications for animal and human health. <i>COVID-19: Improperly disposed of medical waste, including PPE, can help spread the disease.</i> <i>COVID-19 response: Lockdown measures led to an increase in use of single use plastic items for food delivery. The lockdown also led to cuts in waste management and non-automated recycling systems, with more non-organic waste going to landfills, water bodies or open dumping / burning, thereby affecting air pollution.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Smart and Inclusive cities Urban Finance
<p>Water, Sanitation and Hygiene (WASH)</p>	<ul style="list-style-type: none"> Stagnant water can provide breeding sites for vector-borne diseases. Lack of, or poor quality, sanitation systems can help spread infectious diseases such as cholera. Access to clean water is a basic necessity for good health and infection control. <i>COVID-19: as the virus easily travels in airborne droplets and survives on surfaces, individuals using inadequate sanitation systems are at higher risk of infection.</i> <i>COVID-19 response: Households lacking access to clean water are unable to practice basic prevention control measures such as handwashing.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Smart and Inclusive cities Urban Finance

Physical & Natural Environment

<p>Air quality</p>	<ul style="list-style-type: none"> Air pollution can come from a range of sources (e.g. transportation, cooking fuels, and industry) and causes a range of diseases, many of which result in premature death. Maternal exposure to air pollution can have adverse birth outcomes. High pollution levels can make it difficult to undertake physical activity. <i>COVID-19: Preliminary research shows that those suffering from respiratory diseases (often caused by air pollution) are more susceptible to COVID-19 and may experience the disease more severely.</i> <i>COVID-19 response: Lockdowns have resulted in reduced energy consumption, less traffic and a temporary reduction of some pollutants.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Smart and Inclusive cities Urban Finance
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<p>Climate vulnerability</p>	<ul style="list-style-type: none"> • Increased likelihood of an adverse climatic event such as flooding, wildfires, heatwaves, and mudslides, which may directly and indirectly result in death, illness, and injury. • Expanded habitable area for a number of disease vectors • Climatic changes may also jeopardise food and water supplies and accelerate migration to urban areas. • <i>COVID-19 response: Lockdowns have resulted in temporary reduction in daily global CO₂ emissions.</i> 	<ul style="list-style-type: none"> • Urban and Territorial Planning • Urban Resilience • Smart and Inclusive cities • Urban Finance
<p>Environmental protection and biodiversity</p>	<ul style="list-style-type: none"> • Environmental destruction and reduction in biodiversity leads to climate vulnerability, which in turn poses a risk to health. • Animals that tend to survive and thrive despite the reduction of biodiversity (e.g. rats & bats) are more likely to host potentially dangerous pathogens that can make the jump to humans or livestock. • <i>COVID-19: Environmental destruction and illegal wildlife trading is linked to the increased emergence of zoonotic diseases such as COVID-19.</i> 	<ul style="list-style-type: none"> • Urban and Territorial Planning • Urban Resilience • Smart and Inclusive cities • Urban Finance
<p>Public space (incl. open & green space)</p>	<ul style="list-style-type: none"> • Access to public space, including open- and green space has a positive impact on health, physically, socio-emotionally and mentally. • There are a range of health benefits associated with spending time in nature and living in neighbourhoods with trees and other vegetation. • <i>COVID-19: Physical activity can help to control chronic conditions (such as hypertension, health disease, diabetes, etc.) that make some people more susceptible to experiencing severe symptoms.</i> • <i>COVID-19 response: Lockdown measures limiting how far people can travel from their home and the closure of playgrounds have reduced opportunities for social interactions, physical activity and spending time in nature with negative physical and mental health effects.</i> • <i>COVID-19 response: Opportunities for physical activity are particularly important during the pandemic due to the immune-boosting effects and potential to decrease severity of illness when it attacks.</i> 	<ul style="list-style-type: none"> • Urban and Territorial Planning • Urban Resilience • Smart and Inclusive cities • Urban Finance
<p>Street networks and transportation</p>	<ul style="list-style-type: none"> • Street design, and infrastructure for public and active transport modes influence individual's transport decisions, and in turn their physical activity, lack of which is a risk factor for many NCDs. • Motorised transport is a significant contributor to air pollution, and therefore respiratory diseases. • <i>COVID-19: Those suffering from pre-existing conditions such as diabetes and respiratory diseases are thought to be more susceptible to COVID-19 and likely to experience the disease more severely.</i> • <i>COVID-19 response: Many cities have invested in the expansion and upgrading of bike networks, thereby providing opportunities for additional physical activity.</i> • <i>COVID-19 response: The disproportionate amount of space allocated to cars (driving and parking) make it difficult for pedestrians (and to some extent bike riders) to practice physical distancing.</i> 	<ul style="list-style-type: none"> • Urban and Territorial Planning • Urban Resilience • Smart and Inclusive cities • Urban Finance

Socio-economic and Governance Issues		
Demographics	<ul style="list-style-type: none"> Societies are rapidly ageing in Asia and the Pacific, in particularly in North East Asia. The region comprises almost 60 per cent of the world's youth. <i>COVID-19: Older people have been most affected by COVID-19. As many suffer from underlying conditions, the risk of developing symptoms is raised amongst them as well.</i> <i>COVID-19 response: Children, older people and women have been most affected by the related economic turmoil and lockdowns. Children missed school, space for play and physical activity. Children and women were more involved in domestic violence. Few older people have a pension or social allowance and missed income from informal economy and family support.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Smart and Inclusive cities
Education	<ul style="list-style-type: none"> Education level is positively correlated with health status. <i>COVID-19: Low education levels are associated with reduced economic opportunities. Many socio-economically disadvantaged areas have a high number of cases.</i> <i>COVID-19 response: Literacy, especially health literacy, is important to enable people to understand key public health prevention messages.</i> 	<ul style="list-style-type: none"> Urban Resilience Smart and Inclusive cities
Employment	<ul style="list-style-type: none"> Some work environments can be detrimental to health, for example through exposure to toxic substances or poor occupational safety standards. A source of income is necessary to cover living expenses including food, housing, and medication. <i>COVID-19: Workplaces and employee housing have been the site of a number of outbreaks.</i> <i>COVID-19 response: Informal and other workers without a full-time contract and leave allowances are less likely to self-quarantine due to (additional) financial stress if no social protection systems are in place. Many of them have also lost work and livelihood due to lockdown measures.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Smart and Inclusive cities Urban Finance
Open data and data integration	<ul style="list-style-type: none"> Disaggregated data is important for designing, planning, and financing of adequate health services. <i>COVID-19 response: Poor data obscures actual number of infections and deaths, limiting understanding of outbreak trajectory and at-risk populations and thereby inhibiting response efforts.</i> <i>COVID-19 response: High quality, disaggregated data has helped target response efforts and understand more about the risk factors.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Smart and Inclusive cities
Public Governance	<ul style="list-style-type: none"> The public health system is mostly regulated and managed by the national government. In general, local governments are not accountable for implementation and do not have proper instruments for planning, financing, coordination and integration with other policy sectors. Developing countries in Asia and the Pacific spend little on social protection, which increases the vulnerability of groups in terms of age, gender, disability. <i>COVID-19: Knowledge and mapping of virus hot spots and spreading patterns on a local (city, neighbourhood) level happened with delay.</i> <i>COVID-19 response: Response on local level and with multi-sector integration happened with delay.</i> 	<ul style="list-style-type: none"> Urban and Territorial Planning Urban Resilience Smart and Inclusive cities Urban Finance

³ Note: Each section in alphabetical order to improve ease of reference.

3.2 Health Equity

It is impossible to discuss health determinants without considering the concept of health equity. In order to reduce health disparities such as gaps in life expectancy and incidence of chronic diseases between different population groups in a city, local governments need to be concerned with addressing unequitable access to basic services; educational and (safe & secure) employment opportunities; and quality housing. In this context, access should be understood in terms of both physical access (proximity, safety) as well as financial access (affordability).

The COVID-19 pandemic revealed system weaknesses resulting in urban inequities. Numerous studies have shown that the most disadvantaged groups and areas are at highest risk during pandemics (Chen and Krieger 2020). According to the WHO, “massive inequalities have meant that deaths and loss of livelihoods have been strongly driven by socio-economic status, often compounded by gender and minority status” (2020b, 3). The UN Secretary General has also stated that “the global urban housing crisis has worsened the pandemic and been worsened by it” (United Nations 2020). Not only are certain population groups more vulnerable to contracting the disease due to co-morbidities, but they also have more difficulty to perform simple preventive measures such as handwashing due to unequal access to WASH infrastructure (Oni 2020). Similarly, job insecurity, lack of savings and social safety nets can make it impossible for some people to practice social distancing. Then, once infected, unequal access to healthcare yet again increases the

likelihood of poor outcomes (Oni 2020). Even those who are not infected with the virus can experience negative health effects. For example, according to a recent study in India, children living in poverty are at increased risk for underweight and malnourishment due to lockdown measures (Rajpal, Joe, and Subramanian 2020). The exposed health inequities have multiplying negative effects that disrupt every facet of our society; from labour force interruptions for essential workers without labour protections to stay home when sick to lifelong learning gaps in children without access to adequate online learning at home.

High rates of NCDs among certain population groups can also be explained to a large extent by health inequities. This is of particular relevance to Asian and Pacific cities, as the region has seen a swift increase in the prevalence of obesity and other NCDs in recent years. At 1 billion, the AP region is now home to the largest absolute number of overweight and obese people in the world (Helble and Francisco 2017). The three leading NCDs leading to the greatest loss of disability adjusted life years (DALYs) in the Asia Pacific region are CVDs, cancer and diabetes (Low, Lee, and Samy 2015). This has implications for the COVID-19 response given that, as noted in the table above, NCDs place individuals at higher risk of experiencing severe symptoms of the disease and are much related with people’s living environments as a root cause. Cities can thereby be at the forefront in addressing NCDs, as they play a major role in shaping urban environments and can target urban investment to address root causes of diseases.





Pillar 1: The Future of Urban and Territorial Planning

Urban and Territorial Planning as Spatial Vaccine

4.1 Health Considerations in UTP

This chapter seeks to lay a brief foundation for an informed discussion on Urban and Territorial Planning that includes determinants of health, with a strong focus on health as an essential input to Urban and Territorial Planning (UTP) processes, as well on the public health outcomes through Urban and Territorial Planning. The COVID-19 pandemic is thereby seen as an amplifier of a rationale to invest in sustainable urban development that aims wider societal benefits, with a specific focus on health equity.

■ UTP and healthy environments

As defined in the 'International Guidelines on Urban and Territorial Planning' (IG-UTP) (UN-Habitat 2015), UTP "is a decision-making process aimed at realizing economic, social, cultural and environmental goals through the development of spatial visions, strategies and plans and the application of a set of policy principles, tools, institutional and participatory mechanisms and regulatory procedures." Yet, in this

key document on UTP, health is not discussed directly, but elaborates on the principle of adequate standards of living and working condition for all segments of current and future societies. Therefore, it is relevant to refer to concepts and recommendations elaborated in the new publication 'Integrating Health in Urban and Territorial Planning: A sourcebook' (UN-Habitat and World Health Organization 2020). This sourcebook provides guidance on why and how to include health in UTP as an input and an outcome, illustrating that "it is possible to influence location, spatial pattern, and logical design of place-based features and amenities in the built environment for the benefit of health and health equity." Explicit references to the sourcebook are highlighted in this discussion paper in order to inform existing or nascent national spatial frameworks, city-region planning arrangements and local planning programs that were discussed in The Future of Asian and Pacific Cities report (ESCAP and UN-Habitat 2019).



Why and how UTP supports public health?

As illustrated in chapter 3, the urban environment is a major determinant of health. Several built environment characteristics and performances reduce risk of individuals and populations to get diseases or to be exposed to unintentional injuries.

As illustrated in the table below, there are multiple dimensions in planning instruments and processes that allow built environment specialists and policy makers to focus on health outcomes. Health

specialists can give key input in various phases, especially in area of data and evidence. They can provide health data, statistics and knowledge of public health issues to influence evidence-informed decisions and then track and monitor the success of UTP interventions. They also can provide a credible voice in advocacy for healthier UTP by identifying gaps in data to demonstrate the relationship between health and the built environment and be a critical team member in collecting necessary data.

Table 2: Four dimensions of planning for health in urban and territorial planning

How urban and territorial planning supports public health	
Dimensions of planning for health	Health in all planning phases
<ul style="list-style-type: none"> • Basic planning and legislative standards to avoid risk to health, such as water and sanitation standards that should be higher/different in urban contexts 	<ul style="list-style-type: none"> • Diagnosis - Population needs assessment, place health assessment
<ul style="list-style-type: none"> • Planning codes to limit environments that detract from healthy lifestyles or exacerbate inequality, such as location planning and restrictions on unhealthy food environments near schools 	<ul style="list-style-type: none"> • Formulation - Evidence of what works, health impact testing of proposals
<ul style="list-style-type: none"> • Spatial frameworks to enable healthier lifestyles, such as Sustainable Urban Mobility Plans (SUMPs) that promote active transportation (walking, biking, micro-mobility), City Development Plans that encourage compactness and Transport Oriented Development 	<ul style="list-style-type: none"> • Implementation - Supporting inclusion and engagement
<ul style="list-style-type: none"> • Urban and territorial processes to capture multiple co-benefits of building in health, such as regional economic resilience strategies, age-friendly initiatives, ... 	<ul style="list-style-type: none"> • Monitoring and Evaluation - reporting health outcomes, ongoing data collection

Source: Adapted from 'Integrating Health in Urban and Territorial Planning: A sourcebook' (p.26)

For this discussion paper it is relevant to acknowledge that UTP and public health have complementary skill sets, work with similar work methods assessing trends, aim for long-term outcomes, with shared values that focus on whole populations and equity. The COVID-19 pandemic and response can strengthen collaboration and integrate health fully in UTP, especially in the Asia Pacific region where many countries are active in developing and adjusting spatial legislation and frameworks, as illustrated in detail in the original UNESCAP report. This area of policy development on UTP steers specific demand for expertise and creates a professional market for research, education and practice in urban planning, from a basic level to professional training. Comparing how countries and specific cities have been coping with COVID-19 and how they already invested in well-being, in particularly of target groups like children

and the elderly in ageing societies, could create a valuable knowledge base of good practice and create peer-to-peer learning and pressure.

■ UTP and economic resilience

Since the COVID-19 response has resulted in an unprecedented economic lockdown of urbanized areas, it is key to discuss how UTP can support urban economic build resilience, as UTP has a fundamental economic function and is “a powerful instrument for reshaping the forms and functions of cities and regions in order to generate endogenous economic growth, prosperity and employment, while addressing the needs of the most vulnerable, marginalized or underserved groups”, according to the International Guidelines on Urban and Territorial Planning (UN-Habitat 2015).

As COVID-19 has exposed fragility of large-scale economic chains, UTP is a key policy area to promote small and medium city development as alternate economic hubs. New approaches can also ensure integrated spatial-economic planning, fostering collaboration between the public and private sector for efficient and innovative real estate and

infrastructure projects towards low-carbon urban transformation processes, while supporting a green recovery that applies local economic development models, with proximity production and consumption patterns that valorise diversification and Micro, Small and Medium Enterprises (MSMEs) (United Nations 2020; Asian Development Bank 2020).



A new housing community design in XiongAn aims to become the new standard in the post-Covid era, by producing resources locally and providing all amenities locally.

Source: Dezeen

■ UTP and equity

A focus on equity is fundamental in the context of Asia Pacific cities, with 370 million people living in urban slums in Eastern and South-Eastern Asia and 226 million in Central and Southern Asia (United Nations 2020). The global urban housing crisis has worsened the pandemic and been worsened by it (United Nations 2020). Knowing that COVID-19 risks to increase inequity, it is key to use at best data on urban inequity as a lever to invest in UTP that is principled in human rights and provides a standard of living and healthy environments for all.

UTP is a key area-based policy domain that operates on various geographical scales, from the city-region

to the neighbourhood scale, that should be a central in strategic programs and policy action that aims to reduce inter- and intra-city health inequities, without leaving anyone behind. As mentioned in chapter 2, UTP also has a common ancestry in early sanitation and air quality activity, going back to the legacy of urban planning and the modernization of cities, such as London and Hanoi (Peckham 2016). The history and revival of cities has proven that urban planning is key as a response to epidemics and that economic prosperity is only possible if urban dwellers have equitable access to a basic services. This lookback at history is particularly relevant for this current time of COVID-19 response.

4.2 Lessons learned from COVID-19

The COVID-19 pandemic in a built environment context has highlighted that there is a need to further strengthen and integrate the synergies between public health and Urban and Territorial planning. Based on the complexities at work this paper will briefly illustrate some of the key lessons and potential contribution to long-term improvements for all people that choose to live healthier life's in urban areas.

■ Density and health

The pandemic quickly spread through urban areas across the region, making density an obvious yet troubling symptom for discussion, ignoring socio-economics factors. Wealthier people in planned, compact neighbourhoods can isolate easier and still have adequate access to services, technologies and amenities. People in less fortunate positions are unable to afford such environmental conditions under lock down due to absence of material wealth in densely populated and crowded neighbourhoods. For the latter social or physical distancing becomes a luxury. It became clear that human to human connectivity associated to overcrowding of places, and not necessarily density, is a key factor that explains the vulnerability of urban settings.

Also, density or more specifically compact city development is key for cities to ensure people can access services, health enhancing amenities and everyday life products within easy walking distance from their place of residence, thereby strengthening people's health, planetary health and reduce climate change. A move away from urban density in order to protect public health, would in fact have the opposite effect. In addition to exacerbating pressure on the environment, cities would forfeit the significant physical, social and mental health benefits of a walkable, compact, green and sustainable city. Economies of scale associated with compact living make it easier for cities to provide basic goods and services to their residents, including providing quality healthcare to a greater number of people.

Local governments in the Asia Pacific region must therefore be careful to ensure that urban density does not become a casualty of the COVID-19 pandemic. Instead, a concerted effort must be made to address systematic issues linked to longstanding urban inequalities, advance comprehensive sustainable urban development and support systems change that enables healthier, more equitable cities for all humans and non-humans.

Figure 5: Infection rate of coronavirus and population density of Chinese cities



Source: World Bank

■ Informal settlements and housing rights

Physical distancing and sheltering in place in informal settlements remain unobtainable even during pandemics. Also, those urban dwellers that do have access to adequate housing have been at risk to be evicted or forcibly relocated from their homes, not being able to pay mortgage or rent (United Nations 2020).

This highlights that meeting human needs during pandemic of those who live in informal settlements and poor housing conditions require sensible and adaptive measures in which the residents are well-informed, trusted and empowered to ensure best context specific outcomes.

■ Healthy behaviours and environment for pandemic preparedness

As elaborated in chapter 3, there is a strong correlation between the built environment and specific health risks related with COVID-19, for example:

- Co-morbidity of NCDs (in particularly diabetes, cardio-vascular diseases)
- Increased vulnerability due to air pollution
- Unhealthy spaces and environments as vector of spreading and excess mortality
- Zoonotic diseases appear and spread more frequently due to environmental degradation and deforestation, often due to unsustainable and unplanned urban expansion and development

Therefore, UTP is part of resilience planning, to build back better and make people healthier. UTP is the spatial vaccine.

■ Healthy environments and supportive infrastructure to cope with COVID-19 response

The recent experience of reduced traffic and pollution due to lockdown measures has motivated many cities to pursue and accelerate sustainable urban mobility schemes, in particular for biking and other micro-mobility practices. The bicycle has been recognized in many cases as a competitive and complete alternative to mass transit, that was reduced in capacity due to higher risk for virus spread.

During the confinement situations, when public health services advised to keep alert to maintain habits of physical activity for overall physical and mental health reasons, cities and communities have also acknowledged the value of environmental qualities in living neighbourhoods, such as green space, the walkability of streets while respecting physical distancing, and the nearby access to essential services.

Without as many cars, streets have been democratized for the people and not just motorists with many cities experimenting with wider sidewalks, pedestrian streets, additional bike paths and even streateries. Cycles of temporary closures and openings of local businesses and services have also fostered place making, which are community-led actions to collectively reimagine and reinvent public spaces at the heart of neighbourhoods. As COVID-19 response has shown to be dependent of community-level intelligence, these placemaking interventions complement well the epidemiological focus on disease prevention. With a focus on low-budget and flexible urban design interventions at the neighbourhood-level, placemaking schemes can be a perfect fit with needed post-occupancy analysis and anticipations of eventual flaring up of COVID-19 spread and needed restrictive measures.

■ Spatial epidemiology

Although extremely challenging and focusing on immediate response, the COVID-19 pandemic has accelerated the use of big data and has forced governments and other stakeholders to innovate in community-level systems for control, quarantine and alternative supply of basic services (UN-Habitat China 2020).

This type of community-level approach will need to be mainstreamed, so to be able to continue to address future outbreaks of COVID-19 and other viruses in smaller city sectors. This is an opportunity for better sector integration and a deep learning potential when engaging UTP and public health professionals, to build together a spatial epidemiology science as the study of spatial and temporal variation in disease risk or incidence in urban environments. This new approach allows timely information release, real-time risk monitoring, online communication and collaboration, trend analysis and judgment, and remote medical assistance. It saves lives while ensuring a quick recovery of economic functions.

4.3 Policy Pathways for Urban and Territorial Planning

The requirements for effective COVID-19 response has overhauled urban functionalities and economies completely. This does not mean that Urban and Territorial Planning requires new theories and concepts, but that better illustration of its effectiveness and impact is needed. Above all, UTP needs to be seen as a key policy domain mostly in hands of cities, to make choices regarding the future path of human health, urban resilience and planetary health.

The three policy pathways proposed in the original report provide a solid basis for building UTP capacity to respond to public health events and strengthening urban resilience with respect to health more broadly.

■ **Pathway 1: Integrate sustainability and quality-of-life targets into urban planning to future-proof public and private investment in cities**

UTP needs to mainstream evidence-based planning and design monitoring approaches (e.g. health impact assessments, behavioural science) and integrate explicitly health targets in sustainable urban and territorial planning processes on national and subnational levels.

As a silver lining, the COVID-19 pandemic and already growing concerns regarding cities as unhealthy environments, several local authorities have accelerated investments in the optimal and more structural use of streets and public space for active transportation (biking in particular) and for functional organisation outdoors of SMEs (waiting queues, curb side food orders and open air activities). These actions resonate the 15-minute-city and complete neighbourhoods concepts that has been put forward by cities like Paris and global city networks like C40 Cities (Times of India 2020). They also reflect the green urban transition that has been called upon previously promote healthy environments and urban health in a larger sense, as they increase physical activity, reduce pollution and allow social inclusion while respecting physical distancing.

For many people, the possibility to work from home became an interesting alternative, thereby removing long commutes and enabling people to spend more

time with their families, use more local services, support the diversification of local incomes and have more time for exercise and other hobbies. Therefore, UTP also has to enable circular economies and more local strategies to secure eco-service that are secure and more sustainable, such as healthy food systems. Therefore, UTP needs to bolster these experiences of fast transitions and promote them as part of larger health resilience and economic recovery plans.

There is also an opportunity for Asian Pacific cities to bring a health focus in emerging urban planning legislation, education, research and practice. It will enhance spatial epidemiologic knowledge, better integration of sectors to provide basis services and healthy environments and stronger quantifications of health benefits and thus the financial return of UTP investments that foster compact city development and adequate density. This will ensure the public and private sector to be held accountable for urban development investments that focus on health and supports efforts of health resilience, economic resilience and planetary health as well.

■ **Pathway 2: Co-produce with citizens urban planning solutions that align technological investment with adequate local government capacities**

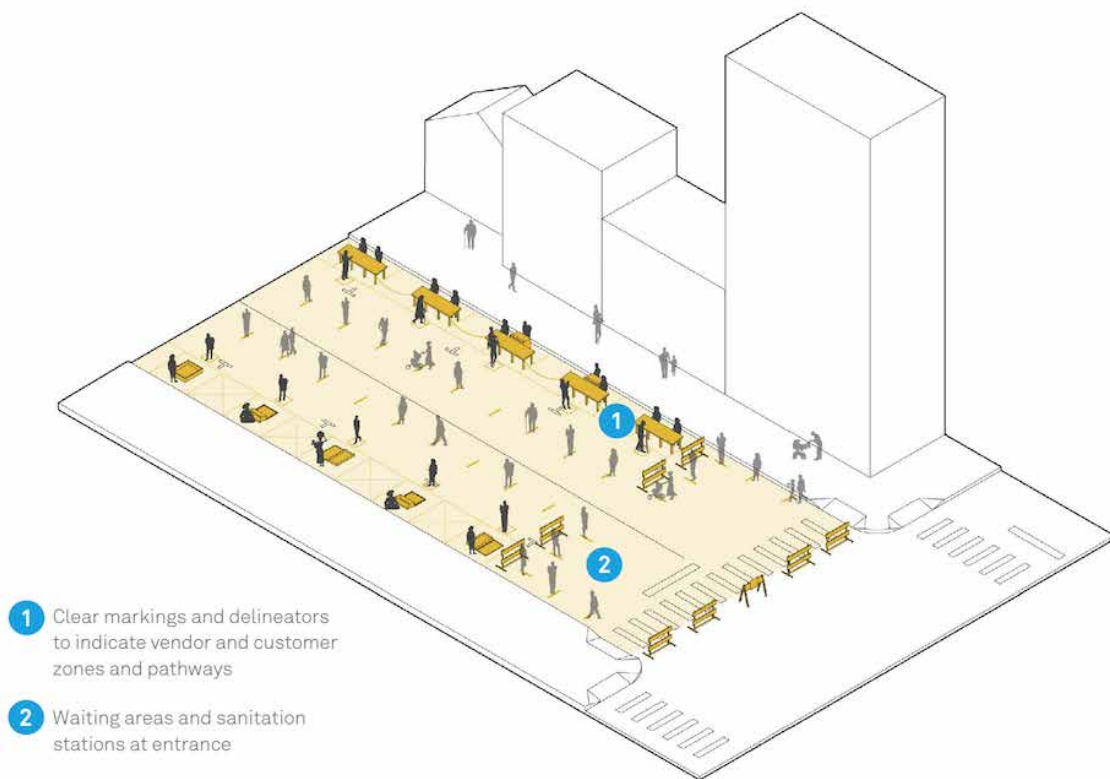
For prevention and control of virus spreading the community networks were key, as well illustrated in cities like Wuhan (UN-Habitat China 2020). Local governments and citizens also collaborated in quickly finding local, alternative solutions so to ensure access to basic services, once the lockdown measures disrupted urban economies and led to cuts in supply chains: the local production and distribution of food, market places for local commerce, the re-organisation of streets to expand public space that allows physical distancing, physical activity and curb-side retail. These experiences make that there is a growing awareness and confidence to develop intelligence and co-design solutions together with communities, also in longer term recovery strategies, such as the City Recovery Plan of Sydney (OECD 2020a). Previous investments in urban data and technology are well used, to continue to be able to organise UTP processes digitally and to shift to virtual meetings.

THE FUTURE OF ASIAN & PACIFIC CITIES

Guidelines for placemaking and public space programming also help local governments to work with communities on micro-scale solutions that are part of a larger vision of sustainable recovery of local communities, livelihoods and MSMEs (NACTO 2020). This type of community-level approach will need to be mainstreamed, so to be able to continue to address future outbreaks of COVID-19 and other viruses in smaller city sectors. This adaptive placemaking approach also allows to foster community literacy on the importance of compact city development and are also key in developing a neighbourhood/city-level health and care system that integrates different social services in a life-cycle approach.

If urban planning professionals are properly trained to communicate with non-experts and use the latest digital techniques, UTP will leverage this system of community-level design. It will enhance shared literacy for the general public on how cities work in the broadest sense and on the importance of area-based planning, local regulations regarding the built environment and urban design. Community-driven urban planning will strengthen neighbourhoods as healthy living circles for multi-generational societies. This requires resources for local governments to strengthen their urban planning capacities and for academic and professional institutions to train professional practitioners.

Figure 6: Illustration of expansion of market footprints into adjacent streets to relieve crowding and support physical distancing



Source: NACTO



■ Pathway 3: Identify specific urban regeneration and growth strategies that optimize urban-rural and city-region collaborations that spur sustainability and investment

The economic lockdown and sudden gaps in supply has shown the importance to develop city-region strategies that ensure economic resilience of urban and economic areas, within a system of cities approach.

As the COVID-19 crises illustrates the scale of the housing crises and the vulnerability of those living in poor housing with inadequate access to basic services, the recovery needs to focus on city-region coordination to address affordable housing for all and to ensure functional regional economies during pandemics and to reduce car-focused sprawl and green field development in favour of compact urban development and nature-based solutions.

Growth strategies should acknowledge reversed migration patterns due to COVID-19 and growing digital connectivity but stay away from economic corridor planning and green field development. Based on better planning tools and more capacity for UTP throughout the region, sustainable expansion of city hubs and strengthening of multi-modal corridors can be achieved, thereby prioritizing small and medium cities as alternate economic hubs to mega cities. Capital investments such as green deal investments will be needed, so to offer needed infrastructure and spatial coherence for economic sectors to accelerate in the green transition, to make prioritized secondary cities attractive (Asian Development Bank 2020), and also to unravel the systemic bankruptcies in non-performing urban real estate portfolios.

In addition to these existing policy pathways, an additionally pathway focuses on the explicit need for adequate housing.

■ New pathway 4: Strengthen housing policies for all

Short-term responses and structural solutions are needed to address the housing crises, that has only grown over the recent years. The COVID-19 crisis exacerbates the vulnerability of those who live in poor housing or are homeless.

In the short term, governments need to give guidance in prohibiting evictions from residence or land, and to facilitate those residents who have financially been hit the most, with subsidies to owners and renters, moratorium on rent increases and access to alternative shelters (OHCHR 2020).

Alternative access to basic services needs to be designed, based on the experiences of the COVID-19 restrictions. Focus areas include supply of produce to meet the daily needs, community-based contact tracking, tracing and isolation where possible, as well as improvement of poor housing standards (e.g. cross-ventilation, greening of spaces, enhancement of place qualities including personal hygiene services and communal land tenure).

In the medium and long term, structural public investments in affordable housing and slum upgrading are needed (United Nations 2020). Slum upgrading schemes can thereby build upon COVID-19 driven investments in micro-scale infrastructure, such as hand-washing stations, and incrementally work around these places of reference towards legalisation and sensitive human-centred upgrading. City-regional planning also is a major planning tool to strengthen so to foresee affordable housing in small and medium-size where real estate prices can be better controlled compared to capital cities. Amongst all these actions, UTP needs to strike a contextual and evidence-based balance between densification and the provision of healthy urban environments for all, following principles of compact city planning.

4.4 Case Studies

Box 1: Increased biker ridership in Jakarta, Indonesia

Due to the large scale social restrictions, main road infrastructure exclusively designated to cars and other motorised transportation for private use became partly available. The city of Jakarta open a pop up bicycle lane on Jl. Sudirman and Jl. Thamrin, major roads crossing the city from north to south. This has supported the increase by 500% and even more then 1000% of bike ridership once the government eased the social restrictions.

The transformation builds upon advocacy and planning towards sustainable transportation policies for years, such as the promotion of Car Free Days. The current challenge will be to maintain and expand the bicycle infrastructure, taking into account major cuts to the municipal budget to be expected due to the economic consequences of the COVID-19 response. Fast and flexible transformations of road infrastructure in favour of bike lanes, supported by the municipal Transportation Department, are also compromised due to lack of support from the policy which is supported by the central government.



Source: ITDP 2020

Box 2: The Quezon City Food Security Task Force interventions

The Philippines imposed one of the strictest lockdowns in the world, lasting for 60 days until Mid-May 2020. Home of one of the largest urban poor populations of the country, Quezon City in Metro Manila faced serious shortage of access to food during the lockdown. The city enacted a number of measures, such as the promotion of local food production by distributing seeds and starter kits to residents who wanted to start backyard gardens and urban farms.

The city has also created a Food Security Task Force as part of the City's Sustainable Development Affairs Unit. The city's economic, business, employment, health, planning, legal, environmental and waste management departments are all represented on the task force alongside civil society groups and representatives from the agri-business sector. The Task Force aims to create a food secure urban ecosystem by promoting urban agriculture and reviewing food systems, focusing on four dimensions of food security: availability, access, utilisation and stability.



Source: Quezon City government



Pillar 2: The Future of Urban Resilience

A healthy population is a resilient population

5.1 Health Considerations in Urban Resilience

Climate-induced hazard events and natural disasters in the broadest sense, were at the forefront of the chapter on resilience in The Future of Asian & Pacific Cities report. The current pandemic has drawn attention to the urgent need for an evidence-based discussion on resilience that includes determinants of health with a strong focus on public health shocks and stressors, as well as public health consequences related to disasters. The following two elements help to contextualise the chapter contribution. Firstly, it explores the full range of public health consequences of disasters and secondly, it builds on the earlier UNESCAP report and makes the connection to public health more explicit. Hence, the definition of resilience as “the capacity for urban systems and settlements to absorb, utilise or even benefit from perturbations, shocks and stresses” (Meerow, Newell, and Stults 2016) remains the agreed basis for this purpose. This definition recognises the concept of vulnerability in combination with functions associated with coping, adaptation and transformation that consequently lead to persistence, staged adjustments as well as transformational change.

Considering the concept of urban resilience with public health highlights how instrumental supportive

environments can be when achieving adequate outcomes (Ziglio 2017). Supportive environments, as defined in a WHO report on strengthening resilience “offer people protection from factors that can threaten their health, as well as enabling them to expand their capabilities and self-reliance” (Ziglio 2017, 9). A multi-sectoral approach is essential when recognising that health can be threatened by factors from both within and outside the public health sector. Furthermore, the public health sector plays an integral role in managing risks related to all types of hazards (WHO Regional Office for the Western Pacific 2015).

For example, the Sendai Framework for Disaster Risk Reduction included an emphasis on health (United Nations Office for Disaster Risk Reduction 2015). In fact, four of its seven global targets are directly linked with health (Martinez et al. 2020). Such numerous references to health (over 30 explicit references) were missing in its predecessor, the Hyogo framework for action 2005–2015 (Aitsi-Selmi and Murray 2015). The Bangkok Principles (World Health Organization and United Nations Office for Disaster Risk Reduction 2016) provide additional useful guidance on implementing the health aspects of the Sendai Framework.



In April 2020, the UN Office for Disaster Risk Reduction (UNDRR) released an addendum to its Disaster Resilience Scorecard for Cities. The Public Health System Resilience Addendum was developed in recognition of the fact that the original scorecard did not adequately emphasise the public health issues and consequences of disasters (UN Office for Disaster Risk Reduction 2020). The addendum is designed to be used in conjunction with the UNDRR Scorecard and the WHO's Health Emergency and Disaster Risk Management (Health EDRM) Framework. This framework outlines a comprehensive approach to reduce the health risks and health consequences of emergencies and disasters as well as improve the health outcomes for communities at risk (World Health Organization 2019a).

In addition to the UNDRR's Public Health System Resilience Addendum, there are several other resources that city administrations can refer to when incorporating public health considerations into urban resilience measures. A basis for many of these guidelines are the 2005 International Health Regulations (IHR). While of the scope of the IHR is not limited to any specific disease or disease types, its focus is on illnesses that present or could present significant harm to humans (World Health Organization 2005). Therefore, while relevant for building resilience against threats such as COVID-19, it is important for local governments to recognise the need of referring to a broader range of resources which ensure that all types of public health events and consequences are adequately considered.

Across the Asia Pacific Region,⁴ the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED III) supports Member States to develop IHR (2005) core capacities. What is different in this latest iteration, is that it importantly takes an all hazards approach to the prevention, detection, response to, and mitigation of health security threats (WHO Regional Office for the Western Pacific 2017). This approach acknowledges that although hazards have various sources, they frequently affect the health system in similar ways (WHO Regional Office for Europe n.d.).

■ Public Health Shocks & Stresses

Public health threats can present as shocks (abrupt) or stresses (slow onset). In addition to disease outbreaks, such as the current pandemic, famine, water shortages, toxic environmental contamination,

infestations of pests, building collapses, traffic accidents, air pollution, floods, heatwaves, anti-microbial resistance, earthquakes, wildfires, power shortages and conflicts are additional public health threats for which resilience should be built and maintained.

It is necessary to remember that in most cases, these threats are a direct consequence of accumulative unconscious human actions on various scales ranging from micro, macro to planetary. Human actions, including the process of urbanisation and its associated perils (e.g. increased pollution, loss of natural habitat), especially when poorly designed and planned, have a significant role in creating conditions in which exposure and vulnerability to hazards are increased, and these threats can subsequently lead to disaster and destruction. Furthermore, the consequences of one disaster may increase the potential for other unintended threats to emerge. For example, displacement due to conflict may increase the number of people living in informal urban areas. Consequently, these places experience additional pressure on already poor WASH infrastructure, thereby increasing the risk of infectious disease outbreaks (International Federation of Red Cross and Red Crescent Societies 2016).

Climate change-related events can have significant health impacts. For example, heatwaves can pose a serious risk to health, with excessive exposure to heat causing heat exhaustion, heat stroke and even death (World Health Organization and UN-Habitat 2016). These impacts are felt especially by the most vulnerable populations, who are often more sensitive and/or do not have access to climate-controlled environments. Changes in temperature and humidity have also expanded the habitable area for a number of disease vectors such as mosquitoes, thereby causing increased risk of malaria and Zika, (International Federation of Red Cross and Red Crescent Societies 2016), and ticks that transmit Lyme and other disease (Bouchard et al. 2019). Adding another layer of complexity, is the fact that threats posed by climate change, pandemics, and conflicts will and are converging, creating complex, multi-hazard conditions for more frequent crises affecting health.

■ Consequences, Interruptions & Response

Shocks and stresses can impact health directly such as by causing mortality, morbidity and disability. They are also likely to have indirect or secondary

⁴ Note, this refers to the WHO classification of the Asia Pacific region, which covers a smaller region than ESCAP.

consequences. These consequences are complex and trigger long chain reactions. They include mechanisms such as follows:

- **Disruption to the health service delivery:** this may be caused by “damage and destruction of health facilities, interruption of health programmes, loss of health staff, and overburdening of clinical services” (World Health Organization 2019a). People may be unable to or deterred from trying to access treatment for pre-existing and emergency conditions, as well as preventative healthcare
- **Disruption to the provision of other essential services:** such as water, electricity and waste collection; food supply, which in turn presents additional threats such as disease outbreaks (Martinez et al. 2020) and malnutrition.
- **Psychological conditions: associated with** immediate trauma, post-traumatic stress disorder compromising the ability to live a healthy life in the long term.

5.2 Lessons from COVID-19

The COVID-19 pandemic has clearly demonstrated the need to integrate public health considerations into urban resilience efforts. Given its broad spectrum of impacts, different types of resilience are needed (e.g. economic, social, community, and health). Resilience related to health can be created through strengthening the overall public health system (including basic services) enabling environmental conditions to lead healthy lives during and after disasters and emergencies. According to the WHO’s Health EDRM Framework, “improved baseline health and nutritional status is one of the most important contributing factors to community resilience” (2019a, 8). Consequently, healthy people are more resilient to withstanding additional stressors and shocks from a diverse range of causes on community scale (World Health Organization 2019a).

■ Health Services

As with health facilities anywhere, the structures in which health services are provided must be built to withstand external shocks (e.g. earthquakes) and have back-up electricity, water, and waste management systems in place that can operate if services to the general population are temporarily disrupted. Service disruption may also be caused by a depleted workforce, or global supply chain restrictions resulting from an infectious disease pandemic. Where possible, these systems should be integrated into and coordinated with broader backup mechanisms for the city.

Health services must have the capacity to manage the additional patient burden as part of response efforts (World Health Organization 2019a). At the

same time, they must find a safe way to continue to provide normal preventive and curative services (WHO Regional Office for the Western Pacific 2015). For example, there have been many instances during the current pandemic where health facilities were forced to close, or certain services were temporarily suspended, as they were not classified as essential services, or they did not have the staff or personal protective equipment (PPE) to enable them to continue to operate. The impacts of such measures are felt disproportionately by vulnerable population groups, especially women, the elderly, and those with pre-existing conditions. Consideration should be given to providing holistic health services at the community level to improve access in general, not just during a pandemic situation.

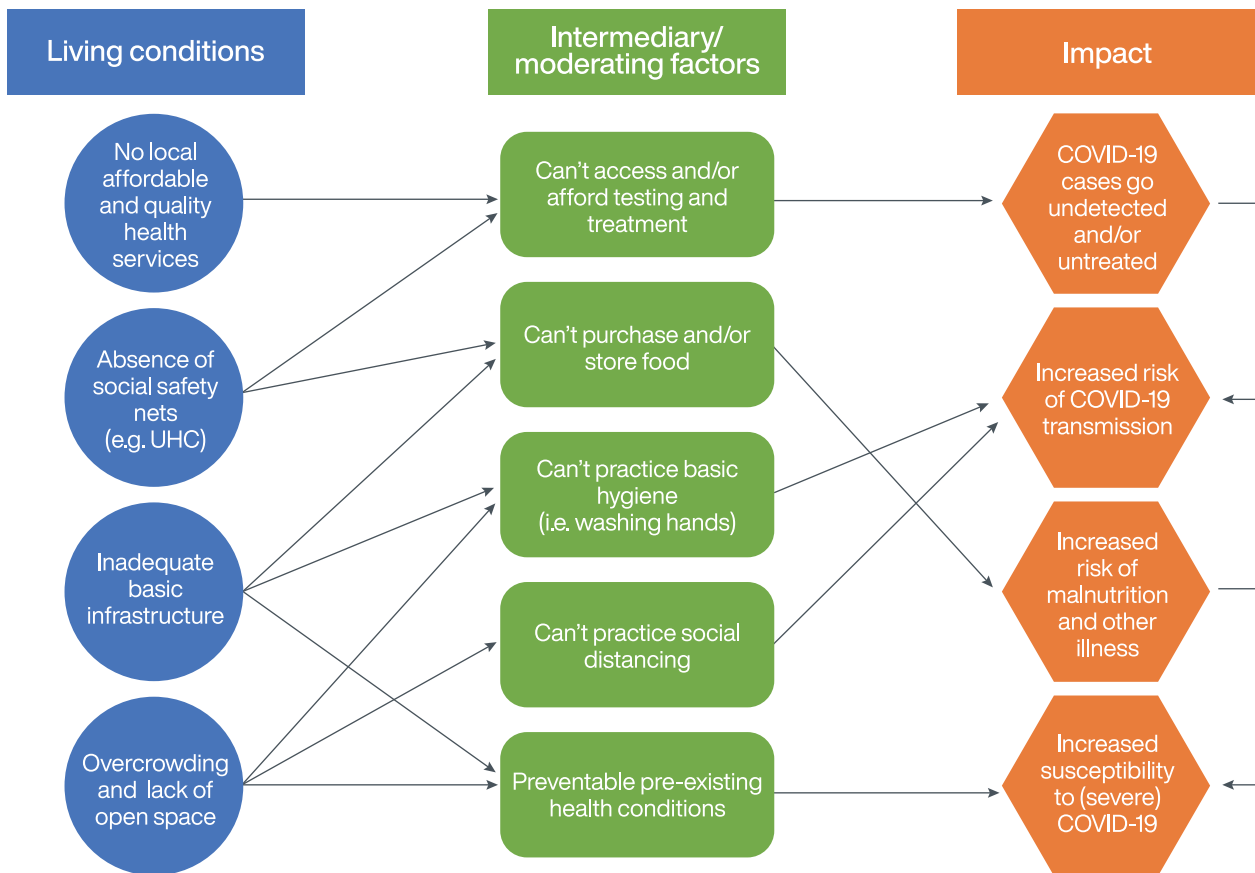
■ Vulnerable population groups

The needs of vulnerable population groups must be considered when building resilience and responding to disasters and emergencies. Vulnerable groups include, but not limited to, the following: the elderly; women; children; those already suffering from other diseases; the malnourished; those without access to basic infrastructure and/or social safety nets; the homeless; the unemployed and those with mobility difficulties. While populations living in informal conditions are at particular risk, vulnerable groups can be found within all cities.

The original report recognises the needs of vulnerable populations, particularly people living in informal settlements and those working in the informal economy. Existing health and social inequalities are exacerbated by disasters as those

who are hardest hit are always the most vulnerable (WHO Regional Office for South East Asia 2010). This has been no different in the case of this pandemic (Asian Development Bank 2020; OECD 2020a). The pandemic has triggered and exacerbated conditions associated with urban inequalities. Figure 7 outlines a few mechanisms to illustrate the challenges associated with resilience and health.

Figure 7: Simplified illustration of how living conditions as determinant of health contribute to increased risk of COVID-19



■ Risk Communication

Within all emergency phases (preparation, response, and recovery), risk communication is an essential measure to enable better health outcomes linked to urban resilience. The WHO defines risk communication as “...the real-time exchange of information, advice and opinions between experts or officials and people who face a threat (hazard) to their survival, health or economic or social well-being. Its ultimate purpose is that everyone at risk is able to take informed decisions to mitigate the effects of the threat (hazard) such as a disease outbreak and take protective and preventive action.” (World Health Organization 2020a). Effective risk communication functions as a tool that rectifies and manages rumours and misinformation in a pro-active

and evidence-based way (World Health Organization 2020a).

Risk communication is a standard component of planning for pandemics and other public health events. However, during the COVID-19 response, many governments at local and national level across the region demonstrated underdeveloped capacities to inform their population effectively. Effective measures help establish higher levels of trust among the affected population. From a risk perspective, accurate and timely dissemination of relevant information to target groups is essential (Kar and Cochran 2019) while disaster preparedness communication paired with honesty contributes to building community resilience (World Health Organization and UN-Habitat 2016).

5.3 Policy Pathways for Urban Resilience

The four policy pathways proposed in the original report provide a solid basis for building capacity to respond to public health events and strengthening urban resilience with respect to health more broadly.

■ Pathway 1: Nature Based Solutions and Resilient Infrastructure

If we seek to go beyond earlier detection of diseases and wish to reduce risk, nature-based/biophilic solutions are the fundamental building block of creating conditions for urban resilience (World Health Organization 2020b, 5). Nature-based solutions can have a multitude of benefits, which are well documented elsewhere. In particular, interaction with nature is consistently shown to be one of the most effective medicines for warding off depression and anxiety, strengthening the immune system and promoting cognitive restoration. Context and climate sensitive solutions include:

- Increasing opportunities to experience nature, by “nesting” it in neighbourhoods (Jenkins 2020), and building it into the “in-between places” (Gillis 2020). COVID-19 has shown this is particularly important when social distancing measure prevent people from travelling far from their homes.
- Developing sustainable urban agriculture (World Bank 2020).

- Continuous strengthening urban-rural food connectivity (Newell and Dale 2020).
- Transitioning from fossil fuels to clean sources of energy (World Health Organization 2020b).

■ Pathway 2: Understand the Informal Economy and Support Urban Poor Groups to be Change Agents

Investment in essential services is important not only to enable people to practice prevention measures in the face of infectious disease outbreaks such as COVID-19, but also to reduce vulnerabilities to the impacts of disasters and emergencies in the first place. This can be achieved by considering two aspects. Firstly, ensuring access to essential infrastructure and services for all population groups is an important measure to reduce inequalities. This in turn will lower the baseline need for healthcare, thereby making populations more resilient (Oni 2020) and reduce the burden on emergency services. Secondly, consideration must be given to providing equitable access by reducing financial barriers. Implementation of UHC policies can therefore also improve the baseline health status of populations and mitigate the health consequences of emergencies (World Health Organization 2019a). Furthermore, social safety nets or social protection mechanisms need to be established, with the potential to scale up during times of crisis built into such mechanisms (Baker, Cira, and Lall 2020; Carey, Murphy, and Alexandra 2020).



■ Pathway 3: Create and Strengthen Partnerships

Building resilience across sectors as well as between different levels of government requires that the health sector is proactively involved as part of comprehensive multisectoral and multilevel governance mechanisms for disaster risk management, including modelling of scenarios as part of risk planning. This means that the health sector, often managed at national level, needs to invest in scoping on built environment related sectors and policy domains that are often situated within the realm of local governments. This requires forms of decentralisation of health and strengthening of governments to innovate and invest in horizontal (multisectoral governance) and vertical coordination (multilevel governance).

Working collaboratively with local communities must be core to integrated disaster preparedness (WHO Regional Office for South East Asia 2010). Bottom up- community empowerment and meaningful participation creates agency, builds trust and assists in understanding risks, needs and priorities for the development of cost-effective solutions to address local issues and enable innovation with upscaling potential. This includes implementation of gender-responsive and inclusive disaster risk reduction policies and plans to address the vulnerabilities and capacities of vulnerable population groups and protection of needs before, during and after disasters (World Health Organization and United Nations Office for Disaster Risk Reduction 2016).

■ Pathway 4: Utilisation of Data

The UN has recently emphasised the importance of data driven approaches for building urban resilience (United Nations 2020) as COVID-19 has exposed significant data gaps. It is necessary to make sure that data is disaggregated at the local level as well as by sex and age (United Nations 2020) in order to design adequate response measures, and to identify which areas may be at particular risk.

Community organisations usually have an in depth understanding of the population and can serve as an important resource for local governments. For example, in Dhaka, information on vulnerable populations obtained from grassroots organisations was essential in ensuring food assistance went to those in greatest need (Taylor 2020).

Data integration is also important to analyse 'multi-layer vulnerabilities' and to understand if any overlap exists between for example the hot spots of COVID prevalence and the hot spots of highest predicted climate change vulnerabilities. These insights could potentially highlight the relevance of integrated effective action on both climate resilience and pandemic preparedness, with specific investment in certain urban areas.

The pandemic has also exposed the digital divide (OECD 2020a). Although digital solutions have provided opportunities to continue employment, education, and service delivery while observing social distancing measures, certain segments of the population are excluded.⁵ Internet access should therefore be treated as an essential service and efforts should be made to ensure this is accessible to all (OECD 2020a).

If harnessed correctly and applied equitably, advances in digital technology provide an important opportunity to provide underserved populations with access to education. As well as being positively correlated to health outcomes, education is an important factor in building individual, community, and institutional resilience. It does this in a number of ways, including through strengthening social capital, raising human capital, improving community knowledge of risks and hazards, and contributing to gender equality (Shah 2019). While risk communication during a crisis is extremely important, it will be limited in its effectiveness in populations with low levels of education. Put simply, education assists populations understand and take appropriate action in the face of an emergency.

⁵ Digital solutions are covered in more detail in the chapter on smart and inclusive cities.

4.4 Case Studies

Box 1: Emergency funds for livelihoods of the vulnerable

Responding to the economic impact of the pandemic, many cities have responded with temporary measures to support livelihoods, as well as local economies.

In the Republic of Korea, the Gwangju Municipal City government set up an emergency fund to support people in lower income brackets facing additional hardship due to COVID-19.⁶ The funds were also expected to help stimulate the local economy. Under this measure, eligible households could receive between 300,000 to 500,000 won (approx. 250 – 420 USD)⁷ and 1 million won (approx. 845 USD) was given to those who had lost their jobs or who had no regular income.⁸ The measure was subsequently extended with the support of the central government to provide support to all households, irrespective of their income.⁹ Funds were distributed through a variety of methods to ensure on the one hand that it was useful/appropriate (e.g. cash to low income households) while encouraging spending rather than saving (e.g. putting amounts on credit and debit cards, as well as the local currency; the Gwangju Sangsaeng Card. Other Korean cities such as Daegu Metropolitan City (Daegu) and provinces such as South Jeolla Province implemented similar measures to support basic livelihood requirements.

Sources: Gwangju Foreign Language Network 2020a; 2020b; 2020c; Daegu Metropolitan City 2020; Ryu 2020

Box 2: Learning from previous outbreaks

The 1994 outbreak of plague in Surat, located in western India, turned out to be a turning point for the city. The outbreak forced the local municipal corporation to address deficits in sanitation and waste management, improve living conditions in overcrowded informal settlements, and develop more effective ways to respond to infectious disease outbreaks. So remarkable was the transformation, that the city was judged India's second cleanest city just two years later. In addition to upgrading physical infrastructure, wide sweeping administrative and financial management changes were made to improve service delivery. Monitoring systems and enforcement measures were also implemented to ensure the success of these changes.

More recently, following the 2006 floods, Surat has become a leader in building resilience to the impacts of climate change

Sources: Swamy, Vyas and Narang, undated; Basu, 2020; Karanth and Archer, 2014

⁶ The Emergency fund was decided on 23rd March 2020 during the city council meeting on COVID-19 economic emergency and deployed from 1st April 2020.

⁷ 260,000 households below median income level receive this urgent family allowance depending on their income level. It amounts to 91 billion Korean won in total.

⁸ This personal income support was given to workers without a permanent contract (e.g. artists, interim lecturers, chartered drivers), those who had lost their jobs and those forced to take unpaid leave. It amounts to about 10 billion Korean won.

⁹ The central government covered 80% of total expenditure. The remaining 20% was covered by Gwangju Metropolitan City budget amounting to 66 billion Korean won.

CHAPTER 6



The Future of Smart and Inclusive Cities

Bridging the Urban Health Divide through Technology

This chapter aims to identify opportunities within the smart and inclusive cities movement to explicitly improve urban health outcomes for all. Building on the 2019 *Future of Asia Pacific Cities Report*, this section expands the conversation around strategies for improving governance and ICT to promote preventative solutions to support comprehensive health and well-being for all residents, while being mindful of privacy overreaches.

With the majority of future urban growth predicted to occur across Africa and Asia, it is urgent that

the Asia Pacific region make a commitment to building healthier, more inclusive cities for their most vulnerable residents. Building digital inclusion into the very core of the urban fabric means creating spatial, social and economic conditions for all residents to live, work, play and thrive with equitable opportunity. These considerations need to be carefully considered in light of emerging smart city capabilities so that no one is left behind. Without appropriate planning and active community engagement, smart city innovations risk exacerbating existing, or even creating new urban health inequalities.

6.1 Smart and Inclusive Cities for Health

Although definitions of the smart city concept vary across regions and institutions, in most cases the term “smart city” is aimed at utilising digital information and communications technology (ICT) innovations to make networks, systems and urban service delivery more efficient to benefit businesses and residents (OECD 2020c). Because smart city applications may incorporate both big data collection and changes to physical urban infrastructure, smart city planning is intrinsically linked to the health and well-being of urban residents. As the WHO points out, “*innovative technologies have enormous potential to improve human well-being*” (Fong and Harris 2015).

Over the past decade, Asian and Pacific cities have led the way in developing leading smart city programs, focusing on distinct priorities that reflect a wide variety of municipal needs and digital capacities across the region. Many innovations have concentrated on improving the built environment, transportation, sanitation, health care and education—all factors that significantly influence health outcomes. Still, smart cities have not yet realised their full potential in advancing a holistic urban health agenda. Rapid technology advances in sensing, artificial intelligence (AI), machine learning,

and communication technologies have created unprecedented opportunities to improve urban health and reduce inequalities (Ezzati et al. 2018). However, there have also been an increasing number of smart technology ‘overreaches’ in Asia Pacific cities, which blur the line between surveillance and data monitoring for improved quality of life versus adequately protecting citizen privacy and personally identifying biodata.

As smart cities frameworks continue to evolve, it is imperative that governments revisit the central questions of: “What problem are we aiming to solve?”; “For whom?”; “How will citizen data be utilised?”; “How are citizens involved”, and “Have they given consent?” as they design new smart strategies and governance models. If cities intentionally refocus their policies, services, planning efforts and governance systems through a health equity lens, while incorporating data-driven decision making, the positive impacts on human health would be immeasurable. Making health an explicit focus of smart city initiatives that span multiple agencies, sectors and disciplines, could reduce leading environmental and social risk factors for non-communicable diseases, increase the accuracy and availability of health data to inform

prioritisation and decision-making, improve access to health care services and better control infectious disease outbreaks. It could also allow countless new opportunities to deliver more effective and accurately targeted social protection programs, while giving citizens new means to interact with and participate in government, bringing a more equitable and democratic voice to those that have been traditionally marginalized or ignored.

■ Data and Analytics for Health

Setting aside the acute and ongoing threat of a global infectious disease pandemic, as the Asian Development Bank (ADB) has stressed, the NCD burden has grown exponentially over the past decade (Helble and Francisco 2017). Residents of informal settlements, migrants and the ultra-poor have been largely left out of data collection and subsequent policy responses, despite their populations being the most heavily affected by the growth in NCDs (Alwan 2010). With inaccurate, missing, or incomparable data sets on vulnerable populations among cities in the region, it is not surprising that many preventative health approaches have been uncoordinated or had unimpressive results.

Through the ICT integration of social protection systems, Asia Pacific cities can greatly improve their effectiveness by more accurately tailoring programs to address the challenges of particular populations, expanding their reach appropriately and more directly benefitting beneficiaries. Nepal's mobile money program allowed a greater programmatic reach into remote areas, while the Philippines and Vietnam improved their database management systems and were able to expand the number of residents served (Handayani et al. 2017).

Private companies and non-governmental organisations are amassing infinitely increasing volumes of data with vast public health potential via social media, health apps, wearables, monitoring customer habits, internet searches, internet of things devices and more. On Twitter, approximately 500 million Tweets are shared daily, a billion hours of video are viewed on YouTube and 350 million photos are added to Facebook alone (Internet Live Stats n.d.; YouTube 2020; Aslam 2020). For example, food retailers now have unprecedented access to real-time consumer data from 'smart' retail stores, which use sensors and cameras to monitor and record purchases and shopping habits, sometimes by bypassing a proper checkout counter altogether (Grand View Research 2020). Data collected on consumption behaviour are enormously valuable

from a public health research perspective, particularly when they relate to three of the four leading risk factors for non-communicable diseases—tobacco use, harmful use of alcohol and unhealthy diet.

Important data for health is also being collected by existing ICT technology throughout critical city infrastructure and has the potential to be expanded. For example, more accurate transportation data that measures accidents and detect common underlying conditions such as weather, speed, traffic flow, and road conditions is needed to help prevent serious traffic accidents, which are a leading cause of preventable death worldwide (World Health Organization 2019b). Troublingly, between 2013 and 2016, road traffic deaths increased in the Asia-Pacific region by 10% despite a growing awareness of the risk factors (United Nations ESCAP 2019). One of the most impactful injury-prevention measures a city can take is to redesign roads and streets in injury hotspots with safety, multi-modal access, and lower speeds in mind. Correspondingly, data can help us identify needs and priority neighbourhoods for improving physical and social service assets.

■ Harnessing the Power of Data-Driven Decision Making in Government

As *the Future of Asian & Pacific Cities* report stresses, countless governments, businesses and scientists are now actively harnessing data to inform decision making—a powerful tool for affecting the population health outcomes of urban residents. The opportunities for smart city data and technology to transform environments, behaviour and subsequently urban health and health care in the region is tremendous and growing exponentially at a rapid pace. Initial research shows that the potential for health improvements (measured as DALYs averted) via smart city applications could be between 8-15 percent (Bughin, Woetzel, and Manyika 2018; Chye et al. 2018).

The collection and sharing of data with health implications among local governments, the private sector, non-governmental organisations, researchers, and public health practitioners would improve the ability of cities to create effective, evidence-based policies. When high-quality data informs policy and health is a key factor in public decision making, impactful investments with high return on investment can result, leading to saving lives and improved economic efficiency. With widespread data for health collection only just beginning, the potential for new insights into specific health behaviours responsible for the majority of death and disability

worldwide (The Academy of Medical Sciences 2016) as well as regarding broader determinants of health are endless.

Smart city data applications to improve health could result in enhanced decision-making affecting:

- **Safety and Security:** Real time crime mapping, crowd management, lighting and surveillance of parking lots and public spaces at night
- **Environment:** Real time and geographically distributed water and air quality monitoring
- **Healthcare:** Telemedicine, wearables, sanitation and hygiene, remote patient monitoring systems
- **Mobility:** Smart street lighting, mobile ride hailing applications, bikeshare transit system integration, intelligent traffic signals and injury prevention
- **Engagement and social services:** Local civic engagement apps, digital citizen and social services, citizen ‘complaint’ reporting platforms, local connection platforms

6.2 Lessons from COVID-19

■ Data for Decision Making

During the COVID-19 pandemic, obtaining disaggregated, high-quality, and inclusive data has proved essential to governments successfully monitoring, controlling, and ultimately reducing community transmission, infection, and untimely death. Government contact tracing applications across the Asia Pacific cities have effectively utilized geo-located data to effectively improve infectious disease transmission risk reduction. Big data has also helped cities understand more about the risk factors (e.g. air pollution) for COVID-19; identify vulnerable populations (e.g. the elderly, certain occupations); and predicting future hotspots by overlaying data sets onto city maps (UN-Habitat China 2020). However, the battle with COVID has also revealed significant weaknesses when local governments have inaccurate, incomplete, or non-existent data on vulnerable populations, especially migrant workers, informal workers, and people living alone, especially seniors.

The need for high quality data and integrating datasets is imperative when realising any type of disease prevention, whether infectious, vector-borne, or non-communicable. High quality data sets and technology can also be harnessed to aid a wide variety of sustainable and resilient development efforts, all of which ultimately improve public health outcomes as a spillover benefit.

■ Effective Smart City Governance for Health

Implementing strong mayoral crisis communications and beating back misinformation strategies have been among the most essential lessons from COVID-19. The COVID-19 pandemic is unlike any other infectious disease crises in the past, as it is the first to take hold during the age of social media and unprecedented global access to communication technology. Along with the democratisation of information sharing, there has been a surge of disinformation and misinformation online. Misinformation generally emerges from gaps in knowledge, while disinformation aims to seed distrust in public institutions and government (Igoe 2020; Vijaykumar, Jin, and Pagliari 2019). However, effective population health communications can only succeed with ample transparency, reliability, and trust in government. A deterioration of any of these concepts can have massive health consequences, making people less likely to comply with public health recommendations—something we’ve been witness to throughout the course of the current pandemic, often with disastrous consequences (Igoe 2020). Although this has been a challenge for local governments the world over, some Asia Pacific cities have been experiencing a decline in government trust as democratic systems are weakened, leading to diminished compliance and worse health outcomes (Freedom House 2019).

A recent Economist Intelligence Unit-led report asked citizens from several urban centres, including Mumbai, Hong Kong, Singapore, Sydney and Tokyo, about their expectations for smart city development. In Mumbai approximately 84% of respondents believe that growth in smart city ICT will aggravate existing social inequalities while in Singapore respondents cited that their preferred improvement would be more equitable access to smart city services. In other cities like Hong Kong, there is a greater concern with stronger data protection, above all else (McCauley and Gold 2019). As K. Vish Viswanath, Professor of Health Communication at the Harvard T.H. Chan School of Public Health put it, since *“this won’t be the last pandemic, organisations need to have a robust communications surveillance strategy in place for future crises”* (Igoe 2020).

Clear communication about health risks, health promoting behaviours and public health guidance is vital. Because city governments often have closer relationships to local communities than regional or national governments, they are ideally placed to build trust and dismantle dangerous theories through targeted communication and behaviour change strategies. Smart city systems provide platforms to facilitate closer communications and collaboration between policymakers and citizens and can also offer tools that shift agency from decision-makers to citizens via engagement. Municipal governments should be sure to incorporate clear, consistent, science-based health messaging graphics into public spaces like squares, markets and public transportation stops to limit confusion and reinforce disease transmission reduction strategies. Building health literacy should also be an ongoing local government objective, so that populations are better able to respond when faced with the next health emergency. There are numerous opportunities to incorporate health messaging, including that which supports health literacy, in public spaces and as part of smart city infrastructure.

Focusing smart city initiatives on health could help reduce environmental and social risk factors for leading diseases and conditions but impact assessment tools are often lacking. Governments that prioritize smart city applications to measure and assess health risk factors will amplify the utility of data and translate it into effective policy changes and improved health outcomes.

■ Technology Solutions for Infectious Disease Transmission Risk Reduction

Technology can aid connectivity even during physical and social distancing via improved communication with the public, providing critical basic service delivery and reducing infectious disease transmission risk. Throughout the pandemic, technology and internet connectivity has aided with contactless transactions: food delivery; retail services; low-cost, mobile hand washing stations; contact tracing; public health communications dissemination, and more. Technology has aided a rise in remote telemedicine consultations, diagnoses and treatments, a positive trend for both clinicians and patients that should be continued and invested in long after the pandemic is over. Non-mechanical transportation and innovative drone utilization has reduced exposure to air pollution and is helping to promote disease risk reduction. Additionally, it has enabled online learning and allows segments of the workforce to work from home, which has benefitted many but also comes with trade-offs and showcases inequities. For example, reduced commutes lead to lower CO₂ emissions, improved air quality, more family time and lower stress levels. However, working from home has already exacerbated neighbourhood, technology and labour inequalities and the negative mental health impacts of social isolation. Countless landlords and businesses count on office workers for survival and working remotely may dampen innovation, not to mention social health and wellbeing. Furthermore, shopkeepers, retail employees, bus drivers, mail carriers, chefs, delivery workers, labourers and countless others are unable to work from home.

■ The Digital Connectivity Divide

Digital solutions have made it possible to continue employment, education, and service delivery in the face of public health lockdown measures, even in remote and disconnected areas. However, the COVID-19 pandemic has been a strong reminder of the persistent digital divide (OECD 2020c). As the Future of Asian & Pacific Cities report points out, despite the Asia-Pacific region investing heavily in digital infrastructure and producing an impressive average internet penetration rate of 52% and Korea and Japan boasting upwards of 94%, the disparity among those countries and the 18 ESCAP member countries with 2% or lower fixed broadband subscriptions is vast. The digital divide has already resulted in millions being left out of digital education, health, business and finance opportunities (United Nations ESCAP 2016). Strong broadband

connectivity for all Asia Pacific cities is crucial to meeting the SDGs. Their findings confirm that the gap between advanced and developing countries access to fixed broadband is widening, an issue that has only further been exposed during the COVID-29 pandemic. Although often a challenge controlled at the national scale, cities can identify gaps and work to fill them locally and in partnership with private sector providers. Adequate internet access and ICT connectivity has clearly emerged as an essential service, and efforts need to be made to ensure this is accessible to all (OECD 2020c). Nonetheless, it is important to remember that despite growing broadband access, many people still lack access to the internet, a smartphone, or a laptop.

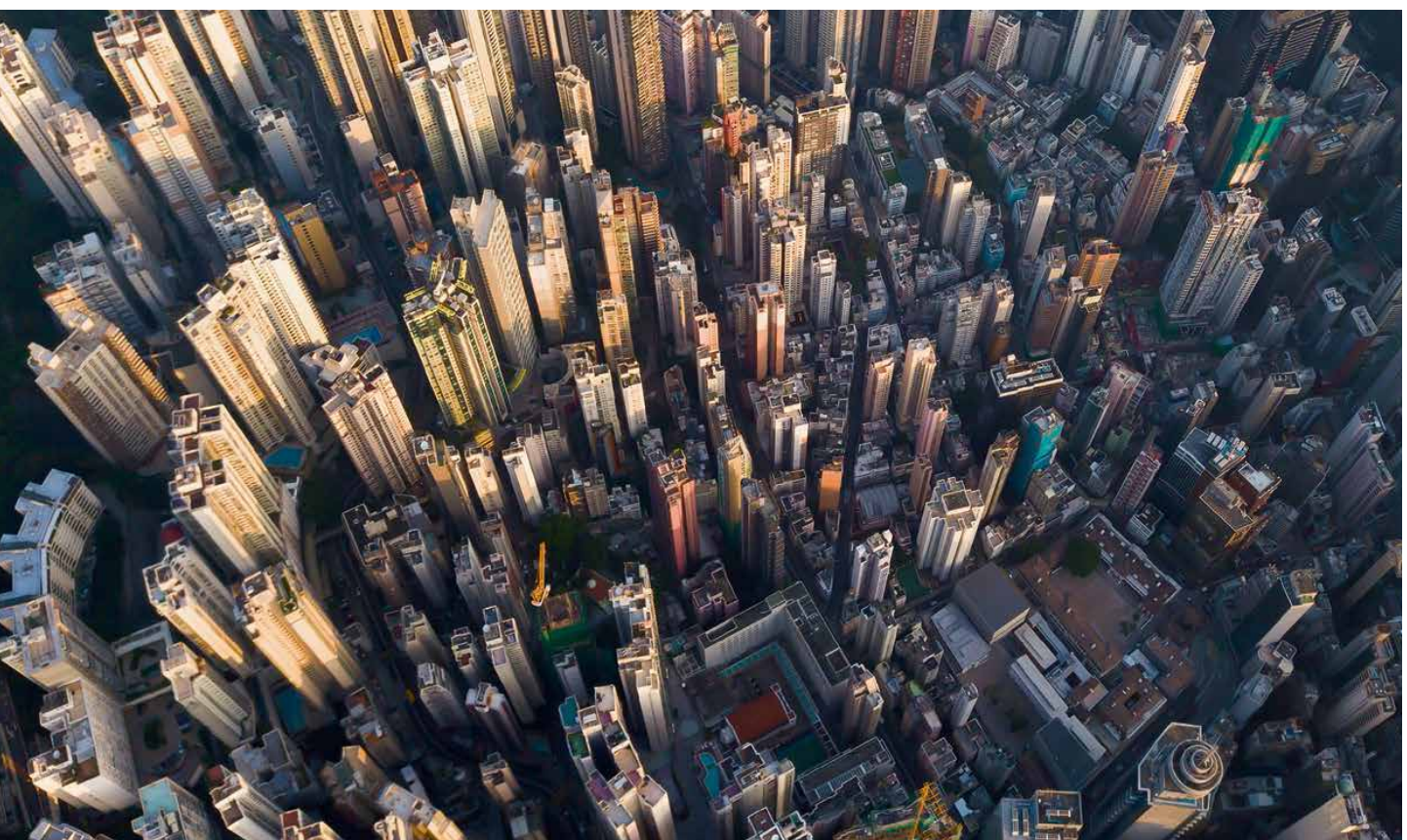
■ Security and Privacy Concerns

The *Future of Asian & Pacific Cities* report identifies the growing cybersecurity concerns of shifting work, education, government processes and social service delivery to online systems. The report highlights best practice examples such as Singapore's comprehensive 2016 cybersecurity strategy. The pandemic and the corresponding increase in time spent online has further increased the risk of cyber security breaches such as ransomware attacks, cyber-criminality, and identity theft in the Asia Pacific region. In addition, the development and in some cases mandatory use of contact tracing and other disease surveillance applications during the COVID pandemic has heightened concerns over privacy infringement and state or corporate control over individuals' data and rights (Nectar and Culver 2020). Similarly, artificial intelligence has quickly entered

private homes, vehicles and workplaces and the data collected is largely left unregulated. As cities continue to grow but resources remain finite, it has become possible to monitor the movement and resource use of individuals via technology. However, privacy and cybersecurity safety must be closely considered as new smart city technology is invented and deployed.

■ Civic trust and community intelligence

The COVID-19 pandemic has had implications for governance and we're already seeing citizen trust in governments increasing in some countries and decreasing in others (OECD 2020a). In recent years there has been a growing demand to give residents opportunities to share their voice and to allow greater participation in governance and planning for their urban future. At the same time, technology has been bringing a digital democratization with new opportunities for citizens to share their voice, ideas and opinions. Digital city service platforms and two-way communication channels, which allow users to send in 'complaints' to cities with photos in real time are accelerating. Together, these present an opportunity to further involve the community to help develop smart solutions and policies in the areas that residents themselves prioritize. With improved feedback, cities can expand social service delivery and address existing inequalities while ensuring privacy and data use transparency. In the context of the pandemic, active community participation should be actively encouraged and coupled with evidence-based education regarding COVID-19 transmission methods, risk reduction strategies, health and safety promotion.



6.3 Policy Pathways for Smart and Inclusive Cities

The five policy pathways for smart and inclusive cities presented in the Future of Asian & Pacific Cities report create a strong foundation for advancing smart and inclusive cities for health throughout the region.

■ Pathway 1: Improve Smart City Governance Across Urban Systems, Institutions and Actors to Overcome Inequalities and Make More Informed and Integrated Planning Decisions

Just as a systems approach to integrated master planning and dynamic urban governance enhances smart cities and works to reduce inequalities, expanding this municipal commitment to building a healthier city via smart city technology is essential to achieving disease prevention and health promotion goals. Building on this pathway, cities could develop a healthy cities peer sharing network that exchanges comprehensive up-to-date data, ideas, best practices and tools around ICT application for health. A key first step would be to establish a robust COVID-19 best practice data and information repository to build artificial intelligence (AI) generated scenarios for decision-makers to consult for future outbreaks. This will strengthen and extend shared information networks within and between cities, and expand essential knowledge, data and expertise, resulting in more efficient policy decisions with improved results. Having digital health focal points within city governments can help to ensure collecting and sharing of data that is relevant to improved health resilience.

■ Pathway 2: Encourage Technology Firms to Become More Civic Minded and Create Sustainable Smart City Solutions with Social Enterprises

Keeping in mind the risks of smart cities enabling greater inequity that the Future of Asian & Pacific Cities report points out, and building on pathway 2, cities could develop an open-data dashboard that collects and shares baseline digital health information in collaboration with social enterprises and likeminded technology firms. Transparent data sharing frameworks are required to harness the positive possibilities of 'digital epidemiology', the real time assessment of public health through technology (Budd et al. 2020). Establishing data for health

sharing partnerships across agencies, departments and sectors, including establishing agreements with private sector companies and researchers is critical. Sharing should involve the consent and agreement of all stakeholders including the individuals that generate the data, the public sector and private, non-governmental or research partners. Transparent and explicit data sharing agreements would allow higher-quality data collection methods and inputs, more widespread participation, improved business and public policy insights and engender greater trust in government through transparent, real-time data dashboards that display data and may include program monitoring and evaluation mechanisms indicators and Key Performance Indicators (KPIs) over time. It is important to keep the following points in mind:

- a. Timely, reliable, accurate and science-based information is critical.
- b. Prioritise data and needs of populations that are invisible in surveys and censuses such as migrant workers and informal dwellers or labourers.
- c. Focus on existing access such as smartphones or public systems.
- d. Include cybersecurity safeguards.
- e. Establish trusted health data and communication channels promoting health literacy based on local data:
 - i. Accessible to all & culturally appropriate
 - ii. Combat misinformation, disinformation
 - iii. Present data collection methods and objectives transparently, allowing citizens to opt out if they choose

■ Pathway 3: Adopt Cybersecurity Safeguards in both Digital and Physical Urban Infrastructure Development Planning

As the Future of Asian & Pacific Cities lays out, ensuring safety and security in both the physical and digital world are critically important to cities. Part of building cybersecurity safeguards into cities includes battling disinformation online and strengthening citizen trust in government messages and directives for health. Governments can add an additional layer of health protection with consistent, clear and evidence-driven communication campaigns that build trust with citizens and offer sound scientific public health strategies using digital technology. Residents need to be digitally safeguarded against

health misinformation and acquire the knowledge, skills and information to make their own healthy choices, for example about the food they eat, the preventative healthcare services that they need or the COVID risk reduction guidelines they will follow. Residents should be equipped to make informed choices that benefit the urban economy and their health. Citizens deserve to be equipped with sound and secure health knowledge and live in an environment in which they can demand further policy actions to improve their health outcomes and achieve greater health equity.

■ Pathway 4: Develop Smart Mobility Investment Plans that Prioritize Sustainable Urban Mobility Options for Citizens

As Pathway 4 describes in the Future of Asian & Pacific Cities report, cities should be actively working to integrate electric vehicles (EVs) and digitally connected public transportation systems into their mobility systems. Expanding on these recommendations to prioritize urban health and a more resilient pandemic recovery means focusing on shared, sustainable and active transportation solutions. As the report points out, shared vehicle usage should be prioritized over single occupancy vehicle usage, mass transit over vehicles, and safe opportunities for non-polluting modes such as walking, and biking should be the ultimate goal. Connecting these options digitally via single transit passes, integrated bike share systems and separated

transit signals encourages usage, improving physical activity, reducing stress, enhancing mental health, reducing injuries and strengthening the immune system.

■ Pathway 5: Expand Viable Smart City Funding Mechanisms by Enabling Cross-Sector Partnerships and Business Matching Platforms

Cross-sector partnerships and shared platforms are essential to enabling the expansion of digital and physical infrastructure in cities. With a shift to online service delivery and digital or telehealth solutions, it is imperative that internet access is assured for all residents so that existing inequalities are not exacerbated. As such, the provision of broadband internet connectivity should be considered a basic service and not just something that the wealthiest residents are able to afford. In addition to ensuring availability, local governments must also guarantee that this is a service provided to all residents regardless of their ability to pay. Cities should consider cultivating cross-sector partnerships with private companies and social enterprises to offer free (or heavily discounted) internet packages to disadvantaged socio-economic groups and that is designed for all (people with disabilities). In addition, assistance should be provided to households that cannot afford to purchase smartphones and/or laptops.



6.4 Case Studies

Box 1: Smart cities support ageing in place

The municipality of Khon Kean in Thailand has developed a multi-component Smart Health project. Its preventive healthcare service component leverages smart wristbands and smart home solutions to monitor and collect citizen health data and provide health guidance. This information is also integrated with Electronic Medical Records (EMR). The project was initially implemented as a trial to see which devices were most acceptable and effective.

Such digital innovations are designed to help prevent and better manage chronic illnesses, thereby reducing the need for hospital visits, which are costly.

Sources: Thailand Press Release News 2018; Koh 2018

Box 2: Smart cities for liveability and sustainability

The local area of Aundh-Baner-Balewadi (ABB) in Pune, India, is being created as a model neighbourhood of liveability and sustainability as part of Pune's smart city initiative. While not setting out to explicitly support the health of its current and future residents, the project includes a number of initiatives that address determinants of health. These include both digital and non-digital measures designed to:

- Increase public transport and active transportation share
- Increase open spaces as percentage of total area
- Create local jobs, enabling walk-to-work
- Make ABB a zero-waste and garbage community
- Improve street lighting, with lampposts also fitted with air pollution sensors, panic button, wi-fi access point and CCTV camera

Source: Pune Smart City Development Corporation Ltd n.d.



CHAPTER 7



The Future of Urban Finance

Investing in Healthy Cities

7.1

Health Considerations in Urban Finance

Urban finance plays vital roles in creating healthy, liveable, and environmentally sustainable urban development outcomes in Asian and Pacific cities. Investments in basic infrastructure (specifically WASH) and affordable, high quality housing are crucial to preventing major infectious disease outbreaks and ensuring broader health outcomes. Through taxation, user charges, and intergovernmental transfers, urban finance systems mobilise public funding for health facilities, equipment, medical personnel, and infrastructure to prepare for the next pandemic shock.

The financial positions of subnational governments, private infrastructure providers, and service delivery agencies are a reflection of the health of local economies. Diversification of urban economies has not been matched by diversified local public finance tools and strategies for pandemic risks, particularly with respect to building up financial reserves for contingencies. This is in part due to the high levels of centralisation in the Asia and Pacific region. Urban finance systems therefore will remain fragile in the context of health shocks. It should

come as no surprise then that regional and local governments require urgent reassessment of fiscal decentralization reforms to enable financial recovery from the COVID-19 pandemic.

The previous tenuous relationship between health considerations and urban finance must change. Resilient urban finance systems require regular revisions to national policy and regulatory frameworks that better account for informal employment within local economies linked to global value chains. This is no more important than around the labour intensity of intergovernmental financial flows for urban infrastructure and services. Informal sector employment and housing, while historically neglected by formal urban finance systems in the region, are critical to the vibrancy of urban economic development. The imperative of creating healthy cities outlined earlier in this report means local governments must exercise greater leadership around diversifying and widening their local revenue base. Urban finance systems must become more consistent with the drivers of urban economic growth in the informal sector.

7.2

Lessons from COVID-19

Two major lessons are to be found in the immediate experience of urban finance systems in Asia with the COVID-19 pandemic.

First, local and other subnational governments in the Asia and Pacific region that are primarily responsible for disaster management and crisis response do not have revenue and other financial resources

commensurate with the wide range of emergency functions they are required to perform. The revenues urban local governments do have control over are likely to be severely negatively impacted by the loss of economic activity from the initial external shock and as a result of continuing disease control measures, even as those measures are successful in preventing community transmission. While there

currently are no estimates of the direct impact of COVID-19 on local government revenues in Asia and the Pacific, the World Bank conservatively has estimated that local government revenues can be expected to contract 15% in 2020 (World Bank 2020). With the IMF forecasting the Asia and Pacific economy to contract 2.2% by the end of 2020, the worst impact on local government revenues will be felt far into 2021 and subsequent years.

Second, COVID-19 is not just a demand shock, but rather is the century's first health catastrophe prompting restructuring of urban economies. Many Asia and Pacific cities, particularly intermediary urban centres, have come to rely on domestic and international tourism that will remain depressed for at least the next two to five years. Special economic zones and satellite industrial towns on the periphery of major metropolitan centres gave firms specialising in assembly and manufacturing for export access to skilled labour and major transit infrastructure but were unable to overcome the logistical challenges of the global supply chain disruptions. Small local firms and informal sector workers at the bottom of global garment value chains not only lost future income, but major international garment buyers eviscerated informal sector incomes by voiding contracts for clothing already manufactured. While the extent of integration between urban economies in the Asia and Pacific region and international trade sectors and external financing arrangements varies, almost all of the core pillars of urban employment and local economic activity in the region were negatively impacted in the initial stages of the global lockdown (IMF 2020).

What do these lessons imply for urban finance reforms among governments in Asia and the Pacific, both to support "Building Back Better" through pandemic preparedness and response capabilities and investing in liveable cities (Asian Development Bank 2020)?

First, municipal finance matters (ADB 2012). Mobilising investment in new urban infrastructure has been a major success of governments in the Asia and Pacific region, but too often overshadowed the required changes to strengthen the basic pillars of local government finance. Performance in these areas – land registration, fiscal cadastres, budget transparency, revenue administration, and expenditure planning – are vital to sustaining the full range of health and protective services provided by infrastructure. During an outbreak or pandemic event caused by a high-consequence or emerging infectious disease, infrastructure services must necessarily become more labour intensive. More

labour-intensive capital spending will be required, but the effectiveness of disease control interventions related to hand washing and respiratory hygiene practices, social distancing, quarantine, and lockdowns requires higher recurrent spending and management of existing physical infrastructure and assets.

Second, urban finance systems must deploy new spending programmes, backed by predictable intergovernmental funding and financial arrangements and better designed local revenue instruments, that reach into informal settlements and local informal labour markets. Urban informal workers supply essential and lifesaving goods vital to local economic performance – from food to transportation to personal protective equipment. Yet, they are nearly unreachable through most emergency fiscal support and social protection measures in Asian and Pacific cities. Some municipal governments in the region demonstrated what is possible by creatively leveraging their existing assets during emergency response. For instance, Iriga City in the Philippines used municipal trucks to transport fresh vegetables purchased from local farmers and staples like rice, eggs, and fruit from market vendors. Subsidising some of the cost to support local businesses that might have failed, the municipal government sold the food to poor households at a discount (UCLG-ASPAC 2020). The health and security of informal workers determines their productivity, which in turn affects urban economic growth.

Third, to avoid long-term contraction, cities must accelerate investment in the wider set of urban infrastructure sectors necessary to secure better environmental and public health outcomes. These sectors include traditional areas like affordable housing, water and sanitation, and public hospitals and clinics. They also encompass better integration of green and grey infrastructure and mainstreaming nature-based/ biophilic solutions into project design, capital plans, and standards for social service delivery. Accelerating investments in these areas is necessary to create a pathway for returning production growth in goods and services, while reducing the known pandemic risks associated with high consequence and emerging infectious respiratory diseases. The most common co-morbidities associated with mortality from COVID-19 – hypertension, obesity, cardiovascular disease, and diabetes – are caused by unhealthy urban environments. Urban finance should prioritise investments that yield co-benefits for local governance, carbon mitigation, adaptation to climate variability, and resilience to disasters and disease shocks (Mayrhofer and Gupta 2016).

To strengthen recovery and long-term municipal finance reforms, national COVID-19 stimulus packages need to be complimented with devolution and technical support to regional and local governments. The COVID-19 crisis has put a magnifying glass on well-known challenges with respect to local infrastructure financing systems, such as the limited capacity of local authorities to drive development in

their territory due to their weak financial autonomy, shortfalls in own source revenues, uneven and volatile intergovernmental fiscal transfers and the limited access to credit and capital markets to finance the equipment and infrastructure services essential to the development of local economies and people's livelihoods (Asian Development Bank 2020).

7.3 Policy Pathways for Urban Finance

UNESCAP (2019) identified three major policy pathways to transform urban finance and support closing the gap in urban investment across the Asia Pacific region through 2030: (1) public-private partnerships for affordable housing, (2) land-based financing mechanisms, and (3) congestion charging and environmental user fees. What are the implications of the COVID-19 pandemic for these three policy pathways for urban finance?

■ Pathway 1: Public Private Partnerships for Affordable Housing

Major epidemic or pandemic shocks influence both the design and operations of public private partnerships. Because some public private partnerships (PPPs) for affordable housing are less dependent on user funds, they might be less severely impacted in the short term than PPPs in other sectors. Given the significant increase in income and multidimensional poverty caused by the COVID-19 pandemic, what constitutes affordable for different types of housing units will likely need to change.

Existing PPP contracts and project designs based on previous assumptions around demand and willingness or ability to pay will likely be the most drastically affected. Assessing how job losses and downward pressure on urban wages will affect the viability of PPP contracts will require close collaboration between government, sponsors, and lenders. Depending on the country context and regulatory provisions, national and subnational governments will be called on to fund and operate distressed projects if sponsors or lenders initiate terminations or use other options to exit contractual positions.

National governments should use their regulatory authority to include affordable housing in PPP portfolio reviews. An affordable housing PPP

portfolio review could encourage projects that have not broken ground to revisit feasibility studies based on proactive guidance from finance ministries and national authorities.

For projects that are currently in the construction phase, disruptions to regional or global supply chains for labour, materials, and equipment will impact construction schedules and lead to revenue losses. Most PPP contracts have provisions that kick in to help manage the impacts of major external shocks like health emergencies. In the context of climate change, many national PPP legal frameworks increasingly address force majeure, or events outside the control of parties to the contract. Nevertheless, additional project finance, for example bridge loans, will likely be constrained through fiscal contraction and heightened insolvency risks among commercial lending intermediaries.

The viability of future PPPs in affordable housing must be understood in the context of regional localisation of supply chains and the expected epidemiological dynamics of high-consequence and emerging infectious diseases. In the medium-term, business models for PPPs in affordable housing will have to integrate new design standards for housing units and the use of space within housing developments. These standards might require more land, more reliable access to safely managed water, more outdoor and indoor space for circulation and evacuation, or more ventilation, compartments and signage. Changes to building standards should be informed by the latest public health risk assessments and engineering studies, which will take time to cost for policy purposes. In the meantime, national and urban local governments can work with construction firms and lenders to share information and collaborate on new building code provisions for affordable housing.

■ Pathway 2: Land-linked Financing Mechanisms

Land-linked financing mechanisms are increasingly seen as key options for diversifying the range of revenue and financial management instruments deployed by urban local governments. The design and use of these instruments, however, are also likely to come under greater uncertainty in the short-term. There currently remains substantial uncertainty around the most effective changes to land use planning guidelines to support safe local economic responses, given incomplete understanding of transmission dynamics. The same levels of uncertainty should be expected for the next high consequence and emerging infectious disease.

Changes in land use demand, along with national fiscal responses to the diverse impacts of COVID-19, will continue to shift the distribution of costs and benefits recovery between different land and property owners in different types of cities. For instance, in major metropolitan centres, reduction in demand for class A office buildings will put downward pressure on rental prices in central business district or other core office districts. This adjustment should lead to temporary downward pressure on market prices for land, which justified the use of some land-linked financing mechanisms in previously bankable land readjustment projects. Intermediary cities that have less transmission risk due to less crowding and lower functional densities might experience an increase in demand from some businesses that are able to relocate. Regional adjustment will not be smooth, as the financial sector takes time to accommodate changes in location preferences for businesses. The public sector will need time and resources to plan adequate infrastructure and design new land governance structures able to operate in a system of cities at the scale of the city-region.

A few other factors that are fundamental to land-based financing that are likely to be impacted are property valuation and land titling, both of which important to documenting the value of land, pooling parcels, and facilitating negotiation with land owners. In the short-term, operational and logistics problems will be the prevailing challenges in local property tax and registration systems. In many countries, heightened transmission risks will prevent public sector and land authorities from operating in close proximity to each other and therefore could slow down conventional implementation models.

Land-based financing must now account for potentially unpredictable changes to preferences for urban space, in addition to ongoing emergency health policies and regulations around income, food support, and eviction protections. To the extent emergency programs are converted into regular support, these changes could contribute to longer term shifts in land use demand patterns. For instance, customary landowners may prefer to contribute less land given perceptions around the relationship between space and disease transmission. They might also be sceptical that government will be capable of returning sufficient developed land or compensation within timelines that make the project viable on narrow commercial financing terms.

The major long-term opportunity with the use of land-linked financing relates to drawing stronger connections between these mechanisms and nature-based and biophilic solutions to climate change. As outlined in previous sections, preventive health strategies in urban areas require neighbourhood designs that are walkable and provide easy access to healthcare sites, healthy food and green space. A key barrier to nature-based and biophilic solutions for infrastructure and services in cities has been the slow progress made on articulating the co-benefits of natural infrastructure and how nature-based solutions enhance both livelihoods and the value of urban land.

In the aftermath of pandemic events, the value proposition of nature-based and biophilic solutions to land-linked financing mechanisms, land restructuring, and healthy and liveable cities becomes more evident. Prioritising nature-based/ biophilic solutions in land readjustment and land-based financing mechanisms fit the continuum of food production in the mixed use industrial and rural desakota zones that characterise intermediary cities in the region (Lerner and Eakin 2011). Consider two simple design options in a land readjustment scheme: green roofs and food garden plots. Incorporating green roof technologies reduces indoor heat temperatures, reduces flood risk by improving stormwater management, and with minimal investments in reverse osmosis can increase the decentralised supply of potable water (Sultana, Akib, and Ashraf 2017). Incorporating parcels for urban farming provides better nutrition for urban dwellers and can improve local air quality; supports linkages with both local markets and peri-urban agriculture providers; supplies and alternative food source; and requires urban dwellers to travel shorter distances to access food (Chu et al. 2019).

■ Pathway 3: Congestion and Environmental User Fees

The use of congestion and environmental user fees are vital to policies and strategies for green urban economic development in Asia and the Pacific. The impacts of the COVID-19 pandemic are likely to delay the deployment of congestion charges, though not reverse the broad trends that support their use. More importantly, the COVID-19 pandemic points to the need to refine national regulations to facilitate their deployment in fast growing intermediary cities where car ownership is increasing.

The design and use of environmental user fees had been increasing in both major and intermediary cities in Asia Pacific region. This trend was linked, in part, to tourism development strategies. For instance, the municipality of Puerto Galera in the Philippines was a leading intermediary city that developed an environmental user fee system to finance solid waste and wastewater management facilities based on the need to meet high seasonal demand from tourism. The system was efficiently targeted at the tourism industry, since peak load on water systems from seasonal tourism could be addressed through treated wastewater instead of diverting potable water to intense uses like laundry and gardening in resorts (Global Environment Facility 2009).

The impact of the COVID-19 pandemic on the domestic and international travel sector means that cities which have environmental user charges linked

to tourism will likely experience sharp declines in revenue. These revenue losses are unlikely to be offset by national government fiscal programs. This means some urban local governments will have to defer new capital works projects and spending on maintenance and repairs. The impact of deferred maintenance on water and sanitation services could cascade over time, since most city water utilities and departments in Asia Pacific already have structural operational deficits due to low tariff levels.

National fiscal stimulus packages and reform programs in the wake of the COVID-19 are therefore a major opportunity to strengthen the design of policy and regulatory frameworks to update and integrate pricing structures with environmental objectives. While there are clear technical challenges to doing so, especially in the context of economic contraction, reforming tariffs requires political support. Two key steps for Asia and Pacific cities will be revising lifeline tariffs and multipart pricing schemes and increasing the flexibility of tariff levels to “price-in” environmental externalities. For instance, an obvious starting point is targeting high volume users in wealthy household and business segments in the residential and commercial sectors that can afford higher tariff levels (Cities Alliance 2019). Achieving these structural changes in existing practices will require support from national and regional government authorities, since other sources of local government revenue from commercial businesses like hotel taxes, market fees, and rental fees that cover key environmental services like water and sanitation will also be impacted.

7.4 Case Studies

Box 1: Preserving Farmland, Making Space for Healthy Urban Growth: Chongqing’s Land Quotas Trading (LQT) Programme

Chongqing, China pioneered a land linked financing program in 2008 that allowed rural land to be traded through quotas. The programme introduced a land quotas trading market, allowing rural villages to trade their land development rights to real estate developers looking to purchase land on the Chongqing County Land Exchange Platform. The programme was intended to alleviate high land maintenance costs to rural landholders who had migrated to work in the cities, while opening up peripheral urban space for more intensive construction and urban land for housing development. Over the past 10 years, evidence is growing that the program has slowed the decline of farmland, increased economic growth driven by construction, increased formal employment by rural migrants in urban areas, improved industry agglomeration, and contributed to increasing the supply of housing.

Source: Wang et al. 2020



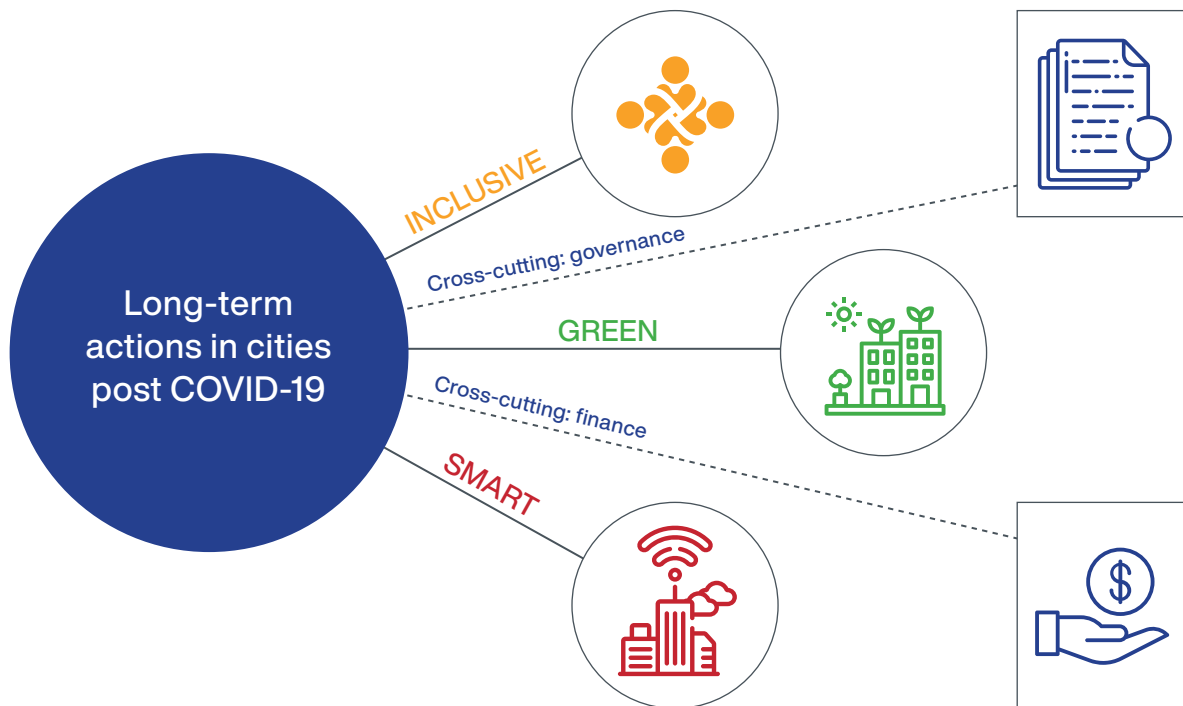
Opportunities for Systems Change

8.1 Building Back Better – from pandemic response to health resilience in cities

The COVID-19 pandemic has not caused the physical destruction of cities in the same way a natural disaster, such as an earthquake, wildfires, or severe flooding, would. Nevertheless, there is almost undisputed agreement that we need to take this opportunity to build back better and to move forward better. This is because the crisis has not only exposed significant deficits with regard to the pandemic preparedness of cities, but also, and perhaps more importantly, widespread health inequities within and between cities across the globe. Although the existence of inequities is not new, this is perhaps the first time that it has captured the world’s attention. Recovery strategies can therefore only be successful if they have the needs of vulnerable populations at their core.

The specific actions cities take will differ depending on their typographies, resources, demographics, and needs. However, all cities, including those in the Asia Pacific region, should ensure that they do not just focus on recovery from disasters, but also revisit their pre-pandemic approaches. Creating urban resilience in the context of public health requires adequate long-term cost-effective investments associated with integrated environmental protection, social security and data strengthening. The severe economic consequences of the pandemic can be used to strengthen the arguments for addressing underlying risk factors and other determinants of health.

Figure 8: Long-term actions in cities post COVID-19



Source: OECD 2020a, 23

8.2 Multisectoral Collaboration within an Urban Health approach

The COVID-19 era highlights the importance that city and local governments adopt an urban health approach, supported by a national enabling environment so to be effective and scaled. Building stronger, interagency HiAP coordination mechanisms at the local, territorial and regional level is crucial for factoring health impacts into all local government decisions and policies. Shifting the urban environment to one that improves rather than hinders human health requires policymakers across all levels and amongst all local government departments to make health a central point of their decision-making process. Health implications should be factored into all the decisions they take and policies that prevent people from becoming ill and protect them from injuries should be prioritized. To make an impact, a multi-sectoral approach is indispensable –

including urban planning, to building urban resilience, supporting smart and inclusive cities, and designing urban finance mechanisms.

Health should be a part of all city level decisions. This requires strong leadership and commitment at the municipal level, but it is as essential to build health promoting communities that prevent disease from occurring in the first place. Therefore, engaging communities more frequently and in a transparent way is also important as it will engender greater trust in public institutions. As we've seen during the COVID-19 pandemic, trust matters as it determines which population will comply with public health guidelines and whether or not there will be widespread misinformation or disinformation campaigns waged against city governments.

8.3 Using COVID-19 as a Catalyst for Systems Change

The COVID-19 pandemic has shown that health determinants are of huge concern if we want to address pandemics and other major causes of death and disability that have an enormous societal and economic cost. At the same time, the pandemic has reinforced the importance of sustainable urban development principles such as compact city development and green climate investments. Many cities in the Asia Pacific region have already been experimenting with new ways of working and commuting and are now looking to make these changes more permanent.

The four pillars and 15 transformative policy pathways outlined in the Future of Asian and Pacific Cities Report remain the basis for moving towards sustainable development. The COVID-19 pandemic has highlighted the need to also invest in areas that improve determinants of health. This can be done through acceleration of existing pathways, focusing on health in each pillar, as well as adding a selected number of additional pathways as described in chapters 4 to 7.

■ Urban and Territorial Planning as Spatial Vaccine

Cities in the Asia Pacific region can strengthen urban health and move forward by investing in Urban and Territorial Planning.

- UPT ensures the **creation of healthy environments that foster healthy behaviours in compact neighbourhoods** within the 15-minute-city. National and city-level regulations need to integrate explicitly health and well-being indicators, so to inform planning and scenario development processes, using the opportunity of emerging spatial planning frameworks and legislation, as well as fostering new practice on spatial epidemiology and adaptive urban design.
- Gained experiences in community-led response during COVID-19 measures can also strengthen **community-led UPT, through placemaking approaches towards adaptive physical interventions and through digital platforms to foster virtual collaboration and literacy** on complex area-based solutions towards sustainable

urban development, healthy neighbourhoods and climate resilience.

- Based on better planning tools and more capacity for UTP throughout the region, **sustainable expansion of city hubs and strengthening of multi-modal corridors within a system of cities** can be achieved, thereby promoting connectivity and attractiveness of small and medium cities within a city-region that ensures access to adequate housing, services and economic development.
- UPT is also the policy domain to produce short term and long-term solutions to **ensure housing rights, improve housing standards and accelerate community-led slum upgrading programs and home production** at scale.

■ Healthy populations for urban resilience

Public health considerations can be integrated into urban resilience efforts, increasing the strength of cities to cope with pandemics and recovery quickly.

- **Nature-based solutions** should lie at the core of cities resilience efforts as not only can they improve health through a number of mechanisms, but they can directly reduce the risk of climatic and health threats.
- All urban development activities should be viewed through an **equity lens**. This is necessary to ensure that **urban poor groups and other vulnerable populations** are able to practice prevention measures in the face of infectious disease outbreaks, and also reduce their vulnerabilities to the impacts of disasters and other emergencies in the first place. Ensuring access to and affordability of **essential infrastructure and services** is of utmost importance.
- **Multisectoral approaches** as well as **meaningful community participation** are core elements of integrated disaster preparedness and sustainable urban development more broadly.
- Efforts need to be made that improve the **collection of disaggregated data** as well as address the **digital divide** and thereby ensure equitable access to digital solutions. In this regard it would be useful to consider **internet access as an essential service**. Furthermore, **investment in education** should be viewed as an integral component of resilience.

■ Bridging the Urban Health Divide through Technology

Cities in the Asia Pacific region can harness technology solutions to control and prevent disease and advance population health. Improving smart city governance for health, building collective health intelligence via big data and realizing equitable access to e-health services and broadband internet technology as a basic service for all will effectively join ICT to improved health and wellbeing for citizens throughout the region.

- **Promote urban health leadership** in smart city governance structures and accommodate a peer-to-peer learning network amongst cities in the region.
- **Develop two-way open data dashboards** that allow health data monitoring in real time, thereby respecting principles of privacy and containing cybersecurity safeguards.
- **Invest in public, evidence-driven communication campaigns** to create civic trust and increase shared literacy on technology driven health strategies
- **Invest in broadband internet infrastructure and provide access for all citizens**, as a basic service.

■ Financing urban health and urban economies

Cities in the Asia Pacific region can prosper by developing economic resilience strategies in a system of cities approach and accelerate the urgent need of affordable housing, by investing in urban financing mechanisms and municipal financing.

- National governments should use their regulatory authority to **include affordable housing in PPP portfolio reviews**. An affordable housing PPP portfolio review could encourage projects that have not broken ground to revisit feasibility studies based on proactive guidance from finance ministries and national authorities.
- Governments and bodies involved in land-linked financing mechanisms should use the experience of the pandemic and its aftermaths to draw a **strong link between the return on investment of nature-based solutions from both a climate resilience, economic resilience and health cost reduction** point of view.

- National fiscal stimulus packages and reform programs in the wake of the COVID-19 are a major opportunity to strengthen **the design of policy and regulatory frameworks to update and integrate pricing structures with environmental objectives.**

8.4 Next Steps

There is still much to research, collect, test and discuss as many cities in the region are still in the midst of the COVID-19 pandemic. In particular, there remains a need for further discussion and in-depth analysis leading to the development of concrete recommendations for different city profiles. A comprehensive survey instrument and assessment of best practice examples in the region could be used to inspire other cities and should be considered.

In addition to working across sectors and coordinating amongst all governance levels, public authorities and stakeholders should draw on the resources and support of regional cooperation mechanisms such as ESCAP. There is much to be gained through sharing of experiences and development of joint approaches, within peer-to-peer networks.

COVID-19 provided a glimpse into a different way of life. One where CO₂ emissions from motorised vehicles and industry were dramatically reduced, resulting in fleeting moments of significantly improved air quality. With less cars, streets have been democratized for the people and not just motorists, leading many cities to experiment with wider sidewalks, pedestrianized streets, additional bike paths and even streateries. Many cities have discovered that it is possible to work from home, thereby removing long commutes and enabling people to spend more time with their families and/or within their communities.

Now, it is critical that Asia Pacific cities maintain their focus on sustainable urban development and do not fall into the temptation to achieve economic recovery at any cost. While the COVID-19 pandemic is unprecedented in its scale and global impact, cities now have an unprecedented opportunity to become more sustainable, inclusive and healthier, by design.



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