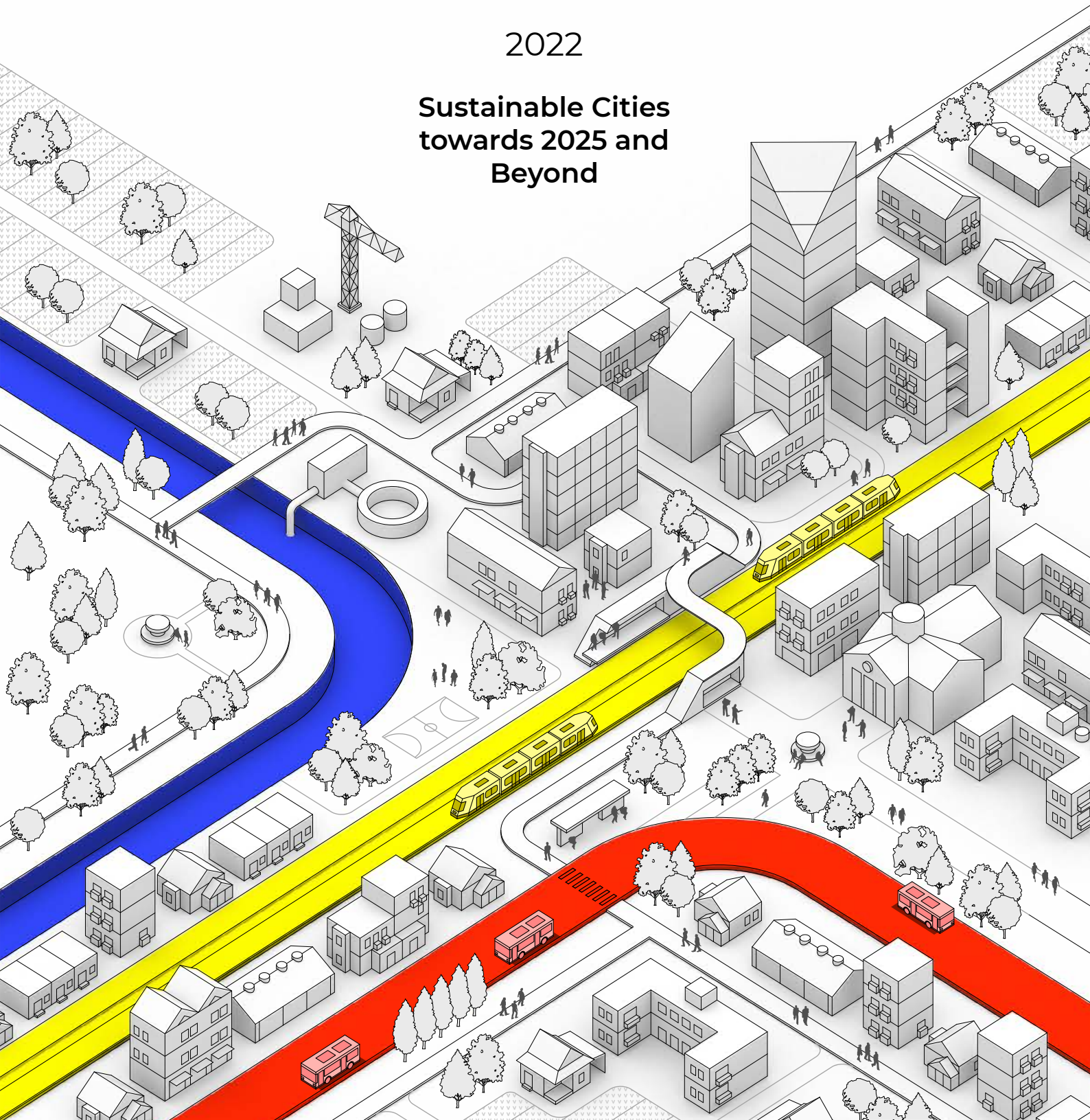
ASEAN SUSTAINABLE URBANISATION REPORT

2022

Sustainable Cities towards 2025 and Beyond



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Sustainable Cities towards 2025 and Beyond

The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967. The Member States are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

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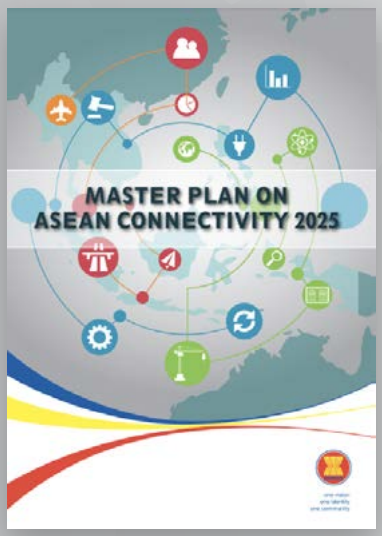
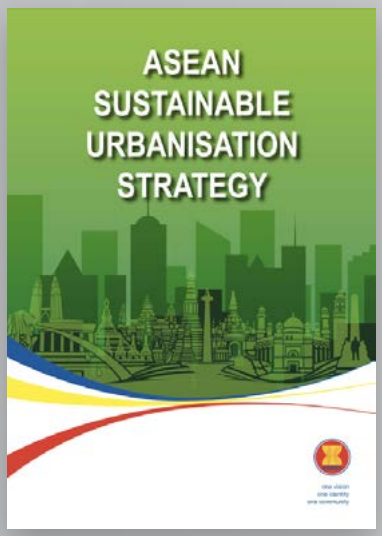
ABOUT ASEAN

The Association of Southeast Asian Nations, or ASEAN, was established in Bangkok on 8 August 1967, with the signing of the ASEAN Declaration (Bangkok Declaration) by the Founding Member States of ASEAN: Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined ASEAN on 7 January 1984, followed by Viet Nam on 28 July 1995, the Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999, making up what is today the 10 Member States of ASEAN. Home to more than 661.8 million people, ASEAN is a region filled with vast opportunities. By connecting ASEAN through the Master Plan on ASEAN Connectivity 2025 (MPAC 2025), ASEAN Connectivity is creating a regional network of people and infrastructure to improve the way they live, work and travel.



MPAC 2025, adopted by ASEAN Leaders at the 28th/29th ASEAN Summits in Vientiane, in September 2016, is aimed at achieving a seamlessly and comprehensively connected and integrated ASEAN that will promote competitiveness, inclusiveness and greater sense of community. It comprises 15 initiatives in the following strategic areas: (a) Sustainable Infrastructure; (b) Digital Innovation; (c) Seamless Logistics; (d) Regulatory Excellence; and (e) People Mobility. MPAC 2025 was developed in consultation with the relevant ASEAN Sectoral Bodies and other key stakeholders.



The ASEAN Sustainable Urbanisation Strategy (ASUS) is one of the initiatives under the strategic area of Sustainable Infrastructure of MPAC 2025. It provides ASEAN cities with a sustainable urbanisation framework based on six areas, namely civic and social; health and well-being; security; quality environment; built infrastructure; industry and innovation. ASUS consists of a report focused on urban trends and priority areas for urban development in the region, as well as two accompanying toolkits designed to assist local governments in ASEAN to advance sustainable urbanisation in their cities.

Brunei Darussalam

Population: 453,600
Urbanisation rate: 78.2%
Bandar Seri Begawan: 246,000

Cambodia

Population: 16,338,100
Urbanisation rate: 22.4%
Phnom Penh: 2,078,000

Indonesia

Population: 270,203,900
Urbanisation rate: 59.8%
Jakarta: 10,771,000

Lao PDR

Population: 7,261,200
Urbanisation rate: 36.3%
Vientiane: 683,000

Malaysia

Population: 32,583,800
Urbanisation rate: 77.2%
Kuala Lumpur: 7,997,000

Myanmar

Population: 54,817,900
Urbanisation rate: 33.1%
Naypyidaw: 594,000

Philippines

Population: 108,772,000
Urbanisation rate: 47.4%
Manila: 13,924,000

Singapore

Population: 5,685,800
Urbanisation rate: 100%

Thailand

Population: 68,127,800
Urbanisation rate: 51.4%
Bangkok: 10,540,000

Viet Nam

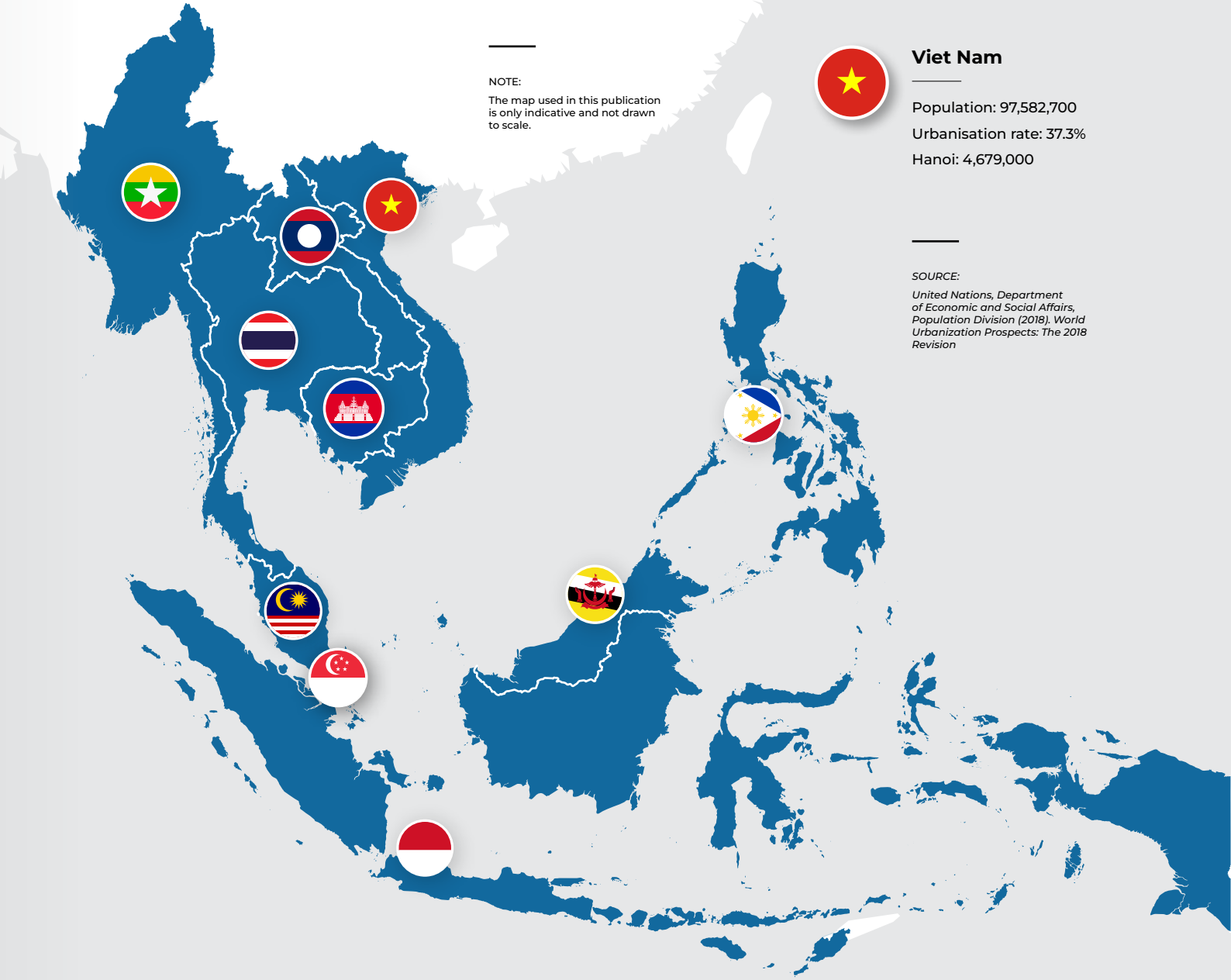
Population: 97,582,700
Urbanisation rate: 37.3%
Hanoi: 4,679,000

NOTE:

The map used in this publication is only indicative and not drawn to scale.

SOURCE:

United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision



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FOREWORD

DATO LIM JOCK HOI

Secretary-General
Association of Southeast Asian Nations (ASEAN)

As ASEAN marks its 55th anniversary this year, we recognise the important role of local governments and cities in overcoming challenges as well as building resilience towards creating better opportunities for all. Pursuing smart and sustainable urbanisation is imperative in this pursuit, and the ASEAN Sustainable Urbanisation Strategy was launched in 2018 to guide our work in this direction.

The findings and priority actions identified in the strategy have become even more relevant today, as we embark on the region's recovery from the COVID-19 pandemic. In particular, the pandemic has highlighted the barriers cities in the region face, as well as the opportunities available for them to deliver transformative change.

This report aims to showcase the diversity of urban contexts found in Southeast Asia, particularly the increasing importance of small and middleweight cities as well as the need to harness their full potential through multi-sectoral collaborations that bring together different skills and perspectives. A notable feature of the case studies discussed in this publication is the meaningful engagement of communities as lead participants in these processes. Whilst acknowledging the many challenges they face, the report demonstrates that our cities are already taking concrete steps to realise a more sustainable urban development. ASEAN must build on these lessons to deliver better social and environmental outcomes for our cities.

As we look towards the work on the ASEAN Community Post-2025 Vision and ASEAN Connectivity Post-2025 Agenda, this report also provides evidence on the trends and actions that cities across the region need to consider when planning for future urban development. I hope that readers and relevant stakeholders will find the observations and recommendations outlined in this publication useful, as we collectively strive towards achieving urban sustainability in the region. Indeed, promoting sustainability and building resilience must be at the heart of our cities, and the realisation of a stronger, resilient and greener ASEAN would not be possible without people-centric approaches and the prioritisation of our communities.

FOREWORD

MAIMUNAH MOHD SHARIF

Executive Director
United Nations Human Settlements Programme (UN-Habitat)

The world's cities are increasingly central to future sustainable development. As captured by UN-Habitat's World Cities Report 2022, urbanisation is recognised as one of the twenty-first century's mega-trends. Cities are continuing to attract new dwellers, offering countless economic, social and cultural opportunities. Cities are here to stay, and the future of humanity is undoubtedly urban.

However, they also lie on the fault lines of many of the world's most pressing development challenges, such as climate change and growing inequality. These challenges, exacerbated by the COVID-19 pandemic, serve as stark reminders of the need to prepare and support cities for a dynamic and unpredictable future.

The opportunities and challenges presented by urbanisation are no different in the ASEAN region. In the more than 50 years since ASEAN was founded in 1967, its urban landscape has utterly transformed. By 2030, almost 56 per cent of ASEAN's population is projected to live in cities, compared to 47 per cent in 2015. The increasing focus on the importance of cities as a contributor to regional prosperity and sustainable development has long been recognised by ASEAN, most importantly through the endorsement and publication of the ASEAN Sustainable Urbanisation Strategy (ASUS) in 2018. This was specifically launched as an initiative of the Master Plan on ASEAN Connectivity (MPAC) 2025, ASEAN's ambitious blueprint for more cohesive and integrated development in the region.

Urbanisation in ASEAN is taking place across the urban-rural continuum, from small communities to burgeoning megacities, and increasingly in secondary and intermediate cities. These cities in particular are experiencing rapid change and will absorb much of the region's urban growth. They require strong support to build capacity and deliver the infrastructure and services needed to ensure sustainable urbanisation within ASEAN. Though the scale and complexity of the challenges cities now face across ASEAN are great, so too are their creativity and untapped potential. There are a multitude of best practices and success stories that offer a way forward for ASEAN cities elsewhere to follow.

The ASEAN Sustainable Urbanisation Report strengthens knowledge on the regional context of urbanisation, building on the findings and recommendations provided by the ASUS. It aims to support a shared understanding of opportunities and challenges connected to urbanisation, providing experiences and best practices from ASEAN cities, and lighting the way forward for a common sustainable future.

The Report seeks to promote a stronger alignment between urban policies and development strategies in ASEAN and the New Urban Agenda and the urban dimensions of the Sustainable Development Goals. The optimistic and forward-looking approach of the Report complements our global message on the positive potential of urbanisation for sustainable development, as also captured in UN-Habitat's World Cities Report 2022.

To facilitate sustainable, inclusive and prosperous development, it is crucial for ASEAN Member States and their cities to undertake decisive action towards the transformative commitments of the New Urban Agenda. The Report strengthens the alignment between the ASUS and the SDGs, outlining actions and practices that contribute to synergising local, regional and global urban development efforts.

In this spirit of collaborative and transformative change, we must work together to achieve the shared aspirations of the ASEAN Connectivity Vision 2025 and the 2030 Agenda for Sustainable Development for a more sustainable future and better quality of life for all across ASEAN.

ACKNOWLEDGEMENTS

This Report is produced under the project "Accelerating the Implementation of the ASEAN Sustainable Urbanisation Strategy" (ASUS Project) led by the Lead Implementing Body for the Master Plan on ASEAN Connectivity (MPAC) 2025 Strategic Area of Sustainable Infrastructure (LIB-SI) and supervised by the Connectivity Division of the ASEAN Secretariat. The ASUS Project is funded by the ASEAN-Australia Development Cooperation Program (AADCP) Phase II and implemented under the United Nations Human Settlements Programme (UN-Habitat) Regional Office for Asia and the Pacific (ROAP).

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The Report was reviewed by members of ASEAN's LIB-SI and the ASEAN Smart Cities Network (ASCN).

The Report benefited during various preparatory phases from the expertise, insights and reviews provided by Atsushi Koresawa, Bharat Dahiya, Bruno Dercon, Paula Pennanen-Rebeiro-Hargrave, Rita Padawangi, Yap Kioe Sheng and from various stakeholders from across the region through online discussions and consultations. Valuable inputs were also obtained from the experts and participants of the Expert Group Meeting "Advancing the Report on Sustainable Urbanisation in ASEAN" held at the ASEAN Sustainable Urbanisation Forum, 7 October 2021: Bernadia Tjandradewi, Bess Ng, Brian Roberts, Ian Ong, Hyun Bang Shin, Junichi Fujino, Kok-Chin Tay, Kris Hartley, Mary Jane Alvarez, Sa-nga Sattanun, Sunisa Soodrak, Vilas Nitivattananon and Wicaksono Sarosa.

EXECUTIVE SUMMARY

Over the last few decades, the Association of Southeast Asian Nations (ASEAN) has urbanised at an extraordinary rate, and is set to continue doing so for years to come. While half (50.1 per cent) of the ASEAN region's population were urban in 2020, this figure is projected to rise to 55.6 per cent in 2030, a total of almost 405 million people. Within the ASEAN region, however, there is still significant variance between countries where the population is entirely urbanised and others where the majority of the population still live in rural areas.

While the growth of cities across ASEAN has broadly been associated with increased prosperity and connectivity, the region's rapid urbanisation has also created a host of challenges for many communities, such as traffic congestion, pollution, environmental degradation, inequality and other symptoms of rapid or uncontrolled growth. To benefit from and realise sustainable urban development, ASEAN Member States and their cities require supportive institutions and improved urban governance, a more integrated approach to master planning and development, improved access to partnerships and funding, and the ability to implement smart urbanisation through digital infrastructure and applications. In many urban contexts – particularly informal settlements and secondary cities with limited resources at their disposal – these conditions are not in place.

In the ASEAN region, as elsewhere, policy resources and research have until recently concentrated predominantly on larger cities and capitals at the expense of secondary urban areas. However, as the ASEAN Sustainable Urbanisation Strategy (ASUS) and other frameworks have emphasised the importance of smaller cities, more attention is now being focused on the specific challenges and opportunities presented in these cities. Secondary cities have also produced an array of positive practices and solutions that have the potential to be replicated across the region to promote sustainability, particularly with regard to a stronger urban-rural continuum and enhancing connectivity.

Secondary cities can promote more balanced development, supporting the growth of more diffuse economic hubs as a counterpoint to the dominance of larger cities and capitals. Proper support, funding and infrastructure within secondary cities can reward even modest investments in order to boost sustainable urban development within cities and surrounding rural areas. Realising the full social and economic potential of secondary cities in ASEAN is therefore essential to sustainable urban development.

COVID-19, however, has affected every aspect of urban life in ASEAN. Cities across the ASEAN region have suffered devastating consequences from the pandemic, and will likely contend with its impacts on demographic trends, public finance and other areas for years to come. In particular, the pandemic has deepened social divides within cities, with poor and marginalised communities typically bearing a disproportionate burden of death and illness, as well as the indirect effects of loss of livelihood. It has also highlighted a host of other problems within ASEAN cities, from lack of green space and food insecurity to gaps in digital access for work and schooling from home, that are closely tied to urban inequalities in the region. While the ASEAN region's post-pandemic challenges are likely to be protracted, achieving an environmentally sound, socially inclusive recovery is essential not only for the well-being of ASEAN cities in the short-term but also for their sustainability, including in the face of other potential crises.

The response and recovery processes from the pandemic further reinforce the importance of tightening the linkages between local, regional and global efforts and agendas. ASEAN has set ambitious plans and strategies promoting greater connectivity within the region, and identified sustainable urbanisation as one of the key priorities for its Member States and cities. The ASUS, published in 2018 as one of the initiatives under the Master Plan on ASEAN Connectivity 2025 (MPAC 2025), not only provides cities with a framework for prioritisation and development of

urban interventions but also helps to guide and enable the roll-out of various influential regional initiatives, such as the ASEAN Smart Cities Network.

At the same time as ASEAN rolled out MPAC 2025 and the ASUS, several landmark commitments have been approved at the global level, including the United Nations (UN) 2030 Agenda and its Sustainable Development Goals (SDGs), and the New Urban Agenda (NUA). These initiatives offer an opportunity to harmonise development efforts, aligning local programmes with global frameworks through a shared set of aims, indicators and pathways within which different stakeholders can work. Since the publication of the ASUS, an increasing number of programmes have emerged across the ASEAN region, driven and shaped by this broader commitment to sustainable urbanisation.

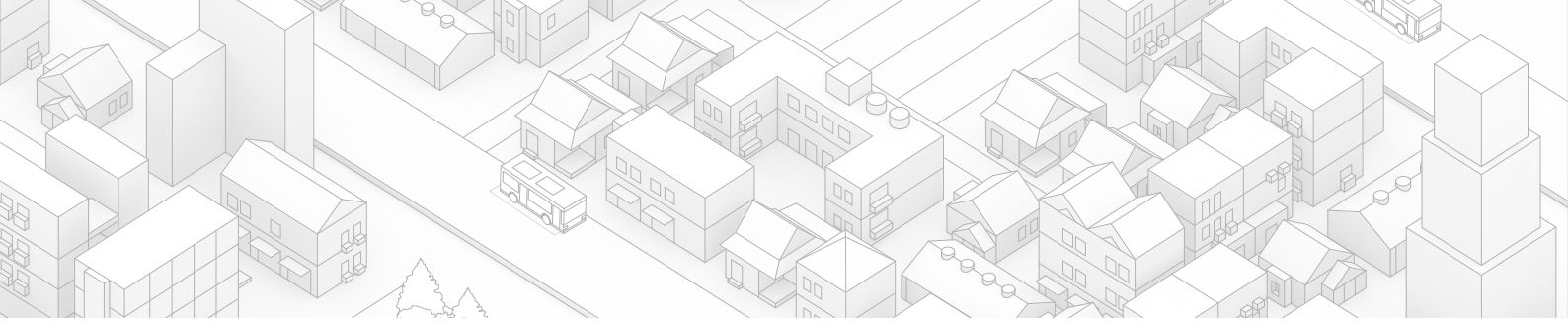
Within this context, there are many positive stories and lessons to share – characterised by innovation and a growing commitment to achieving inclusive, liveable, environmentally sound sustainable urban development across the ASEAN region. This report builds on the key findings and frameworks of the ASUS, offering an updated perspective on development trends across the region and how potential transformations for sustainable urban development can be achieved. It focuses not only on the relatively well-documented examples of capitals and megacities, but also extends its focus to give proper consideration to the specific challenges facing secondary urban areas in the ASEAN region.

The report is composed of two main sections. It begins by examining and contextualising the four overarching "enablers" for city-level action identified in the ASUS, providing an overview of their key challenges and potential benefits. The enablers are:

1. **Dynamic urban governance:** How cities can work innovatively with different levels of government, other urban stakeholders and the communities they serve.
2. **Integrated master planning and development:** How cities can engage planning processes across a range of scales, from territorial and regional planning to infrastructure development and neighbourhood-level urban design, to improve their sustainability.
3. **Partnership and funding:** How cities can access the funding they need, including international loans, national financial assistance, local government revenue and community-based savings.
4. **Digital infrastructure and applications:** How cities can leverage the opportunities of digitalisation in an inclusive and appropriate fashion for their specific context, while ensuring that human rights and privacy are respected.

These are then used as cross-cutting areas of analysis for the seven "priority sub-areas" identified in the ASUS:

1. **Urban resilience:** Strengthening the ability of cities across ASEAN to weather such shocks as natural disasters has become more important as the impacts of climate change become more severe, particularly for coastal settlements where the risk of flooding, storms and sea level rise have serious social, environmental and economic implications.
2. **Housing and home:** Rapid urbanisation in the ASEAN region has increased pressures on cities to accommodate their growing populations. Limited affordability and a widespread lack of secure tenure has contributed to the expansion of informal settlements in and around urban areas.
3. **Water, waste and sanitation:** These essential services have strong implications for health, housing and liveability, ensuring clean, more liveable urban environments. Currently, many informal settlements lack access to these basic functions.
4. **Mobility:** As cities have expanded, urban transportation systems have struggled to keep pace, resulting in long commute times, congestion



and pollution. Ensuring that inclusive, low-carbon systems are in place is therefore critical to providing safe and equitable access to the benefits of cities for all residents.

5. **Inclusive and equitable growth:** While urban areas account for a very large share of the ASEAN region's economic productivity, this growth has not been distributed evenly. Widening inequalities, the absence of social safety nets and livelihood challenges, particularly in the wake of COVID-19, require urgent steps to ensure that the urban poor are not left even further behind.

6. **Personal safety and security:** Ensuring the safety of all urban residents is central to their ability to engage fully in the social, economic and political life of their city. This includes not only safety from physical threats, such as crime and violence, but also emerging online cyberthreats.

7. **Education:** Cities need to reorient learning and training programmes to respond to technological disruption, rapid rural to urban migration and other changes to ensure that urban populations have the necessary skills and knowledge in place. Digital investments, education and reskilling will support the development of productive and innovative urban areas.

INTRODUCTION

To develop a more sustainable urban future, it is first necessary to understand the current trends and pressures facing cities across the ASEAN region. Besides contending with the impacts of decades of rapid urbanisation, the region is likely to be shaped by the continued growth of its cities for many years to come – particularly in secondary urban areas where resources and capacity may be the most constrained. These challenges have only been exacerbated by the devastating impacts of COVID-19. However, as ASEAN begins its recovery from the pandemic, urban sustainability also offers an important pathway towards greater resilience and a better future.

ASEAN'S CITIES AT A CROSSROADS

Over the last few decades, the ASEAN region has undergone a period of rapid development that has seen tens of millions of people become city dwellers, through natural growth, migration and the urbanisation in situ of rural centres. While almost exactly half (50.1 per cent) of the ASEAN region's population were urban in 2020, this figure is projected to rise to 55.7 per cent in 2030. By then, the region's urban population is estimated to be almost 405 million people (Figure 1) out of a total population of almost 726 million people.

Within the region, however, there are striking variations between countries, with Singapore (100 per cent) and Brunei Darussalam (78.2 per cent) among the most urbanised as of 2020, while Cambodia (24.2 per cent) and Myanmar (31.1 per cent) are among the least urbanised. Yet, some of the less urbanised countries, such as the Lao People's Democratic Republic (Lao PDR) (36.3 per cent urban in 2020, but set to rise to 42.9 per cent per cent by 2030), will also experience very considerable urban population growth over the next decade (Figure 2).

The diversity of urban development within the region, from well-established megacities to emerging urban areas that until recently have been largely rural and agricultural settlements, also requires a variety of urban management solutions. Even straightforward comparisons of net urbanisation levels between countries within the region is problematic, given that the very definition of what is classified as "urban" varies significantly from country to country and

By 2030, ASEAN's urban population is estimated to be almost:

405 MILLION PEOPLE

out of a total population of almost 726 million people in the region.

SOURCE: United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision

FIGURE 1

ANNUAL URBAN POPULATION AT MID-YEAR, BY ASEAN MEMBER STATE

	2015	2030	Total urban population growth
BRUNEI DARUSSALAM	320,000	400,000	+80,000
CAMBODIA	3,440,000	5,460,000	+2,020,000
INDONESIA	137,630,000	185,760,000	+48,130,000
LAO PDR	2,210,000	3,450,000	+1,240,000
MALAYSIA	22,800,000	30,110,000	+7,310,000
MYANMAR	15,650,000	20,650,000	+5,000,000
PHILIPPINES	47,080,000	64,840,000	+17,760,000
SINGAPORE	5,540,000	6,320,000	+780,000
THAILAND	32,750,000	40,680,000	+7,930,000
VIET NAM	31,640,000	47,290,000	+15,650,000

FIGURE 2

ANNUAL PERCENTAGE (%) OF URBAN POPULATION AT MID-YEAR, BY ASEAN MEMBER STATE AND ASEAN TOTAL, 2015-2030

	2015	2020	2025	2030	% Total urban population growth
ASEAN	47.2	50.1	52.9	55.7	+8.5
BRUNEI DARUSSALAM	76.7	78.2	79.7	81.1	+4.4
CAMBODIA	22.2	22.4	26.5	29.0	+6.8
INDONESIA	53.3	56.6	59.8	62.8	+9.5
LAO PDR	33.1	36.3	39.6	42.9	+9.8
MALAYSIA	74.2	77.2	79.7	81.8	+7.6
MYANMAR	29.9	31.1	32.8	35.0	+5.1
PHILIPPINES	46.3	47.4	49.0	50.9	+4.6
SINGAPORE	100.0	100.0	100.0	100.0	+0.0
THAILAND	47.7	51.4	55.0	58.4	+10.7
VIET NAM	33.8	37.3	40.9	44.5	+10.7

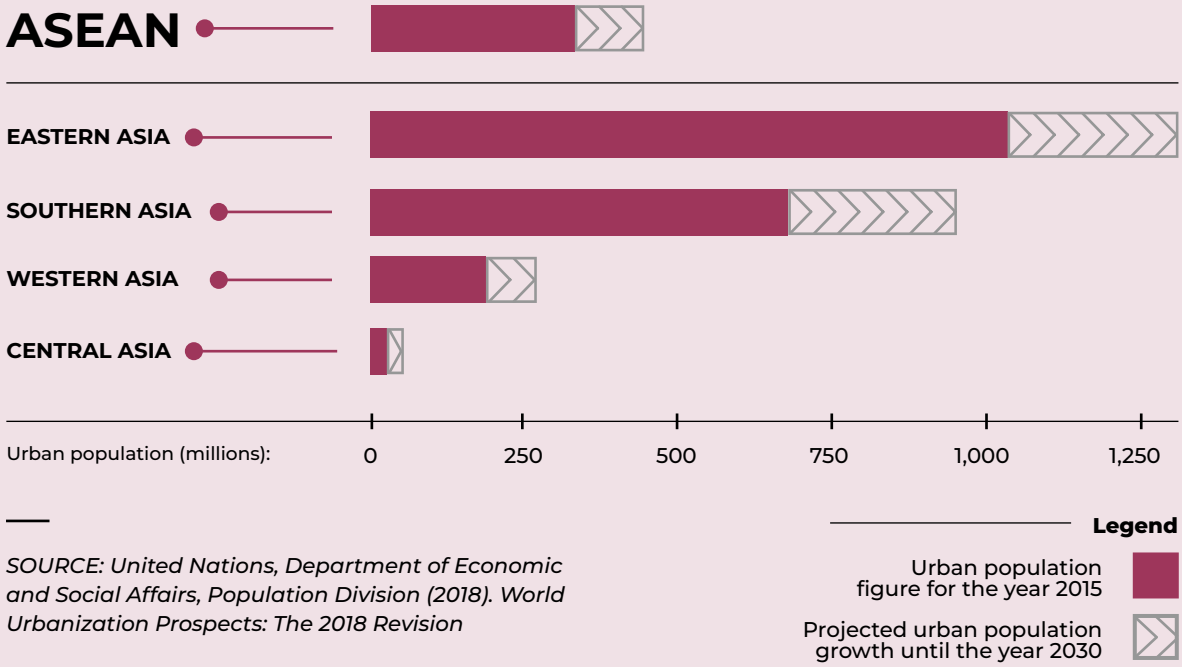
SOURCE: United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision

Legend

Urban population figure higher than 50.0% — XX.X

FIGURE 3

ANNUAL URBAN POPULATION AT MID-YEAR, BY REGION IN ASIA 2015-2030



SOURCE: United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision

spans an array of different forms.[1] Academic studies have also emphasised the divergent development trajectories evident across the region, including the distinct urbanisation experiences of "mainland" versus "island" Southeast Asia and the implications of this for connectivity.[2] Nevertheless, across a range of countries and contexts, the process of urbanisation across the ASEAN region has been broadly associated with increased prosperity and positive developmental outcomes. In this regard, the potential of cities to support the growth of transnational economic linkages, knowledge-sharing and poverty reduction remains considerable – provided that the necessary policies and political will are in place.

However, the region's rapid urbanisation has also created a host of challenges. One comparative analysis exploring the relationship between urban development and economic growth in different ASEAN Member States, while finding a generally positive correlation between the two, drew attention to the debilitating costs of traffic congestion, pollution and other symptoms of uncontrolled growth. The research concluded that to continue to achieve substantial benefits from their urban development, countries will require supportive institutions, appropriate investment and the removal of barriers to migration, job access and social mobility to support inclusive growth.[3] However, in many urban contexts – particularly informal settlements and smaller cities with limited recognition or resources at their disposal – these conditions are not in place. Instead, many communities are contending with marginalisation, limited resources and a lack of basic services to sustain them.

Inequality has been a long-standing challenge in cities across the ASEAN region, made ever more visible since the pandemic, and with it a range of challenges from environmental degradation to the growth of informal settlements. Poverty, deteriorating air quality, lack of access to green space and the limited availability of fresh, nutritious food, all have driven a rise in such non-communicable diseases such as coronary heart disease and diabetes.[4] On top of this, overcrowding and unsanitary living conditions in low-income neighbourhoods have left the urban poor even more exposed to the spread of communicable illness. Despite the multitude of benefits that cities have already brought across the region, many social and environmental problems could deepen in the future unless effective action is taken.

THE IMPORTANCE OF SECONDARY CITIES

Much of the focus of policy discussions and scholarship around the ASEAN region's urbanisation has been on its capitals and megacities, despite these representing only one part of its urbanisation experience. While often receiving less attention than the larger capitals and megacities in the region, secondary cities also face profound urban challenges. A significant element of focus in the ASUS is the increasing importance of secondary urban areas, while MPAC 2025 acknowledges that "many of the fastest-growing cities will be smaller 'middleweight' cities (rather than the capital cities)" and that "these cities, with 200,000 to 2 million people, are expected to drive almost 40 per cent of the region's GDP growth through 2030."[5] Indeed, some projections predict that "at a minimum, the region can expect the rise of more than 200 small cities in the next 30 years" and that ASEAN "will be a global hotspot for this type of fast-paced urban growth in small cities with populations of less than half a million people."[6]

Small and medium-sized cities have also been variously classified as "secondary," "intermediate," "intermediary" or even, as in the ASUS, "middleweight." In many contexts, these terms may be used interchangeably. What these urban areas share is that they typically occupy a critical position in connecting smaller urban centres, towns and rural areas with the markets, goods and investment of larger cities and capitals. In this regard, while secondary cities generally occupy a particular population band – UN-Habitat, for example, has previously suggested a range of between 100,000 and 500,000 people[7] – their designation is determined primarily by their function rather than their size. There are also a variety of forms that these cities can take, including "subnational regional urban centres" focused around administration, manufacturing and agriculture, "clustered secondary cities" concentrated on the periphery of larger cities and "corridor secondary cities" that have grown along major transportation routes.[8]

Within ASEAN, this diversity is reflected in the different economic drivers evident among secondary cities. While cities like Chiang Mai (Thailand), Hoi An (Viet Nam) and Siem Reap (Cambodia) are sustained by international tourism and knowledge centres such as universities and various creative industries, many more are still heavily dependent on agriculture and closely connected with the rural areas surrounding them. Others are concentrated around the production of specialised goods, such as garments, electronics and processed food, or defined by their position as border towns benefiting from the flow of goods and people. The latter in particular embody the potential for the sort of regionally integrated, urban connectivity advocated

in the ASUS and other ASEAN policy documents. One prominent example of cross-border collaboration in the region is the "growth triangle" encompassing Johor Bahru (Malaysia), Bintan/Batam (Indonesia) and Singapore. This arrangement enables the three countries to synergise knowledge, natural resources and labour to enhance their productivity and attract greater investment.[9]

Notwithstanding their critical contribution to their national economies, secondary cities in ASEAN are often overlooked in policy and research. As a result, they are generally analysed through the lens of existing studies on megacities in the region, despite having very different demographic and governance conditions at play.[10] This imbalance is mirrored in the disproportionate share of central funding that larger urban areas typically receive.[11] For example, in the 2022 national budget, the Bangkok Metropolitan Administration has been allocated about 28 per cent of Local Administration Organization funding despite the city comprising only 8 per cent of Thailand's total population.[12] Costly major infrastructure and beautification projects in national capitals, for example, may end up attracting far more investment than road improvements, street lighting and other basic upgrading in smaller cities, even though secondary urban areas often host a greater share of the urban poor than their larger counterparts. In Viet Nam, for instance, a 2012 World Bank poverty assessment found that almost a third (32.1 per cent) of the country's urban population were living in Ho Chi Minh City and Hanoi but accounted for only 11 per cent of the urban poor. Its provincial towns (Class 4 and 5), on the other hand, together hosted 27.3 per cent of the urban population as a whole but 55 per cent of the urban poor.[13]

In sum, small and medium-sized cities frequently contend with the same complex challenges documented in megacities, such as social inequality, environmental degradation and unmanaged growth, while at the same time lacking the capacity and

BOX 1

PILOTING EMISSION REDUCTION IN CITIES IN LAO PDR AND INDONESIA: LINKING LOCAL CAPACITY, NATIONAL ACTION AND INTERNATIONAL LEARNING

Low emission development strategies (LEDS) are often complex and time-consuming assessments to determine a long-term path towards reduced consumption and pollution. Although the benefits are wide ranging, designing and implementing the necessary processes can be challenging for small and intermediate cities with limited capacity and resources at their disposal. With the right technical support, however, delivered through community engagement and capacity development, it is possible for national governments and international agencies to transform approaches at the local level – and in the process enhance their own response through the lessons these cities provide.

ICLEI – Local Governments for Sustainability and UN-Habitat's Urban-LEDS II programme has been rolled out in more than 60 cities in eight different countries, including Indonesia and the Lao PDR, with the aim of transforming their urban emissions through city-to-city knowledge exchange, strengthened coordination and technical assistance. The majority of participating cities in both countries are secondary cities, collaborating directly with the international agencies. In the Lao PDR, rather than simply importing specialists to undertake the assessment in some of the smaller participating cities, a key element of the project has been to develop the capacity of local government officials through validation workshops, seminars and trainings.

Furthermore, the process of learning has gone in both directions. In Indonesia, the projects in the intermediate cities of Balikpapan and Bogor have produced an array of findings that have now been integrated into their respective urban development strategies. The insights from their research will not only be potentially replicable in other Indonesian cities, but could also enhance the roll-out of the national-level Low Carbon Development Indonesia.[14]

40% **OF ASEAN'S GDP GROWTH TO 2030**

is expected to be **driven by secondary urban areas** with 200,000 to 2 million people.

In the next 30 years, some projections estimate that the region could see the rise of

+200 **SMALL CITIES**

SOURCE: UCLG-ASPAC (2016) Asian Innovations in Financing Sustainable Urban Development, Jakarta, p.31

resources to respond to these challenges effectively. Yet, until now, national governments have not paid sufficient attention to their specific needs. There are many reasons for this, from the limited availability of local data to the weaker political connections between decision-makers and secondary cities in contexts where power and resources are concentrated in megacities. As a result, while their problems are no less real, they still tend to be sidelined by the more readily visible issues affecting larger cities.[15] This is despite the fact that investments in smaller cities, particularly those projected to continue growing rapidly over the foreseeable future, can reap significant dividends. Even relatively small amounts of funding in these contexts can deliver dramatic improvements in the provision of essential services, such as clean water and education.[16]

Secondary cities have produced an array of positive practices and solutions that have the potential to be replicated across the region to promote sustainability, particularly with regard to a stronger urban-rural continuum. They can also promote more balanced development, supporting the growth of more diffuse economic hubs as a counterpoint to the dominance of capitals and megacities. This problem is especially evident in ASEAN, with many Member States characterised by large primate cities where the overwhelming share of their urban population, investment and productivity is concentrated. One example of this phenomenon is Bangkok; with a metropolitan population many times the size of Thailand's next largest city, Chiang Mai, it also enjoys a disproportionate share of the country's political and economic resources. This is reflected in the extraordinary disparities in wealth between the capital and the poorest regions of the country, with a GDP per capita of about USD25,000 in Bangkok compared with about USD3,700 in the northeast – a differential comparable to that between Kuwait and Viet Nam. Despite this, over the past two decades Bangkok's development has been outpaced by the rapid growth of Thailand's secondary cities, where much of the country's economic future will be determined.[17]

Moreover, secondary cities also have a unique role to play in driving sustainability in ASEAN, supporting more balanced development and stronger connections between urban and rural areas.[18] They also play an important intermediary function between rural areas and megacities, thus enhancing connectivity and logistics, such as food chains at the national and regional levels.[19] In addition, secondary cities can offer an attractive destination for some rural migrants seeking to retain connections with their communities

or engaged in seasonal work cycles that see them return to their villages for part of the year. In this regard, secondary cities may enable rural residents to remain in their area and so support local development while avoiding the "brain drain" often associated with migration to megacities.[20] In other cases, they can serve as "stepping stones" for migrants seeking to develop skills and resources before moving on to larger cities.

Properly supported, secondary cities can reward even relatively modest investments and boost development in surrounding rural areas by serving as local markets and economic hubs. To attract business and increase productivity, however, they need adequate funding and infrastructure themselves. Realising their full social and economic potential, in ASEAN and elsewhere, is therefore essential to sustainable urban development; as stated in a 2016 article, "Strengthening the resilience of vulnerable small and medium-sized cities is where the success or failure of the UN's New Urban Agenda will be decided."[21] However, recognising the specific needs and opportunities of smaller urban areas is vital to ensure a locally appropriate strategy: some of these are outlined in Table 1.

"

Secondary cities have a unique role to play in driving sustainability in ASEAN, supporting more balanced development and stronger connections between urban and rural areas. They also play an important intermediary function between rural areas and megacities, thus enhancing connectivity and logistics such as food chains at a national and regional level.

TABLE 1

POTENTIAL CHALLENGES AND OPPORTUNITIES FOR SECONDARY CITIES IN ASEAN

	CHALLENGES	OPPORTUNITIES
Urban governance	Governance is often fragmented and underdeveloped in smaller cities: Linkages horizontally between agencies and vertically with higher levels of national government are frequently weak or poorly coordinated in secondary cities.	Intermediate cities offer opportunities for greater regional integration: They are ideally placed to support strong rural-urban linkages and can also drive more balanced regional growth outside primate cities, making them effective connecting points between large cities and rural areas.
Access to data	Data are limited at a local level: Country-level urban statistics are often not effectively disaggregated at the local level, meaning key gaps are not easily identified to guide national and city strategies.	Some cities are piloting innovative approaches to gather data: In particular, SDG localisation efforts, voluntary local reviews (VLRs) and social inclusion programmes are increasingly including specific components on data collection.
Local capacity	Clear gaps in technical knowledge and resources are emerging: Smaller cities typically lack dedicated teams to undertake specialist tasks, such as geomapping and other important functions, leaving them dependent on the central government to provide these services.	Small and intermediate cities can contribute to knowledge and innovation: A variety of initiatives are now being piloted in smaller cities across the region, offering opportunities for experimentation at scale that can provide valuable lessons not only for city-to-city learning, but also to inform national policy approaches.
Political participation	Mechanisms to promote participation are sometimes underdeveloped: The crucial process of engaging citizens and communities is not always properly undertaken when the necessary platforms are not in place.	Decentralisation and an increasing focus on localisation could drive greater civic engagement: A move towards more autonomous and empowered secondary cities could support stronger participation from residents and communities.
Planning regulations	Poor enforcement threatens future growth: Existing regulations are often not enforced, threatening the viability of any policies put into place to improve sustainability and thus raising the risk of poorly managed urban growth.	Secondary cities can absorb best practices to guide their development: As many smaller cities are poised to continue growing for some time, they are well placed to apply the experiences of developed cities to guide their own growth more effectively.
International cooperation	Engagement with international partners is limited: While some small and intermediate cities are working with international partners, many others lack the resources or technical know-how to do so, especially in less developed or marginalised area where local capacity gaps and language barriers can create further obstacles.	Agencies and multilateral organisations are increasingly focused on supporting secondary cities: There are now a range of programmes across ASEAN specifically aimed at secondary cities, whether through tailored development programmes or technical assistance to support them in accessing funding.
Financial resources	Finance is difficult to come by: Small and intermediate cities generally have relatively limited capacity to access credit or international funding, leaving them unable to finance investments in urban sustainability at the local level.	Even a little funding can go a long way: Despite the barriers to accessing finance, even relatively modest investments can deliver significant returns, particularly in contexts where urban development is still ongoing.

COVID-19 AND THE ROAD TO RECOVERY

COVID-19 has affected every aspect of urban life – from spatial planning and poverty reduction to governance frameworks and local economies. While the first wave of the pandemic was not as devastating in Southeast Asia as elsewhere,[22] the situation changed dramatically in the first months of 2021 as the more transmissible Delta variant took hold. By August, mortality levels in the region were reportedly the highest in the world, with 38,522 deaths documented in the space of two weeks.[23]

In a fundamental way, the spread of a highly contagious communicable disease and the measures necessary to contain it, such as self-isolation and physical distancing, undermine the very principles that normally help cities thrive. Social interaction, trade and the proximity of diverse groups that urban areas generate have all been significantly curtailed, even prohibited, at different stages of the pandemic. Consequently, the knock-on effects of protracted lockdowns, not to mention the death toll and illness wrought by the coronavirus itself, have had a devastating impact on livelihoods, education, work and leisure in many cities. Although much coverage has been focused on the economic damage borne by capitals and major cities in ASEAN, many intermediate cities – particularly those dependent on domestic and international tourism, a sector that has been devastated by travel restrictions – are also struggling with the sudden loss of income.[24]

The socio-economic impact of the pandemic within the ASEAN region has been severe and is still ongoing. During 2020, the region saw an 8.4 per cent drop in working hours, a reduction of 7.8 per cent in labour income and a total loss of 10.6 million jobs. The impacts have varied considerably from country to country, however, with working-hour losses ranging from 4.3 per cent in the Lao PDR to 13.6 per cent in the Philippines.[25] More than two years on, despite some improvement, the region's economic prospects in the near future remain uncertain.[26] Furthermore, the impacts of the pandemic have not been evenly distributed; certain groups, including women and migrant workers, have been affected disproportionately.

The effects are especially marked in urban areas where unemployment and pandemic-related destitution are typically higher; according to an assessment of the livelihood implications of COVID-19 in ASEAN, "the new poor are more likely to be in cities where economic shutdowns and movement restrictions have resulted in immediate job losses."[27] With many cities across the region being heavily dependent on tourism, the dramatic reduction in visitors – arrivals in Thailand in December 2020, for example, were just 0.2 per cent of the total in December 2019[28] – remained so for much of 2021 before picking up again in 2022; COVID-19 has affected millions of livelihoods in the hospitality, services, manufacturing

> **While Southeast Asia's post-pandemic challenges are likely to be protracted, achieving a green and inclusive recovery is essential not only for the well-being of ASEAN cities in the short term but also for their sustainability, including in the face of other potential emergencies.**

and other areas. Although much attention has been focused on the impacts in larger cities, secondary cities are also contending with serious challenges, given their high proportion of informal employment in these urban areas, their limited connectivity with global markets and the heightened pressure on their already limited financial resources.[29]

The fallout from COVID-19 prompted some commentators to predict an era of urban decline worldwide.[30] The pandemic has certainly highlighted profound social inequalities within cities, with poor and marginalised communities typically bearing a disproportionate burden of death and illness, as well as the indirect effects of loss of livelihood. From lack of such basic services as clean water and sanitation to inadequate housing and overcrowded slums, many risk factors associated with the spread of the virus are also closely correlated with poverty and exclusion.[31] In many ways, COVID-19 has only made more visible the symptoms of inequality in cities, evident in the elevated mortality rates among the urban poor. While data on public health are often limited, particularly in informal settlements and low-income communities, what information is available suggests that the urban poor "consistently display lower levels of education and health awareness, and poorer health outcomes than their non-poor urban counterparts, demonstrating a vicious circle of poverty, exclusion, and poor health."[32]

Beyond the immediate health impacts, however, the pandemic has drawn attention to a host of other problems within ASEAN cities, from lack of green space and food insecurity to gaps in digital access for work and schooling at home, that are closely tied to urban inequalities in the region. It has also underlined how effective planning, built on participation and targeted investment, can help act as a "spatial vaccine" or risk mitigation strategy to minimise future outbreaks in ASEAN cities.[33] While overcrowded settlements without such basic services as clean water and sanitation have faced an elevated risk of infection and morbidity, the primary problem is not so much density per se (which may be the result of efficient land use) as overcrowding (a reflection of inequality and exclusion); compact but well-designed urban areas, with adequate facilities and appropriate housing standards around living spaces and ventilation, have fared better.[34] This was evident in Singapore where, despite high urban density, citizens experienced relatively low levels of infection while the coronavirus spread rapidly through the cramped dormitories where most migrant workers were housed.

Nevertheless, rather than simply signalling the end of city life, the current crisis has highlighted the importance of well-planned, equitable urban development.[35] While Southeast Asia's post-pandemic challenges are likely

During 2020, the **economic fallout of the pandemic** within ASEAN was severe and is still ongoing.

↓ 8.4% **Fall in working hours**

↓ 7.8% **Reduction of labour income**

↓ 10.6M **Total jobs lost**

The impacts of the pandemic have not been evenly distributed: certain groups, including **women and migrant workers,** have been hit disproportionately.

SOURCE: ADB (2021) Asian Development Outlook Update: Transforming Agriculture in Asia, Manila, p.25; ILO (2021) "COVID-19 and the ASEAN labour market: Impact and policy response", August, p.3

BOX 2

CITIES AND PANDEMICS: TOWARDS A MORE JUST, GREEN AND HEALTHY FUTURE

Besides being severely affected by COVID-19 and the effects of protracted lockdowns, cities also have a pivotal role to play in driving recovery and positive transformation across the region. UN-Habitat's 2021 publication, Cities and Pandemics: Towards a More Just, Green and Healthy Future,[41] not only offers an assessment of the global response to the crisis but also presents a road map of actions that cities can take to ensure that their recovery is equitable, sustainable and resilient. The key pathways include:

- **Rethinking the form and function of the city:** Identifying how urban areas can be better designed at different scales, from the territorial to the neighbourhood level, to support more diverse, accessible and efficient physical forms. From protected greenbelts and public transport to parks and housing regulations, better planning will not only provide cities with greater resilience to current and future public health threats but also deliver substantial long-term benefits in terms of liveability, well-being and inclusion.

- **Addressing systemic poverty and inequality in cities:** The uneven spread of the virus and the disproportionate economic impacts on poor and marginalised urban communities have reinforced the need for targeted social welfare and universal service provision. The acute divisions in housing quality, access to clean water, job security and other areas are likely to continue long after the worst of the pandemic is over without a sustained commitment to a pro-poor urban recovery.

- **Rebuilding a "new normal" urban economy:** Cities can support smaller and potentially more vulnerable businesses in their recovery through targeted financial assistance, training programmes and investments in the development of more inclusive, green urban economies. Among other areas, this approach affords local governments with the opportunity to positively reset their relationship with informal sector workers.

- **Clarifying urban legislation and governance arrangements:** Worldwide, the outbreak of COVID-19 has had wide-ranging and at times contradictory impacts on urban governance frameworks. With some cities waiving elements of their autonomy to align with national-level policies, while others took on more responsibilities to lead their response, the variety was striking – yet, most had in common a commitment to effective coordination and partnership across different levels of governance.

to be protracted,[36] achieving a "green and inclusive recovery"[37] is essential not only for the well-being of ASEAN cities in the short term but also for their sustainability, including in the face of other potential emergencies. As countries across the ASEAN region seek to navigate the social and economic roadblocks created by the pandemic, cities have a central role to play in reinvigorating economies and strengthening the resilience of societies to other challenges, in particular climate change. However, it is vital that larger cities, where public and private investments in infrastructure and services have until now been disproportionately allocated, are not prioritised at the expense of secondary cities where resources are already strained and will be greatly needed to assist their recovery.[38]

While the principles of urban sustainability are even more relevant now as cities navigate their path towards recovery, there are concerns that a narrow focus on delivering a rapid economic recovery could undermine any potential progress if these principles come at the expense of the environment and widening social inequality.[39] On the other hand, through more integrated governance structures, targeted investment in underserviced areas, better planning and financial assistance for struggling businesses, COVID-19 could serve as a catalyst for cities to "build back better" by aligning their post-pandemic strategy with other challenges, including climate change adaptation, social inclusion and poverty reduction.[40]

PLANNING FOR SUSTAINABILITY: THE ASEAN SUSTAINABLE URBANISATION STRATEGY (ASUS) AND THE 2030 AGENDA

ASEAN has developed a series of ambitious strategies over the years to promote greater cohesion and cooperation within the region. The MPAC 2025, approved by ASEAN Member States in 2016, outlines a broad vision for the region's development over the next decade, focused on sustainable infrastructure, digital innovation, seamless logistics, regulatory excellence and people mobility. It seeks to create a regional framework to align policies across the region and boost stakeholder engagement, with a total of 15 initiatives rolled out across these five strategic areas. One of the key goals emphasised in MPAC 2025 is to "Develop sustainable urbanisation strategies in ASEAN cities."[42] It also identified "riding the urbanisation wave in the region through development of efficient and sustainable infrastructure solutions" as one of three areas "with the highest potential for productivity and growth across ASEAN over the next 15 years."[43]

Following MPAC 2025, the ASUS was drafted with the aim of supporting the realisation of sustainable urbanisation in the region. Finalised in 2018, it details six core areas and 18 sub-areas of focus, including seven identified as priorities for ASEAN cities through extensive consultations with urban stakeholders in the region. The ASUS provides an overview of urbanisation trends in the region, outlining the challenges as well as the opportunities that cities present in strengthening the broader aim of connectivity in ASEAN. This document provides a comprehensive framework of action for ASEAN cities to pursue in following their particular paths towards sustainability.

The ASEAN Smart Cities Framework was published by the ASEAN Smart Cities Network in the same year as the ASUS to provide guiding principles for the design and development of smart urban areas. Its vision echoes the language of the 2030 Agenda, "promoting economic and social development alongside environmental protection through effective mechanisms to meet the current and future challenges of its people, while leaving no one behind."[44] It also aligns closely with the ASUS and its emphasis on three core objectives ("competitive economy," "sustainable environment" and "high quality of life"), delivered through "integrated master planning and development" and "dynamic and

adaptive urban governance." Both documents share a vision of a holistic and integrated approach to cities that echoes the language of several key international commitments approved at around the same time. There are also many synergies between the ASUS and other ASEAN strategies, documents and initiatives, with sustainable urbanisation offering a major entry point for efforts to improve other areas, such as mobility and disaster risk reduction (Table 2).

These initiatives offer an extraordinary opportunity to synergise development efforts, linking local actions with global frameworks and providing a common set of core aims, indicators and pathways within which different stakeholders can work. In particular, the SDGs and the subsequent Decade of Action, which was designed to accelerate efforts to realise its ambitious targets between 2020 and 2030, provide a clear framework that balances global cooperation, local initiatives and what UN Secretary-General António Guterres described as "people action" – the engagement of civil society, businesses, academics and other actors, aided by flows of innovative sustainability-focused finance.[45] There is also significant overlap between the aims and processes of the UN 2030 Agenda and the ASEAN 2025 Community Vision, most notably "a common drive towards balanced economic, social and environmental development."[46] With a recent review of sustainable development in the region describing progress towards SDG 11 ("Make cities inclusive, safe, resilient and sustainable") in Southeast Asia as "very slow" and "stagnant,"[47] there is clearly an urgent need to accelerate efforts in this area.

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SOURCE: ESCAP (2021) Asia and the Pacific: SDG Progress Report 2021, Bangkok, pp.17-18

FIGURE 4

ASUS CORE AND SUB-AREAS

SOURCE: ASEAN (2018), ASEAN Sustainable Urbanisation Strategy

There is significant overlap between the aims and processes of the UN's 2030 Agenda and ASEAN's 2025 Community Vision, most notably "a common drive towards balanced economic, social and environmental development".

TABLE 2

GLOBAL AND REGIONAL SUSTAINABLE DEVELOPMENT FRAMEWORKS

GLOBAL INITIATIVES

The 2030 Agenda for Sustainable Development (2015)

This presents a comprehensive framework of 17 SDGs for all UN Member States to achieve by 2030. Although all of these are relevant in different ways to urbanisation, the most relevant provision is SDG 11, "Make cities inclusive, safe, resilient and sustainable."

The Addis Ababa Action Agenda (2015)

The Addis Ababa Action Agenda, to which all ASEAN Member States are signatory, was designed as "a global framework for financing development post-2015." Although separate from the 2030 Agenda, it was developed in parallel with the aim of supporting sustainable development by mobilising different forms of finance.

ASEAN INITIATIVES

Master Plan on ASEAN Connectivity 2025 (2016)

This outlines an ambitious set of five core aims that includes sustainable infrastructure, alongside digital innovation, seamless logistics, regulatory excellence and people mobility. "The aim of this strategy is to coordinate existing resources to deliver support across the full life cycle of infrastructure projects in ASEAN, including project preparation, improving infrastructure productivity, and capability building. This strategy also includes exchanging lessons on 'smart urbanisation' models across ASEAN Member States that can simultaneously deliver economic growth and a good quality of life."

The SDGs serve as a framework for sustainability-oriented financing, such as SDG Accelerator Bonds, to provide cheaper sources of funding for projects that will drive sustainable development in the ASEAN region. Some regional and national examples include the following:

- **The ASEAN Catalytic Green Finance Facility (ACGF)**, established in April 2019, is aimed at supporting the mobilisation of private funding through an innovative financing structure. With a total of about USD1 billion from various multilateral donors to support green investments in transportation, water and energy, it has already provided funding to a number of projects in the ASEAN region, including a major loan to fund the Epifanio de los Santos Avenue Greenways Project in the Philippines; this involves the construction of elevated walkways in a congested area of Manila to provide safe and accessible pedestrian routes for residents, including pregnant women, children, older persons and people with disabilities.

- **Thailand launched a sovereign sustainability bond** in August 2020 that combined environmental and social objectives with post-COVID-19 recovery efforts. The USD950 million that it raised was channelled towards the development of Bangkok's mass transit network and other projects that will help the country to achieve its SDG and climate resilience targets under the Paris Agreement.

- **Sustainable Development Goal Indonesia One** - Green Finance Facility Phase 1 has been designed as an intermediary loan to channel government and Asian Development Bank finances to promote funding from private and institutional sources by minimising risks for investors. The programme is aimed at backing activities that support an inclusive post-COVID-19 economic recovery while also strengthening environmental sustainability.

TABLE 3

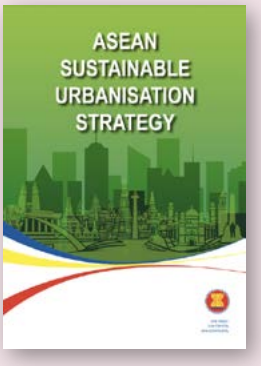
GLOBAL AND REGIONAL SUSTAINABLE URBANISATION FRAMEWORKS

GLOBAL INITIATIVES

New Urban Agenda (2016)

The New Urban Agenda (NUA) was adopted at Habitat III, which was held in Quito, Ecuador, in October 2016. Following a series of landmark international agreements, the NUA outlined in detail the specific contribution that cities could make to securing global sustainability. The commitments span a breadth of social, economic and environmental issues, including provisions on spatial integration, physical upgrading, compact design, accessibility, environmental resilience and public safety. If implemented, these measures would greatly enhance sustainable urban planning in the ASEAN region, particularly in the context of disaster preparedness and climate-resilient planning.

ASEAN INITIATIVES



ASEAN Sustainable Urbanisation Strategy (ASUS) (2018)

This framework, built on extensive consultations with cities and urban stakeholders in the region, provides a blueprint of priorities and action points for cities to follow to strengthen their sustainability, with additional toolkits and sample indicators as guidance.

ASEAN Smart Cities Framework (2018)

This presents a broad set of principles to guide smart city development across the region. Many of these are closely aligned with the principles of both the ASUS and the NUA.

Smart Green ASEAN Cities Programme (2021)

This ASEAN-EU collaboration aims to promote sustainable and smart solutions to a range of challenges such as energy-efficient construction and urban mobility.

Since the publication of the ASUS, the focus has been on translating its provisions into practical actions at the local level through city engagement. Encouragingly, the Master Plan on Connectivity 2025: Mid-term Review, published in 2020, identified sustainable urbanisation as one of the initiatives where good progress had been made. Efforts were also made following its publication to improve uptake of the ASUS, with two socialisation forums held in Jakarta in November 2019 and February 2020. Nevertheless, following the disruption caused by the COVID-19 pandemic, there is a need for renewed momentum to ensure that national and local governments are engaged in the principles of and opportunities offered by the ASUS.

TABLE 3

The NUA's emphasis on the agency of local governments and decentralised decision-making means it is especially relevant for secondary cities seeking to navigate a path towards greater sustainability. Organisations such as United Cities and Local Governments have been active in ASEAN and elsewhere in the Asia-Pacific in engaging cities and municipalities in the design and implementation of policies to support the NUA. There have been a number of initiatives by ASEAN Member States to support the realisation of the NUA, including:

- **In Cambodia,** UN-Habitat and ESCAP have partnered on the project, "Inter-regional cooperation for the implementation of the New Urban Agenda," which is aimed at supporting the government in achieving the commitments of the NUA. Importantly, in response to COVID-19, it also includes a component on urban pandemic preparedness to support policymakers at the national and local levels.

- **Indonesia,** following the passage of the NUA, has prioritised spatial planning as a key component of urban governance across the country. By doing so, it seeks to adopt the NUA provisions and achieve greater urban sustainability.

- **In Thailand,** in 2019 the government rolled out an information programme in selected cities across the country to raise awareness about the NUA and associated tools to support urban sustainability. A series of workshops, entitled "Local is the Key," were launched in Chiang Mai and Songkhla provinces to engage local government officials with practical ways to implement improvements in their own cities.

ACCELERATING THE IMPLEMENTATION OF THE ASEAN SUSTAINABLE URBANISATION STRATEGY

"Accelerating the Implementation of the ASEAN Sustainable Urbanisation Strategy," a collaboration with UN-Habitat, was designed to support the uptake of the ASUS and align its principles with other international development frameworks, such as the NUA and the SDGs. The first stage of the project was to deliver technical support to eight cities in different ASEAN Member States, identifying key priorities and actions at the local level in line with the ASUS. This was followed by the ASEAN Sustainable Urbanisation Forum in October 2021, bringing together a wide range of city stakeholders and other partners from across the region. The final output of the project is the present report.

ASEAN Sustainable Urbanisation Strategy (ASUS)

Output 1:

8 City Technical Proposals

Output 2:

ASEAN Sustainable Urbanisation Forum (6-8 Oct 2021)

Output 3:

ASEAN Sustainable Urbanisation Report

TABLE 4

GLOBAL AND REGIONAL CLIMATE ADAPTATION AND DISASTER RESILIENCE FRAMEWORKS

GLOBAL INITIATIVES

The Paris Agreement (2015)

The Paris Agreement, approved in December 2015, is a landmark international agreement that commits governments to take steps to limit global temperature rises to no more than 1.5°C above pre-industrial levels. While representing a bold global response to the climate crisis, brokered at an international level between national governments, much of its success will depend on concrete local action in cities.

The Paris Agreement has inspired a variety of urban-focused initiatives, including Indonesia's Sustainable Urban Transport Programme, implemented by government ministries in urban areas. Yet, there are also many examples of locally led urban initiatives. For example, a coalition of cities organised by C40 Cities has committed to develop action plans to bring themselves into line with the targets of the Paris Agreement. These cities include Hanoi, Ho Chi Minh City, Jakarta, Kuala Lumpur and Quezon City in the ASEAN region; they joined the coalition in June 2019.

The Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030 (2015)

The concerns of the Paris Agreement overlap with the priorities of the Sendai Agreement, ratified in 2015 to strengthen disaster risk preparedness and resilience. The Sendai Framework, while not explicitly addressing cities, has nevertheless significant implications for them. Under its provisions, urban development should seek to minimise vulnerabilities and exposure to potential disaster risk.

ASEAN INITIATIVES

The ASEAN Working Group on Climate Change

The ASEAN Working Group on Climate Change (established in 2009) coordinates with agencies and across the region to communicate ASEAN climate change priorities at the international level. Various ministerial environment-related bodies under the ASEAN Socio-Cultural Community pillar also engage in climate change issues.

The ASEAN Working Group on Environmentally Sensitive Cities

The ASEAN Working Group on Environmentally Sensitive Cities was established to create a regional body focusing on challenges relating to urban environmental management. Among other initiatives, it launched the SDG Frontrunner Cities programme, with 24 model cities across the region supported in order to upscale green and sustainable policies that will aid in SDG localisation.[48]

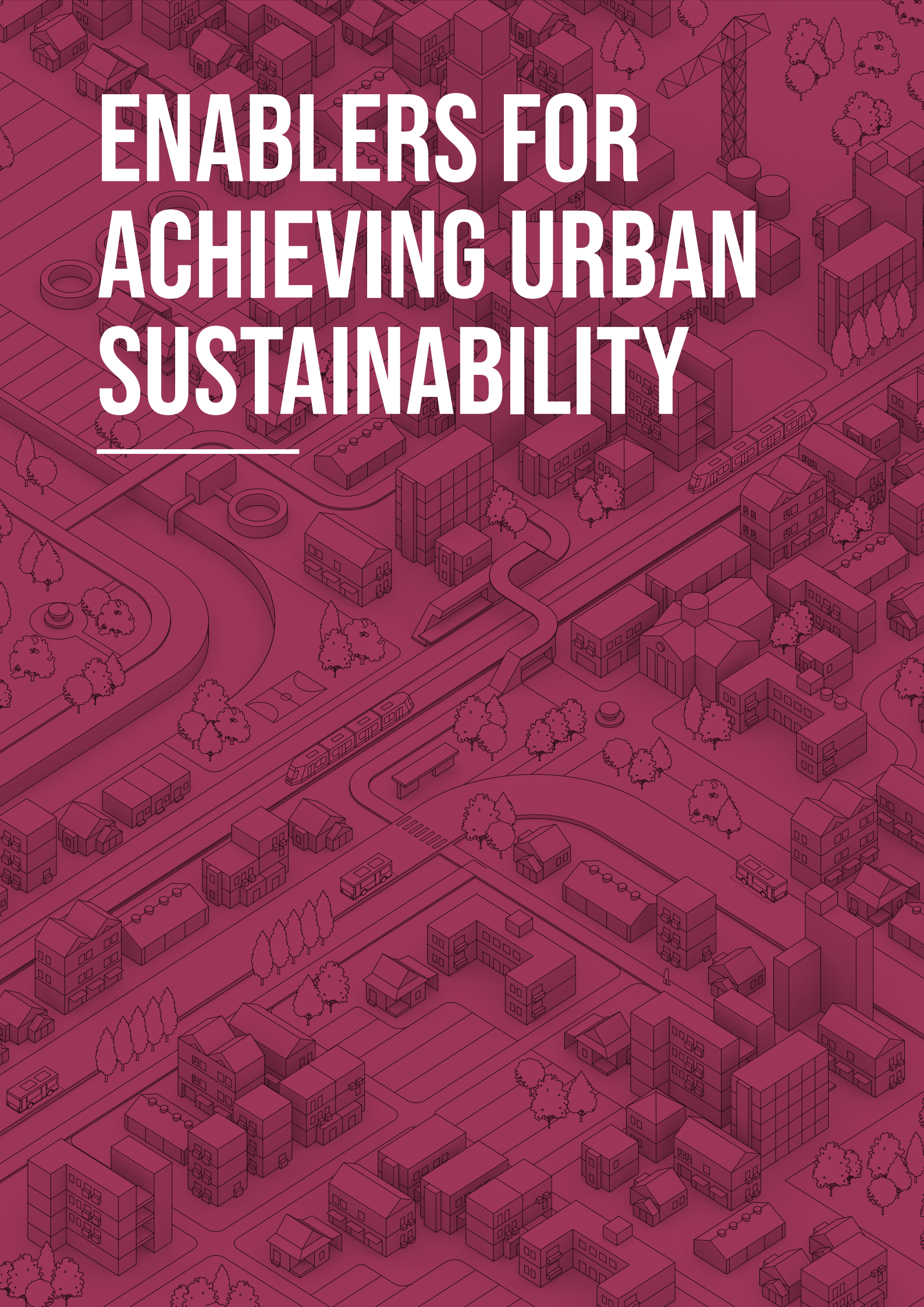
The ASEAN Agreement on Disaster Management and Emergency Response (AADMER)

The context for Sendai's uptake in ASEAN was aided by the fact that ASEAN had itself approved a legally binding document for the region, namely the ASEAN Agreement on Disaster Management and Emergency Response (AADMER), signed in July 2005 and entering into force in December 2009.

In 2018, ASEAN adopted the Guidebook for Urban Resilience: Building Disaster and Climate Resilient Cities in ASEAN and developed the ASEAN Urban Resilience Checklist tool. The guidebook provides practical measures for local governments and relevant national institutions to reduce local risks and mainstream disaster risk reduction in urban planning and development plans.

The AADMER Work Programme 2021-2025, developed with the support of UN Office for Disaster Risk Reduction (UNDRR), supports the realisation of the Sendai Framework as well as AADMER. In fact, the latter explicitly "aligns with key provisions of the SFDRR and its seven targets while maintaining the ASEAN identity and pursuing the goals set by the ACDM (ASEAN Committee on Disaster Management)".

ENABLERS FOR ACHIEVING URBAN SUSTAINABILITY



Responding to the challenges outlined in the previous section requires a multipronged approach that engages the tools of governance, planning, finance and digitalisation. This chapter presents four overarching "enablers" for city-level action identified in the ASUS that are applicable across the different thematic areas which follow in the next chapter.[49] Together, these comprise a comprehensive toolkit for cities to achieve greater sustainability through strong coordination, effective land use, targeted financial investments and smart technologies. The chapter provides a detailed exploration of each enabler in the context of ASEAN, outlining the key challenges and opportunities that they offer cities across the region, as well as selected best practices and a series of recommendations for cities to strengthen their capacity in these areas.

DYNAMIC URBAN GOVERNANCE

Given the complex, interconnected systems that underpin the everyday functioning of cities across the ASEAN region, the need for well-integrated and collaborative urban governance structures is especially important. Yet, cities are still struggling with institutional divisions, lack of communication and limited participation with other stakeholders, meaning that government actions can be fragmented and poorly coordinated. Ongoing decentralisation, while an important step towards more accountable and locally led decision-making, has also placed further pressure on local governments with limited capacity and resources. Collaborative governance, however, engaging a range of stakeholders through knowledge exchange, resource sharing and partnerships, offers cities a means to overcome these barriers and achieve more sustainable urban outcomes.

Both the ASUS and the NUA are focused closely on governance as a key priority. While the ASUS highlights "dynamic urban governance" as one of the four enablers of urban sustainability, it also highlights a number of ongoing issues and barriers currently relating to this field. On the other hand, the NUA is concerned with aspirational pathways to enhance urban governance for the future. Consequently, with their complementary focus on challenges and ways forward, the two strategies are closely aligned and together comprise a useful road map for cities to follow. The table below highlights some of these synergies.

ASUS AND NUA

ASEAN SUSTAINABLE URBANISATION STRATEGY	NEW URBAN AGENDA
Increasing urban autonomy "...many national governments are increasingly shifting the responsibility of public services to local city governments, granting [them] increased autonomy."[50]	**Meaningful decentralisation** "...ensuring the involvement of subnational and local governments in decision-making and working to provide them with the necessary authority and resources to manage critical urban, metropolitan and territorial concerns."[51]
Competing aims and priorities "These relate to a misalignment of incentives between key stakeholders (e.g. national, regional and local government or regulators, investors/donors, implementation agencies, private sector and local residents)." [52]	**Integrated policymaking** "...coherence between goals and measures of sectoral policies... at different levels and scales of political administration, across administrative borders and considering the appropriate functional areas, in order to strengthen integrated approaches to urbanization." [53]
Poor internal coordination "This relates to a lack of alignment with other actions where there may be important inter-dependencies (such as road infrastructure and public transport initiatives); and alignment across government departments, at the national, sub-national and crosscutting level.... It is indispensable to clarify differences in role of each organisation and to let them cooperate with each other when necessary."[54]	**Collaborative governance structures** "...stronger coordination and cooperation among national, subnational and local governments, including through multilevel consultation mechanisms and by clearly defining the respective competences, tools and resources for each level of government."[55]
Growing inequality "While cities have been engines of growth, the benefits of this growth have not been shared equitably. In many Asian cities, including in Southeast Asia, income inequality has risen and is often higher than in rural areas." [56]	**Inclusive structures** "...promote participatory age- and gender-responsive approaches at all stages of the urban and territorial policy and planning processes... rooted in new forms of direct partnership between Governments at all levels and civil society."[57]
Knowledge and information gaps "This occurs when stakeholders do not have sufficient or adequate information about the availability of actions, the true costs and benefits of actions, or the nature of the technology involved. Often this is tied to a lack of available robust data."[58]	**Clear regulations** "...establish legal and policy frameworks, based on the principles of equality and non-discrimination, to enhance the ability of Governments to effectively implement national urban policies, as appropriate."[59]

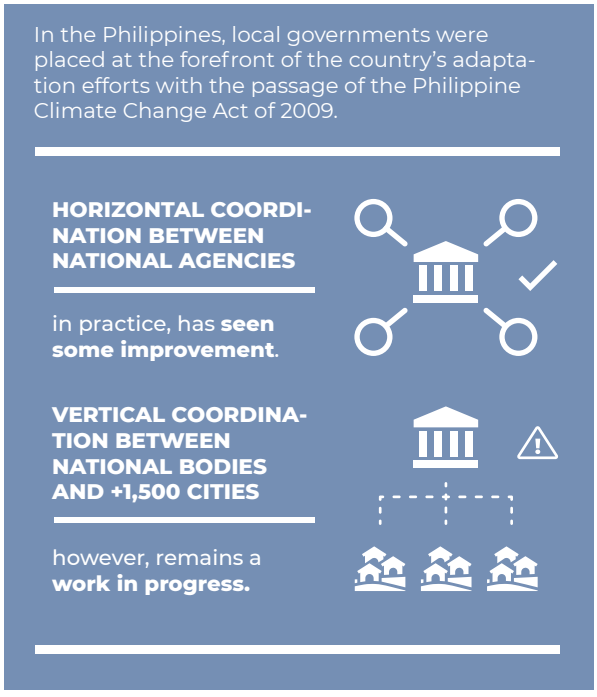
BRIDGING THE CAPACITY GAP

Multi-level coordination and implementation

There is now widespread recognition of the central role that urban areas have to play in realising sustainable development. Allowing cities the policy space and resources to guide their own destinies, rather than simply enacting top-down policies from national government on the ground, is key. In principle, this transformation has been occurring across the ASEAN region since the late 1980s: while governance arrangements vary widely between Member States, with local governments afforded different degrees of financial and political control over their own decision-making, the general trend has been towards greater decentralisation. In the context of many ASEAN cities, however, where local budgets are still largely dependent on central funding, this has created significant challenges as well as benefits.[60] Indeed, while increasing local autonomy can encourage more responsive and informed decision-making, currently many cities are burdened with greater responsibilities but lacking the funds or resources to support these expanded duties.

Given the limited capacity of many local governments, particularly in smaller urban areas, they are often still dependent on the support of central governments in such specialised areas as disaster preparedness planning. Consequently, the need for clear, effective communication between these different levels of government remains. However, poor coordination and communication barriers between central and local governments continue to be a significant roadblock in urban governance, isolating smaller cities from decision-making, particularly when entrenched political siloes are in place. The balance in supporting an effective urban governance framework is identifying where national governments, regional bodies or international organisations can usefully provide resources and technical assistance to cities while ensuring that those areas which should be led by municipal authorities are properly devolved to them.

Even when supportive policies are put into place to devolve power to cities, lack of capacity and resources at the local level can undermine these efforts. In the Philippines, for example, local governments – previously overlooked in national climate policies – were placed at the forefront of the country's adaptation efforts with the passage of the ground-breaking Philippine Climate Change Act of 2009. However, while providing cities with more power to design appropriate strategies to meet their specific needs, the shift also laid bare significant capacity and informal gaps at the local level, meaning a great deal of ongoing support is needed.[61] In practice, while there has been some improvement in collaboration between the array of national agencies engaged in climate change adaptation, including the Climate Change Commission, the Department of Interior and Local Government, the Housing and Land Use Regularity Board and the National Economic and Development Authority, vertical coordination between these bodies and the more than 1,500 cities and municipalities in need of support remains a work in progress.[62]



SOURCE: Uy Epistola, R., Landesman T. and Adriázola, P. (2020) Local Climate Action Planning in the Philippines: The Case of Ormoc City, Berlin: adelphi, p.7

However, the governance barriers in cities can be horizontal as well as vertical, with different local departments failing to communicate adequately between each other. This can make for disconnected, inefficient service provision and conflicting policies when different priorities are not properly reconciled. To take the example of urban transport, the challenges are

Rather than competing against each other, secondary cities can work creatively to develop partnerships, resource sharing frameworks and other forms of cooperation. This means moving away from rigid, hierarchical systems where relations are primarily structured between the centre and individual cities to one where smaller cities are themselves organised into integrated clusters.

often not only a lack of integration with other relevant sectors, such as housing and infrastructure, but also the "siloisation" of different transit types, such as bus, rail and road, within separate agencies. This problem is especially evident in the area of data collecting and sharing: it is not uncommon that information collected by one department may not be readily available even to other government agencies, let alone to citizens, NGOs and other stakeholders. The most effective way to prevent this is to ensure that relevant datasets are published transparently and can be easily sourced online by any user, including members of the general public. In Thailand, for instance, the Office of the National Economic and Social Development Council (NESDC) launched the Thai People Map Analytic Platform to enable anyone to view and download locally disaggregated data on poverty, health, living conditions, education, income and other variables. This serves as an important tool to strengthen the ability of citizens to access public data and promote active participation.[63] Provided that the platform continues to be updated and accessible, it should also support cities in improving their own evidence base to inform policy.

Horizontal engagement can also extend to the development of intercity partnerships, particularly secondary cities in countries traditionally dominated by primate cities. Rather than competing against each other, secondary cities can work creatively to develop partnerships, resource-sharing frameworks and other forms of cooperation. This means moving away from rigid, hierarchical systems where relations are primarily structured between the centre and individual cities to one where smaller cities are themselves organised into integrated clusters.[64] While the formation of such collective organisations as municipal associations do in principle perform this function, in practice these typically lack sufficient power or resources.

Improving urban safety through better data sharing in the Philippines

While the absence of data is a major challenge to effective decision-making, a related problem is that what limited data are available is often not communicated effectively between agencies. By removing institutional barriers and establishing clear processes to improve accessibility, national and local governments can ensure that potentially valuable data are not overlooked or unavailable. In the Philippines, for instance, a central element of the Safe Philippines project – a national programme launched in 2019 in partnership with selected local governments – was to encourage integrated data collection to support safer roads, more responsive disaster management and lower levels of crime.[65]

Localising the SDGs to promote urban innovation

Ongoing efforts to localise the SDGs, in particular, have already provided an important tool to drive sustainable urban development across ASEAN. The SDG Frontrunner Cities programme, for example, is operating in 24 cities across the region and has involved a range of activities in waste management, low-carbon development and other areas rolled out by local partners.[66] Part of the rationale for the programme is that, while there is limited awareness in secondary cities of the SDG processes themselves, some cities are nevertheless taking steps to achieve sustainable development outside the formal framework of the 2030 Agenda.[67]

Fostering regionwide knowledge sharing and city-to-city collaboration

Transnational urban networks across the ASEAN region have significant potential to strengthen responses to shared challenges. For example, the new Smart Green ASEAN Cities programme, launched in partnership with the EU, will support dialogue and exchange of best practices among ASEAN Member States, as well as between ASEAN and the EU, through trainings and urban forums. Another action proposed in the ASEAN Comprehensive Recovery Plan is to establish a platform for ASEAN cities to share knowledge and lessons learned to improve their response to future outbreaks of COVID-19 and other challenges, with a particular focus on the use of digital technologies to improve tracking and tracing.[68]

PROMOTING COLLABORATIVE GOVERNANCE

The value of "co-produced" solutions

As important as the ability of cities to operate effectively across different departments and multiple tiers of government is their willingness to engage a broad range of stakeholders in decision-making. Until recently, urban governance across much of the region was characterised by inflexible, top-down decision-making structures that afforded little space in which local communities, civil society organisations and other stakeholders could participate meaningfully. Despite progress in recent decades and the creation of more open spaces for collaboration, cities are still visibly struggling to coordinate and manage resources effectively, particularly in response to the shifting economic and technological realities of the twenty-first century. As the challenges facing cities become ever more complex, balancing the demand for further economic development with environmental protection and liveability, the need for a multistakeholder approach to urban governance has become increasingly urgent.[69]

Cities that commit fully to a participatory approach in this fashion are able not only to draw effectively on the diverse resources of their residents, but also to promote more inclusive governance. Well-implemented partnerships with community groups can provide officials with a much clearer sense of local needs, particularly in informal settlements and slums that may not even be officially recognised. Residents can themselves support key activities, such as data collection and community-based planning, thus giving greater visibility to specific challenges and ensuring that any policy responses are appropriate to their context. Community involvement also ensures a stronger commitment to transparent, accountable governance processes. The power of this approach is illustrated by Data Kota, a collaboration between the Indonesian NGO Kota Kita and the Banjarmasin local government to provide an integrated, publicly accessible database for the city. Working across different departments and engaging a team of citizen volunteers to gather inputs at the community level, the information was then synthesised into neighbourhood "mini atlases" that provided detailed neighbourhood-level profiles on basic services, poverty, land tenure and other areas.[70]

52 NEIGHBOURHOOD "MINI ATLASES"

were created through Data Kota, a collaboration between the NGO Kota Kita and the local government in Banjarmasin, Indonesia, to create an integrated, **accessible database** on basic services, poverty and land tenure with the **participation of citizen volunteers** to support data collection efforts.

SOURCE: Kota Kita (undated) "Data Kota – Kota Banjarmasin"

The value of co-produced solutions, especially in contexts where significant governance gaps exist, has been evident during the pandemic as community groups, businesses and other constituencies have worked together to contain the impacts of COVID-19. This was again illustrated in the Philippines by the activities of the Philippines Homeless People's Federation in cities across the country; the organisation was able to play an instrumental role in the first weeks of the outbreak, working with local governments to identify vulnerable

households, disseminate information and distribute emergency food assistance.[71] For secondary cities in particular, local governments need to enable and support the innovative self-organising systems that emerge from coalitions of different urban stakeholders to meet local challenges. This is crucial not only from a rights-based perspective, given the long legacy of top-down decision-making in many ASEAN cities, but also as a way to address the challenges that many municipalities face in providing their most marginalised populations with support and services.

In particular, the informal sector offers a huge and largely untapped source of potential with which municipalities can engage productively to strengthen capacity. From small-scale water providers and waste recyclers to jeepneys and motorbike taxis, informal operators play an essential role in meeting the needs of informal settlements and other low-income neighbourhoods excluded from formal services. However, national and local governments have often been reluctant to even recognise, let alone collaborate with, informal sector actors. This represents a significant missed opportunity; even when there may be concerns around the quality of services provided by some informal operators, the most effective approach to improve their regulation is through training, capacity-building and targeted financial assistance rather than ignoring or repressing them. The power of this positive collaboration is demonstrated by UN-Habitat's Healthy Oceans and Clean Cities Initiative. The project has partnered with local governments in Cagayan de Oro, Calapan, Davao, Legazpi, Manila and Ormoc to address the growing problem of marine litter in these coastal cities – a significant challenge, given that the Philippines is currently a major source of plastic waste, with between 0.28 million and 0.75 million metric tons entering the ocean annually.[72] A central part of the programme's success, in addition to institutional capacity-building and awareness-raising, is that it places informal sector waste collectors at the heart of this process, encompassing a range of recycling, "ecopreneur" and fisherfolk associations as partners.[73]

BOX 3

SUPPORTING AND PROTECTING INFORMAL WORKERS IN INDONESIA'S CITIES

In Indonesia, a years-long trend of declining urban poverty levels was reversed in 2020, following the outbreak of COVID-19; by September that year, urban poverty levels had risen to 7.4 per cent, up from 6.7 per cent in 2019. Almost four fifths (79 per cent) of those who fell into poverty over the year, some 2.2 million people, were living in urban areas – a reflection of the disproportionate impact of the pandemic on cities. Unemployment rates in urban areas rose sharply from 6.3 per cent to 9 per cent during the same period. Inequality also increased during the pandemic, with some of the most significant impacts in regions that were dependent on tourism or labour-intensive activities.[74]

Even before the pandemic, the challenges facing millions of informal sector workers were already formidable. However, their precarity and lack of official recognition left them particularly vulnerable to the pandemic and the social restrictions imposed to contain it. Despite the success of digital platforms, such as ride-sharing and delivery applications, the informal and uncontracted nature of this employment leaves workers especially exposed to unexpected market fluctuations and downturns. This is demonstrated by the fact that, in the wake of the pandemic, urban gig workers have been among the worst affected.

Their experiences reinforce the need for national and local governments to build a clear framework of protection and assistance to provide greater security to self-employed and informal sector workers.[75] This should not only address the immediate vulnerabilities brought on by the pandemic, but also support their long-term security and strengthen their resilience to future economic shocks. Among other measures, informal sector workers should be included in labour legislation; currently, the Law on Manpower and its various provisions are extended only to those in formal employment. Authorities should also work with pro-poor urban organisations to support the reskilling of informal workers in the worst-affected sectors and their integration into other areas where demand for labour is still high, such as health care and logistics.[76]

LINKING LOCAL ACTION WITH GLOBAL COMMITMENTS

The 2030 Agenda as a governance roadmap

Mirroring the increasing emphasis on urban sustainability within ASEAN, a growing international consensus has emerged around the role of cities in the SDGs, the NUA and the Paris Agreement. The synergies between these regional and global initiatives therefore offer significant potential to support sustainable urbanisation in the ASEAN region, where the array of international funding sources established around the realisation of the SDGs can also support the commitment of ASEAN to social inclusion and resilience. A significant barrier to impactful local action, however, is the widespread lack of local and disaggregated data available. Without adequate information to guide policies, cities struggle to identify the most excluded populations and target their investments appropriately – a key component in ensuring that global and regional commitments in this area are translated into concrete actions at the local level.

It is also important that cities are able to design and implement their own policies, informed by the SDG and NUA principles, to address their specific challenges. With this in mind, it is important that the SDGs are not simply imposed on cities, but are instead presented to them positively as a road map that links to their own ongoing efforts. More effective communication around how existing local activities already overlap with global development frameworks could help provide cities with a clearer momentum around aligning their own activities with national commitments to the 2030 Agenda. Education and engagement are a key part of this, particularly as many local government officials are likely to have limited awareness of the SDG framework due to language barriers and a lack of international networks.[77]

Notwithstanding these challenges, there have already been a range of initiatives undertaken across ASEAN to support the localisation of the 2030 Agenda and the implementation of the NUA. These include:

- **National reports on NUA implementation:** so far, two countries (Indonesia and the Lao PDR) have published national reports on their progress towards NUA implementation, with detailed data breakdowns on housing, poverty reduction and basic service provision as well as the governance, finance and planning arrangements in place to achieve their targets.[78]

- **Decentralised SDG implementation plans:** in Indonesia, for example, the majority of provinces have already rolled out plans to implement the SDGs, while in Naga City in the Philippines the local government has integrated SDG-specific indicators into its biannual community-based monitoring survey to monitor the city's progress. [79]

- **Voluntary local reviews (VLRs):** a number of ASEAN cities have undertaken VLRs to complement their country's Voluntary National Reviews through localised data collection and analysis of their specific urban challenges. In Malaysia, for instance, VLRs have been initiated in a number of cities with the support of UN-Habitat, ESCAP and UNDP, with an array of indicators collected in line with the SDG assessment framework.[80]

- **Multistakeholder urban projects:** One of the opportunities presented by the Sustainable Development Goals is that they provide a shared framework for a variety of different actors to collaborate. One example of this is the joint ESCAP and UN-Habitat programme, "Localising the 2030 Agenda in Asian and Pacific Cities," currently piloted in a number of secondary cities, including Battambang (Cambodia), Nadee (Thailand) and Naga (Philippines), with the SDGs providing a shared framework for local action.[81]

A key element in the implementation of the 2030 Agenda is the process of voluntary national reviews (VNRs) undertaken by Member States at the country level to report on progress towards achieving the different SDGs. There is now increasing focus, given the importance of localised action, on the roll-out of VLRs by cities themselves. Although the SDG indicators have been specifically designed for national reporting and there are no universally recognised measurements for cities to readily deploy, in practice close to a third of the 232 SDG indicators can be gauged at the local level. While the development of VLRs is still at

an early phase in ASEAN and elsewhere, they have considerable potential to connect local efforts and global commitments through stronger partnerships, a clear evidence base and transparent knowledge-sharing.[82] The process of undertaking a VLR can in itself strengthen governance by promoting coordination between different departments and engaging a range of stakeholders to participate, thereby helping local authorities to identify problems and map out policy pathways in response. Furthermore, while promoting greater uptake and awareness of the SDGs locally, VLRs can also be integrated in turn into VNRs to enhance government action at the national level too. Some countries have actively sought out subnational inputs to incorporate into their reporting, such as the Philippines in 2019.

As VLRs are still an emerging field, with much innovation and experimentation taking place, it is all the more important that cities absorb lessons from others that have already completed or are developing VLRs of their own. As of May 2022, 74 VLRs have been conducted worldwide, including three within ASEAN: one in the Philippines (Cauayan City in 2017) and two in Malaysia (Shah Alam and Subang Jaya in 2021). City-to-city collaboration and other partnerships, such as the Malaysia SDG Cities network, can help drive action and learning in this area.[83] In addition, the participatory processes that accompany this data collection help to raise awareness and community engagement in the city's development. Shah Alam's contribution, for example, features detailed disaggregated indicators, a selection of prioritised SDGs and a clear action plan for addressing key challenges and aligning existing initiatives across the city.[84] In addition, the participatory processes that accompany this data collection help to raise awareness and community engagement in the city's development.[85] It demonstrates the enormous value that a well-implemented VLR can deliver for small and medium-sized cities as well as capitals and megacities.

In addition, the participatory processes that accompany VLR efforts help to raise awareness and community engagement in the city's development. Shah Alam's contribution, for example, features detailed disaggregated indicators, a selection of prioritised SDGs and a clear action plan for addressing key challenges and aligning existing initiatives across the city.

RECOMMENDATIONS

Harmonise decision making processes across multiples levels of government:

To prevent inefficient or conflicting policy actions, both vertically (between national and local governments) and horizontally (across different departments and constituencies at the municipal level), it is crucial that collaboration is built into governance processes. Cities can take steps to ensure that their governance systems actively promote knowledge exchange, data-sharing and policy alignment as the default approach. Some successful initiatives around urban safety in the region, for example, have demonstrated that, with the right structures in place, coordination and partnership between disaster management departments, road agencies and police are relatively easy to realise and are mutually beneficial.

Leverage the potential of co-production:

To address capacity, local governments can actively engage communities, businesses, NGOs and other stakeholders as equal partners in different areas of their work. In particular, informal sector workers – a group frequently overlooked by city authorities, despite their important contribution in providing a range of services to poor communities – should be engaged as partners in potential solutions. Participatory urban governance offers a valuable alternative to the top-down, hierarchical model of decision-making that has long characterised urban governance across the region. Besides enabling cities to draw more fully on the skills and knowledge of their diverse residents, these collaborative approaches can help foster innovation and reach previously underserved constituencies, such as slum dwellers, more effectively.

Align with global frameworks to support city-level action:

A number of ASEAN-wide documents and frameworks reference sustainable urbanisation as a key entry point to improving connectivity, prosperity and development in the region, most notably the ASUS. In addition, however, an international consensus around the aims and benefits of sustainable cities has also emerged around the SDGs, the NUA and other landmark commitments, providing an essential reference point for cities to inform their own direction. At a practical level, there are increasing opportunities for local governments to access knowledge, technical assistance and funding to support their own ongoing efforts to achieve greater sustainability.

INTEGRATED MASTER PLANNING AND DEVELOPMENT

Effective urban planning, spanning a variety of scales from the territorial to the local, is an essential tool for minimising sprawl, reducing resource use and strengthening disaster resilience. Cities therefore need to have a clear long-term vision while remaining adaptive enough to respond to new challenges and changing conditions. On one hand, to escape the vagaries of short-term electoral cycles, planning strategies to protect floodplains or guide development around planned transportation networks may need to be in place for years or decades in order to achieve success. On the other, it is important that these frameworks are not so inflexible that governments are unable to reorient their path in response to evolving challenges, such as climate change. This requires meaningful participation from citizens themselves; without the latter, planning will remain a largely political process that primarily benefits private developers and the landowning elite.

Both the ASUS and the NUA are focused closely on urban planning as a key priority. While the ASUS highlights "integrated master planning and development" as one of the four enablers of urban sustainability, it also highlights a number of ongoing issues currently relating to this field. On the other hand, the NUA is concerned with aspirational pathways to enhance national, urban and territorial planning for the future. Consequently, with their complementary focus on challenges and ways forward, the two strategies are closely aligned and together comprise a useful road map for cities to follow. The table below highlights some of these synergies.

ASUS AND NUA

ASEAN SUSTAINABLE URBANISATION STRATEGY	NEW URBAN AGENDA
Inadequate technical capacity "This barrier refers to the (non-financial) resourc gaps that prevent the implementation of an action such as lack of adequate manpower, technology, technical expertise or materials. ...a lack of professional local staff (e.g. city planners, architects, and engineers) which stymies the development of realistic, detailed, and executable plans. Capacity problems can also be a lot more basic than that, such as language issues (i.e. lack of English) preventing cities from drafting proposals and engaging foreign investors."[86]	**Multiscale connections** "...encouraging cooperation and mutual support among different scales of cities and human settlements, strengthening the role of small and intermediate cities and towns in enhancing food security and nutrition systems... [and] facilitating effective trade links across the urban-rural continuum."[87]
Increasing vulnerability to disasters Increasing vulnerability to disasters: "Cities in AMS [ASEAN Member States] are facing growing threats from climate change, especially flooding.... [R]apid population growth and poor maintenance has led to the deterioration of flood management systems, reducing their functionality. This is a crucial priority for many ASEAN cities.... Some key barriers surrounding the implementation of such actions involve a lack of prioritisation, limited strategic planning and implementation capacity." [88]	**Resilience planning** "...strengthening the resilience of cities and human settlements, including through the development of quality infrastructure and spatial planning, by adopting and implementing integrated, age- and gender-responsive policies and plans and ecosystem-based approaches in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 and by mainstreaming holistic and data-informed disaster risk reduction and management at all levels to reduce vulnerabilities and risk, especially in risk-prone areas of formal and informal settlements, including slums."[89]
Limited future planning "Many cities lack a clear and robust long-term strategy to support the implementation of their sustainable urbanisation actions.... some actions by cities tend to be reactive, addressing only the immediate issues without thinking about more long-term solutions."[90]	**Clear regulations** "...establish legal and policy frameworks, based on the principles of equality and non-discrimination, to enhance the ability of Governments to effectively implement national urban policies, as appropriate."[91]
Urban sprawl "Rapid urbanisation in ASEAN has led to a large share of urban growth involving unplanned, unstructured expansion, with high rates of car use. The uncontrolled expansion of urban development is characterised by low density, segregated land use and insufficient infrastructure."[92]	**People-centred design** "...well-designed networks of safe, accessible, green and quality streets and other public spaces that are accessible to all and free from crime and violence, including sexual harassment and gender-based violence... bringing people into public spaces and promoting walkability and cycling with the goal of improving health and well-being."[93]
Growth of informal settlements "As a result of rapid rural migration, local governments can struggle with supplying sufficient infrastructure, housing and public services resulting in financial and access problems for urban migrants. This has resulted in the expansion of slums and/or informal settlements in and around cities." [94]	**Efficient land use** "...promote integrated urban and territorial planning, including planned urban extensions based on the principles of equitable, efficient and sustainable use of land and natural resources, compactness, polycentrism, appropriate density and connectivity, and multiple use of space."[95] **Community upgrading** "...upgrading of slums and informal settlements, providing high-quality buildings and public spaces, promoting integrated and participatory approaches involving all relevant stakeholders and inhabitants and avoiding spatial and socioeconomic segregation and gentrification."[96]

PROMOTING AN INTEGRATED APPROACH TO PLANNING

National, urban and territorial scales

National, urban, and territorial planning is a central element in any successful sustainability strategy. Many of the challenges facing cities across the ASEAN region, from environmental degradation to the growth of informal settlements, are the product of misconceived or poorly enforced planning capacity and regulations. Planning also needs to bring together a wide variety of sectors and constituencies to avoid contradictory or inequitable outcomes; dysfunctional development is often the direct result of narrowly focused strategies that have favoured certain priorities at the expense of other concerns. Connectivity, for instance, between cities and within them, is a key target for ASEAN. Yet, the roll-out of highways through neighbourhoods and rural areas, a common approach of automobile-centric planning intended to improve mobility, has in some cases paved the way for even more congestion and sprawl.

While it is important that local governments can steer their own development in response to their specific circumstances, national governments have an important role to play in guiding balanced urban development, promoting economic growth and strengthening integration between different cities and regions. Corridor development between different cities and biodiversity networks, for example, typically require planning at the country or regional level to coordinate effectively between different jurisdictions. The overarching authority of central governments, not to mention the resources and technical expertise at their disposal, mean they are often well placed to provide specialist planning support to cities. Furthermore, national policies can help identify such shared priorities as climate change and harmonise responses, ensuring that cities are working together to meet these challenges. Examples include the National Urban Development and Housing Framework (2017-2022) in the Philippines, developed specifically to integrate climate resilience into all levels of planning and urban design through a coherent strategy linking regions, cities and local communities.[97]

> **Land pooling or readjustment is a crucial tool in preventing sprawl while ensuring that sufficient, well serviced land is available to accommodate urban growth and minimise the growth of scattered, poorly integrated settlements.**

However, it is important that national planning connects meaningfully to local needs and opportunities; rather than a top-down or one-size-fits-all approach to urban planning, cities should embrace "locational" strategies tailored to the individual social, economic and environmental context.[98] There are many examples across the ASEAN region of urban development programmes, such as special economic zones (SEZs), that have struggled because they were inappropriately located or poorly thought out. Political and financial investment alone is not enough to turn a city into a success story. The new capital of Myanmar, Naypyidaw, is a case in point; despite significant investments in infrastructure and amenities, its large spatial footprint remains sparsely populated.[99]

To be effective, planning also has to occur across a range of spatial scales, from metropolitan regions to neighbourhoods and districts, laying out a broad territorial vision while giving space for locally specific, community-led decision-making. This often requires a region-wide body to coordinate decision-making, integrating local community schemes into a master plan potentially encompassing multiple urban and provincial jurisdictions. Such a framework has to balance a range of different priorities, including protection for rural landowners from encroachment, a harmonised strategy for infrastructure development and allocation of housing for new migrants and poor residents to prevent the growth of informal settlements in peri-urban areas.[100]

Without coordination at the regional level to direct growth – for example, by ringfencing sensitive ecological areas and allocating contained land parcels

for development to prevent sprawl – urban areas may expand in an incoherent, fragmented fashion that serves to increase segregation and inefficient land use. For example, private developers may exploit the presence of a new highway network to build housing and factories alongside the main highway; this often results in the splintering of rural areas by "superblocks" and ribbons of concentrated development, surrounded by vast tracts of land that are left unserviced and inaccessible due to the lack of secondary roads. Even though these unused areas may be developed at a later date, this lack of integration paves the way for future problems, such as poor connectivity and chronic congestion, as urbanisation continues.[101]

Land pooling or readjustment is a crucial tool in preventing sprawl while ensuring that sufficient, well-serviced land is available to accommodate urban growth and minimise the growth of scattered, poorly integrated settlements, ranging from slums to high-end gated developments. Without proper planning, this peripheral expansion can contribute to increased segregation and inefficient land use. Having identified appropriate areas for development, closely integrated with the existing urban fabric and located well away from sensitive ecosystems, existing parcels of land are bundled together. In this arrangement, private owners are required to release some of their land to fund the cost of infrastructure development but are then able to recoup this loss through the increased value of their remaining plot after services are put into place.

However, in practice, implementing effective planning can be challenging for cities due to limited capacity and expertise. Decentralisation, while an essential step towards locally led planning, has typically not been accompanied by the training and knowledge transfer necessary to enable municipalities to undertake these processes themselves. The challenges can be especially acute in some smaller cities where resources are scarce and the pressures of rapid urbanisation are being felt for the first time. Nonetheless, these are also where effective future planning can deliver the most substantial gains as much of the growth has yet to occur; if forward-looking policies are put into place early on, these can help drive sustainable, low-carbon development.[102]

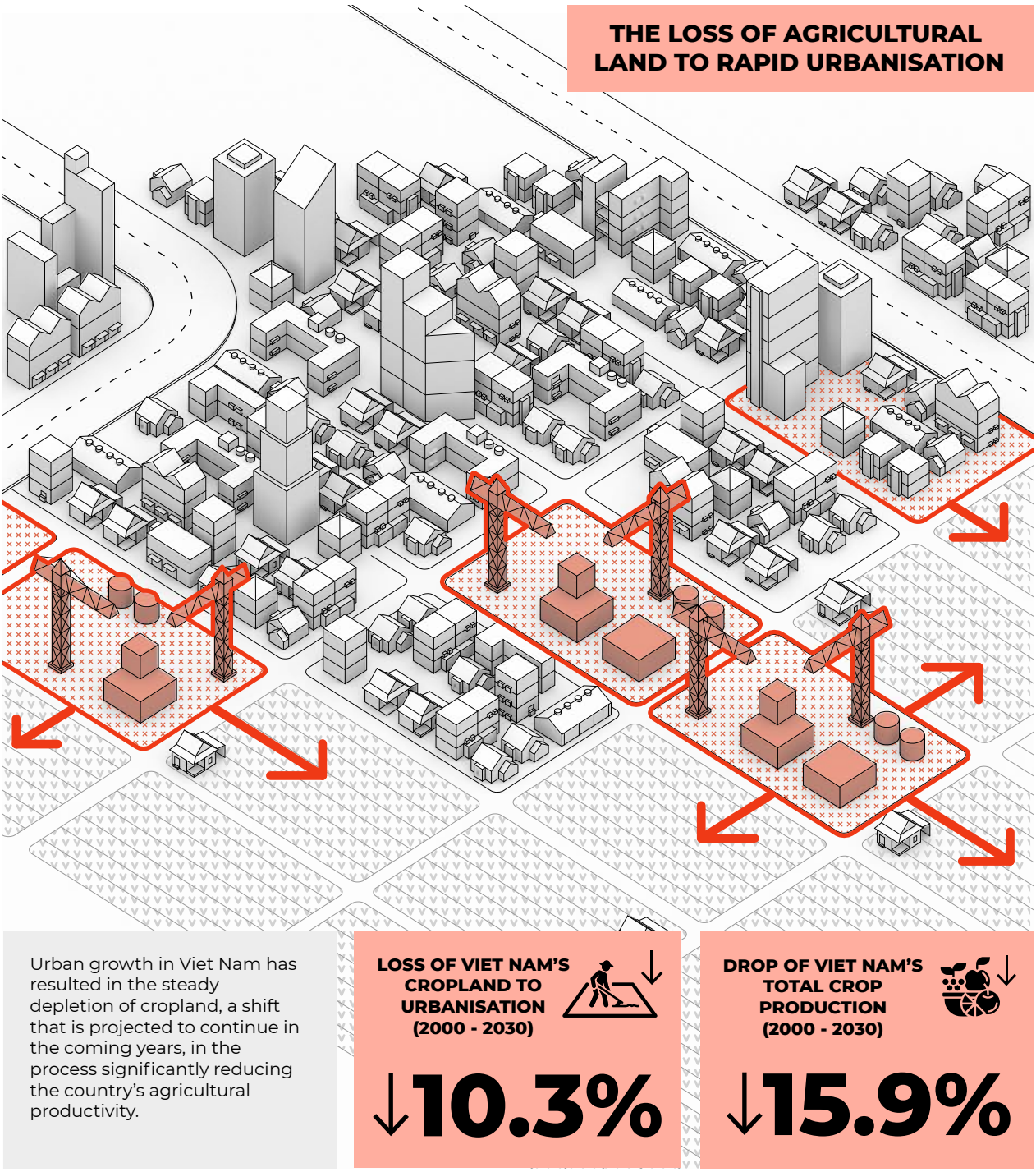
"It is important that national planning connects meaningfully to local needs and opportunities: rather than a top down or one-size-fits-all approach to urban planning, cities should embrace "locational" strategies tailored to the individual social, economic and environmental context.

STRENGTHENING THE URBAN-RURAL CONTINUUM

The need for a mutually beneficial framework

The implications of urban planning and urbanisation are being felt even in remote or underdeveloped regions. Rapid growth across ASEAN has placed increasing pressure on the rural hinterlands of towns and cities, sometimes leading to low-quality housing developments, poorly integrated infrastructure and polluting industries. Former residents of centrally located informal settlements, for example, may be resettled in peripheral developments and struggle to access employment, education and other services. These newly urbanised areas still experience many of the same issues as larger, more concentrated settlements – yet lack the capacity to deal with these effectively. The loss of agricultural land to urban expansion in coming years is likely to be considerable, with some countries especially affected; for instance, projections suggest that 10.3 per cent of Viet Nam's cropland area as of 2000 could be lost to urban growth by 2030, resulting in a 15.9 per cent drop in total crop production.[103] To make matters worse, much of the development in ASEAN is taking place on prime farmland or environmentally sensitive areas, such as floodplains, creating additional costs and vulnerabilities far into the future. The challenges of rapid urban growth can be especially acute in secondary cities where the impacts of expansion on agricultural land can be much more direct and immediate.[104] A similar challenge, given the concentration of urban populations in coastal areas in many ASEAN countries, is how cities can minimise their negative impacts on the surrounding "blue belt" – a particular challenge for the region, given that a number of ASEAN Member States generate significant marine plastic waste.[105]

While a sustainable urban-rural continuum requires an effective balancing of the different needs of both contexts, it is also important to recognise the fluidity and interaction between them. In many small cities across the ASEAN region, for instance, agriculture is still an important source of livelihood for some residents; in Cambodia, while only a very small proportion (0.8 per cent) of the Phnom Penh population earn a livelihood from agricultural self-employment, the proportion is much higher (6.9 per cent) in other urban areas across the country – more than a third of the proportion (19.3 per cent) in rural areas.[106] The benefits of an integrated planning approach to urban and rural areas are wide ranging, from enhanced logistical connections and improved food security to stronger environmental protection at the urban-rural interface.[107] With well-thought-out policies in place, then cities and



SOURCE: UN Environment (2018) Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, UNEP, Nairobi, p.47

countryside can benefit from each other; for example, urban development and migration can help channel resources back to rural areas through remittances and growing markets, in the process boosting agricultural productivity and increasing rural incomes.[108] Without inclusive and sustainable planning, however, negative impacts, such as pollution and sprawl, may prove as damaging to urban economies as local food systems.

The outbreak of COVID-19 has brought renewed attention to the threat of further pandemics and the role that human encroachment on natural habitats could play in accelerating the spread of other deadly zoonotic diseases.[109] In this regard, Southeast Asia is especially at risk due to the region's extraordinary variety of wildlife, including almost 350 species of bats. While comprising one of the region's key assets, this rich biodiversity could expose populations to an array of new pathogens if the destruction of forests and other precious ecosystems continues at its current pace.[110] Although unmanaged urban growth is not the only driver of ecosystem degradation, growing urban demand for land as well as food, timber and other resources are an important factor. Integrated rural

> **More than ever, then, recognising and protecting specific rural areas through effective planning is a central dimension of urban sustainability.**

and urban planning, supported with stronger land use protection measures, could therefore help reduce the possibility of future pandemics linked to the disruption of national habitats. This is especially the case in smaller cities where there is often a higher risk of urban areas having impacts directly or indirectly on remote and untouched ecosystems.[111]

More than ever then, recognising and protecting specific rural areas through effective planning is a central dimension of urban sustainability. In many cases, cities and their surrounding areas are governed by separate jurisdictions, with different powers, priorities and political connections at play. Municipal governments may lack adequate understanding or interest in the challenges facing rural areas, while local communities in turn may not possess the expertise or resources to respond appropriately to the dynamics of urbanisation. Establishing a shared vision that accommodates and reflects these complex realities is essential, given that cities themselves remain heavily dependent on rural areas for food, materials and such livelihood opportunities as agriculture and fishing.[112] In this regard, there have been various initiatives that have sought to reclaim unused land for urban agriculture and food cultivation. In Quezon City in the Philippines, for instance, the local government responded to the outbreak of COVID-19 and the accompanying pressures of lockdown by establishing a taskforce, Grow QC. This action supported the creation of community allotments where residents could grow crops to improve food security and generate livelihoods.[113]

In Cambodia's smaller cities, the proportion of urban residents earning a livelihood from self-employment in agricultural sector remains very high.

PHNOM PENH

0.8%

SMALLER CITIES

6.9%

SOURCE: Kingdom of Cambodia (2020) Report of Cambodia Socio-Economic Survey 2019/20, Phnom Penh, p.112

Addressing capacity gaps in resilience planning through multistakeholder collaboration

A key element in ensuring that municipalities are able to develop local planning strategies is engagement, knowledge-sharing and training with other actors, including city networks, communities, universities, national agencies and international organisations. For example, in the Philippines, UN-Habitat has rolled out a project in partnership with the national and local governments called "Building Climate Resiliency through Urban Plans and Designs." It specifically addresses the challenges they face in designing climate-sensitive urban development strategies. This means not simply undertaking the process on behalf of cities, but providing technical assistance and guidance to help them participate in the planning process.[114]

Embracing the "blue belt" in coastal cities

Across ASEAN, many cities situated by the ocean are poorly integrated with the marine areas surrounding them. However, prioritising nature-based resilience and "blue urbanism" can produce a range of benefits, including the provision of safe, child-friendly public spaces.[115] Singapore, for instance, having destroyed much of the island's mangroves and reefs in the 1960s to make way for land reclamation projects and other forms of intensive urbanisation, has in the last two decades embraced a very different relationship with its seascape. The Chek Jawa wetlands, once slated for redevelopment until public opposition in 2001 brought this to a halt, is now a popular destination for walkers and visitors wishing to access nature[116] – a positive conservation model that other cities in the region could adapt to their own contexts.

Supporting evidence-based planning with participatory digital tools

Comprehensive, participatory data collection is a key element of successful urban planning. In Makassar, Indonesia, frontline health workers manually collected data on COVID-19 infections on their tablets and smartphones; in turn, the data were uploaded to a geospatial platform that visualised the geographic spread of cases across the city. This was used to guide the official response, with such overcrowded and poorly serviced areas as slums identified as viral "stress points." The findings not only helped pinpoint settlements in need of tailored assistance, but may also provide the city with a road map to guide its future development once the pandemic is over.[117] These lessons have the potential to be replicated in other cities also seeking to strengthen their planning strategies to boost their resilience.[118]

PROMOTING SUSTAINABLE URBAN DESIGN

Compact land use, liveability and public health

Sustainable cities are underpinned by good planning. Compact, mixed-use urban spaces can deliver clean and affordable energy and services to residents living in them, countering the view of city populations as wasteful and cities as inefficient. When poorly planned, however, an array of negative outcomes can occur, from widening social inequalities to a large environmental footprint. In Brunei Darussalam, for instance, low density and homogenous housing developments have proliferated at its urban periphery; this has contributed to the development of a dispersed and socially segregated city landscape where, in the absence of an effective public transport system, private vehicle use has soared. Alongside the attrition of the country's biodiversity and green space, this has also meant that only about 5 per cent of its land remains available for development. This is one factor behind the country's promotion of compact urban development in its more recent planning strategy.[119]

Many cities in ASEAN, particularly the largest, present an array of often contradictory different forms. The "super-sizing" urbanism of shopping malls and highways widely associated with Ho Chi Minh City in Viet Nam, for instance, is just one part of a city where the large majority of the population still live in traditional "alleyway neighbourhoods" defined by close-knit social ties and a strong sense of belonging. While not without their own challenges, including the potential for oppressive social control, they are nevertheless notable for their capacity for experimentation, negotiation and renewal. The increasing interest of city officials in improving fire safety and reducing congestion through street widening and other measures has in the process created tensions and risks weakening communal cohesion – an important reminder of the need to carefully consider the social implications of

> **Given the correlation between urbanisation and increased obesity in Southeast Asia, planning interventions have sought to promote more physical activity among residents through improved cycling and pedestrian facilities, as well as the creation of community gyms and playgrounds.**

urban planning in ASEAN cities, regardless of the stated intentions.[120] The experiences of Ho Chi Minh City and other large cities also have relevance for secondary cities as they too seek to develop sustainable solutions to their rapid growth, accommodating density without sacrificing quality of life and the built environment.

The diverse needs of cities and their populations demand a nuanced, multidimensional approach to their design and development. This requires a move away from homogenous and top-down development strategies, including the imposition of globalised architectural styles that are often ill-suited to the local context, towards an approach that actively enables citizens themselves to shape the form and function of their city. For example, in flood-prone urban settlements such as Bangkok, some residents have sought to promote adaptation by working with, rather than against, the reality of rising sea levels through the development of "amphibious" architecture and design.[121] Planning has also evolved beyond a narrow emphasis on infrastructure and economic value to quality of life and well-being, reflected in the greater attention now focused on the provision of green space, accessible amenities and healthy environments. These areas have all too often been overlooked in a context of rapid urban growth across ASEAN. However, various initiatives are now focused on prioritising resilience and well-being in smaller cities through better urban design. In the Lao PDR, for instance, the Asian Development Bank has provided USD120 million in funding for the cities of Kaysone Phomvihane (previously Khanthaboury), Pakse and Luang Prabang to address a variety of issues, including enhanced "streetlife," urban planning improvements and better solid waste management.[122]

"5D" FRAMEWORK remains one of the useful approaches that has been put forward for the ASEAN urban context.

- **DENSITY**
- **DESIGN**
- **DIVERSITY** (OF USE/INCOME)
- **DISTANCE** (TO TRANSIT)
- **DESTINATION** (OF ACCESS)

SOURCE: UN Environment (2018) Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, UNEP, Nairobi, p.45

From the perspective of spatial planning, promoting compact urban development is central to achieving these and other aims, including greater energy efficiency and more affordable service provision. Notwithstanding the challenges of sprawl and peripheral growth, poorly managed densification can also create problems, such as air pollution and congestion. Urban planners therefore need to ensure that development strategies promote accessibility, mobility and social inclusion within their

design. One useful approach that has been put forward for the ASEAN urban context is the "5D" framework – "density, design, diversity of use/income, distance to transit and destination access" – to promote a holistic and well-integrated cityscape with positive outcomes for all.[123] Singapore is a good illustration of how, with the right planning regulations and guidelines in place, high urban density can lead to mixed use, socially diverse neighbourhoods that cater to a wide range of needs.[124] Yet, the experiences of many of its foreign workers, highlighted during the pandemic, have also brought into sharp relief the difference between well-managed density and overcrowding; forced to quarantine in cramped and poorly serviced dormitories, with little opportunity for socially distancing, the virus spread at a much higher rate through the migrant population than among the country's citizens. In response, in September 2021 Singapore announced a raft of new regulations to provide safer housing conditions for migrant workers, including lower occupancy rates, en suite toilets and improved ventilation.[125]

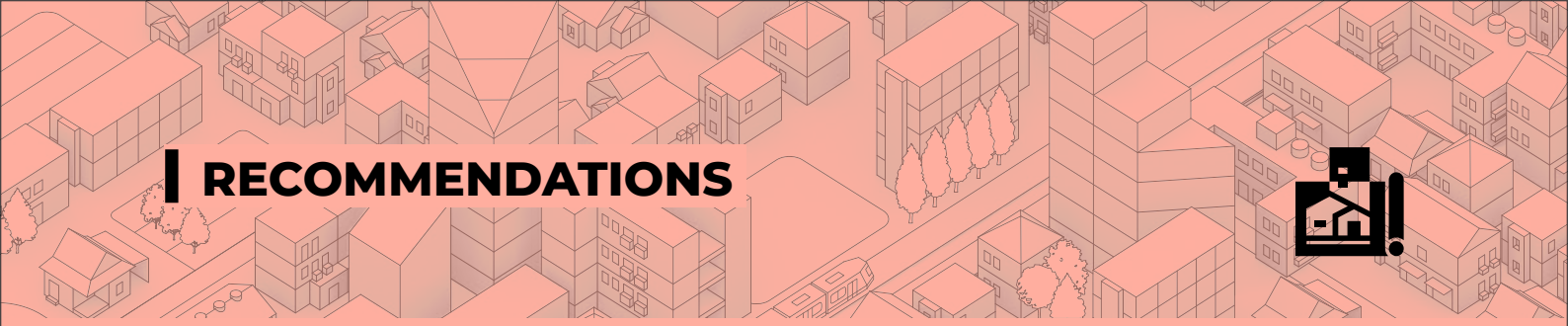
Even before the pandemic, urban planning and public health were closely interlinked. Unplanned urbanisation in Southeast Asia has long been a major factor in the growing prevalence of poor diets, increasing stress, pollution and reduced physical activity, contributing to a rise in non-communicable diseases (NCDs), such as cardiovascular disease, cancer and diabetes, particularly among low-income groups.[126] Across Southeast Asia, the "invisible epidemic"[127] of NCDs remains the leading cause of mortality in the region, contributing to some 8.5 million deaths every year.[128] Given the correlation between urbanisation and increased obesity in Southeast Asia,[129] planning interventions have sought to promote more physical activity among residents through improved cycling and pedestrian facilities, as well as the creation of community gyms and playgrounds. A key element in achieving this is protecting from development valuable greenspace, such as parks and urban forests; in many cities in the ASEAN region, these vital assets have diminished rapidly, with profound implications for physical and mental health. In Ho Chi Minh City, for example, decades of growth have destroyed much of its green area, leaving just 2 square metres per capita today.[130] The lack of green space has been identified as a major contributing factor to heat-related deaths in the city.[131]

BOX 4

FROM WASTE DUMP TO URBAN FARM: TRANSFORMING DISUSED SPACE IN CHIANG MAI, THAILAND

For years, the communities living on the banks of the Mae Kha Canal in Chiang Mai have been actively upgrading their settlements and the city's stagnating waterways. Confronted with the threat of eviction, residents have demonstrated their indispensable role in improving the local environment, mobilising resources and engaging collectively to address a variety of challenges. Despite their extraordinary resilience and strong social networks, however, the outbreak of COVID-19 came as a heavy blow. In particular, those dependent on tourism for their livelihood suddenly found themselves without an income. Facing food shortages, some locals were trying to grow vegetables on the edge of the canal, even though the water is contaminated.

In response, with the help of the award-winning design company JaiBaan Studio, the communities worked together to develop a remarkable solution – the creation of an urban allotment. A nearby plot of disused public land, at the time serving as a dumping ground for solid waste, was identified as a potential location and, following negotiations with local authorities, work began in earnest. Engaging gardeners, scientists, NGOs and volunteer groups, community members successfully transformed this unsanitary site into a thriving shared space. Since its completion, it has not only enabled residents to cultivate vital crops to feed their families, but also served as a hub for education and awareness-raising on food and the environment. The project serves as an inspiring example of how good design, community action and social inclusion can transform a blighted area into a critical public space.[132]



RECOMMENDATIONS

Focus on the development of a more sustainable, mutually beneficial urban-rural continuum:

Besides the significant impacts of poorly planned urban growth in rural areas, the consequences are also felt in cities in the form of sprawl, pollution and weakened food security. Given the competing challenges that urban and rural areas face, not to mention the multiple jurisdictions and governance structures at play, to be effective an integrated approach requires extensive coordination and collaboration. Notwithstanding the importance of autonomous local decision-making, planning policies and investments need to be coordinated between municipalities and provinces in order to balance competing interests and ensure better outcomes for all.

Make planning strategies forward looking, rather than reactive:

Local governments should not only respond to current needs, but also anticipate and plan accordingly. Well-considered and effective urban planning can play a major role in shaping the future of cities and promote far more sustainable outcomes in the long term. This is the case, for instance, in transit planning; rather than attempting to connect scattered settlements to transport networks after the fact, planners can plot out road and rail extensions first in order to guide the development of new housing and promote efficient land use.

Embrace participatory approaches to urban planning:

A long-standing challenge in many cities is the top-down nature of planning interventions, resulting in narrow and inflexible outcomes that frequently fail to reflect local needs. Allowing more space for non-governmental organisations, civil society organisations and communities themselves to engage in the design and development of housing, infrastructure and services is the first step to achieving this. Capacity development, training and consultations are crucial in enabling urban residents to meaningfully engage in these processes – for example, through the involvement of architects, engineers and other professionals as partners to support community-led upgrading strategies that are also technically sound.

PARTNERSHIP AND FUNDING

Cities across the region, including small and emerging urban areas, face increasing pressure to expand their available funding sources to maintain services, build new infrastructure and invest in the future. This includes not only the maintenance and upgrading of existing assets, such as sanitation, roads and health facilities, but also the extension of these services into new areas and the roll-out of such vital resilience measures as flood protection in response to climate change. As urban areas generally depend on a complex mix of central government transfers, private investment and municipal taxes, fees and charges,[133] the challenges they face are also multifaceted – limited access to international funding, dwindling support from central governments in a context of steady decentralisation and inadequate revenue at the local level. Funding challenges for local governments have become even more acute in the wake of COVID-19 as resources have been channelled towards alleviating the pandemic's impacts on public health and the economy.

Both the ASUS and NUA are focused closely on finance as a key priority. While the ASUS highlights "partnership and funding" as one of the four enablers of urban sustainability, it also highlights a variety of funding barriers for cities in ASEAN. On the other hand, the NUA is concerned with a variety of measures for financing sustainable urbanisation. Consequently, with their complementary focus on challenges and ways forward, the two strategies are closely aligned and together comprise a useful road map for cities to follow. The table below highlights some of these synergies.

ASUS AND NUA

ASEAN SUSTAINABLE URBANISATION STRATEGY	NEW URBAN AGENDA
Lack of fiscal capacity "This challenge revolves around the limited budget of cities which hinders them from seizing opportunities to invest in sustainable urbanisation actions. Many cities find it challenging to raise capital for long-term projects due to lack of direct control of fiscal resources."[134]	**Improved municipal revenue collection** "...support appropriate policies and capacities that enable subnational and local governments to register and expand their potential revenue base... through multipurpose cadastres, local taxes, fees and service charges" while ensuring that marginalised groups are not disproportionately affected.[135]
Limited access to alternative funding sources "...cities are often unaware that they can access alternative forms of financing.... [E]ven if they are aware, borrowing from the private sources is not a mainstream concept in Southeast Asia and can be seen as taboo.... [M]any cities find it challenging to fund projects due to poor project formulation, i.e. they do not/ cannot draft a bankable proposal."[136]	**Resource mobilisation** "...context-sensitive approaches to financing urbanization and enhancing financial management capacities at all levels of government through the adoption of specific instruments and mechanisms necessary to achieve sustainable urban development."[137]
Weak incentives for private investors This relates to "the lack of a sufficiently attractive return on investment to encourage investment (particularly by the private sector) – despite potentially large social benefits. Even if overall returns are attractive, unacceptable risks (e.g. uncertainty about demand) can undermine the implementation of actions". [138]	**Targeted assistance for cities** "...mobilize endogenous resources and revenues generated through the capture of benefits of urbanization, as well as the catalysing effects and maximized impact of public and private investments, in order to improve the financial conditions for urban development and open access to additional sources."[139]
Inequitable economic growth "While cities have been engines of growth, the benefits of this growth have not been shared equitably.... [I]ncome inequality has risen and is often higher than in rural areas.... This is not limited to only large cities, several middleweight cities have a higher level of inequality than their capitals."[140]	**Enabling private investment** "...private business activity, investment and innovation are major drivers of productivity, inclusive growth and job creation, and that private investment, particularly foreign direct investment, along with a stable international financial system, are essential elements of development efforts."[141]
	Balanced distribution of financial resources "...support the development of vertical and horizontal models of distribution of financial resources to decrease inequalities across subnational territories, within urban centres and between urban and rural areas, as well as to promote integrated and balanced territorial development. In this regard, we emphasize the importance of improving the transparency of data on spending and resource allocation as a tool for assessing progress towards equity and spatial integration."[142]

ENHANCING FINANCIAL SELF-SUFFICIENCY

Opportunities to generate own-source revenue

One of the most fundamental challenges that cities face is the need for meaningful fiscal decentralisation – affording local governments the autonomy to raise their own revenues through an expanded tax base that reduces their dependence on central funding. While many ASEAN Member States have rolled out decentralisation programmes in recent years, the additional responsibilities have not usually been matched with an equivalent transfer of resources. For smaller cities, there are additional challenges; given that national governments often pursue a "monocentric" funding model that prioritises the largest urban centres, secondary cities are left struggling to secure adequate resources to meet their own challenges.[143] Furthermore, what central funding they do receive is often conditional rather than discretionary, affording them little room to channel spending towards their own priorities. Consequently, there is growing pressure on cities to enhance their revenues and develop a financially sustainable foundation as they continue to expand in the coming years, including the use of innovative subsidies, levies and other mechanisms that, besides generating revenue, promote sustainable practices and behaviours. Examples include "polluter pays" policies that ensure that the expense of cleaning a contaminated area or removing discarded waste are covered upstream through fines and surcharges for the companies or households responsible, thereby recovering costs in the immediate term while also discouraging further abuses. For example, some ASEAN Member States have already put various environmental taxes into place to mitigate the negative impacts of pollution.[144] Congestion fees operate in a similar fashion, promoting shared transit and cycling over private vehicle use in inner urban areas.[145] Another useful tool is land taxes, where the value of the total plot rather than the property is taxed. Besides generating additional revenue, they also incentivise efficient development in urban centres and reduce the incentives for speculative land hoarding.

"

The Philippine City Disaster Insurance Pool was built to allow smaller cities in the disaster-prone country to combine their risks in a single fund to secure insurance from earthquakes and typhoons, providing them with coverage that might have been difficult for individual cities to secure on their own.

However, while increased revenue is crucial for promoting urban sustainability, particularly for smaller cities where there is often very little public funding available, it is important to look beyond the immediate problem of financial shortfalls to other resource gaps. Many cities and communities face challenges not only in securing funding, but also in planning and implementing appropriate, cost-effective programmes. Furthermore, despite decentralisation, it is often the case that cities are constrained by hierarchical governance structures that actively discourage innovation or autonomous policymaking. A key element in resource mobilisation for cities is empowering local governments with the ability to successfully identify priorities, raise funds to address them and allocate these resources in the most effective way possible.[146]

Intercity resource sharing is another approach that urban centres can adopt to deliver services and infrastructure in the context of decentralisation. When successfully designed, these arrangements can provide smaller cities in particular with the opportunity for more extensive, affordable provision through partnerships. One example of a model built on multicity collaboration is the Philippine City Disaster Insurance Pool. This was designed to allow smaller cities in the disaster-prone country to combine their risks into a single fund in order to secure insurance from the damage caused by earthquakes and typhoons, providing them with coverage that might have been difficult for individual cities to secure on their own.[147]

BEST PRACTICES IN FINANCE

Developing innovative structures to attract multistakeholder funding

Khon Kaen, a secondary city in northeastern Thailand, has developed an ambitious revitalisation strategy to tackle the challenges of economic stagnation, water shortages and climate change. To strengthen its financial autonomy and develop multistakeholder partnerships, it established a municipal corporation in 2018, the Khon Kaen Transit System Company Ltd., the first of its kind in the country. With seed funding from the Khon Kaen Think Tank, a non-profit set up by local business leaders, it has been able to attract significant investment from private sector actors to launch its activities.[148] While the city's efforts are ongoing, its approach offers a pioneering model for other cities facing similar struggles and straitened finances.

Focusing on capacity development as well as funding

Ensuring that the necessary skills and knowledge are in place to attract, manage and prioritise investments is as important as the funding itself. For example, the Asian Development Bank-managed Cities Development Initiative for Asia (CDIA) provides secondary cities with much needed technical expertise and resources to design bankable project proposals to access funding. Although some of its projects are ultimately financed by national governments, a significant number of these go on to receive substantial loans from international agencies. For example, following a CDIA study on climate adaptation in the small Cambodian cities of Battambang, Kampot, Kratie and Chhlong, some USD50 million in loans were secured from the Agence Française de Développement to support a major programme there.[149]

Pooling limited resources through city partnerships

For smaller cities in particular, where funds and capacity may be limited, partnering with other cities has the potential to create more cost-effective service and infrastructure provision. One model developed in Indonesia is the Kartamantul Joint Secretariat established by three neighbouring local governments (Yogyakarta, Sleman and Bantul) to adapt to the devolution of responsibilities from provincial to regional governments enacted in 2001. Together, these local authorities share a bus system, drainage, waste disposal facilities and a water treatment plant, resulting in far more effective service provision than they would have achieved alone.[150]

INCREASING BANKABILITY

Loans, investment and public-private partnerships

Alongside the difficulties cities face in generating sufficient revenue, many also struggle to secure the loans and investment they need to fund infrastructure and economic growth. This is the result of a range of factors, including the general focus of international financial institutions on country-level agreements, as well as the preference of some investors for large-scale megaprojects over smaller-scale programmes. Besides the challenges of ensuring that adequate levels of funding for local governments are in place, there are also significant issues around their ability to develop "bankable" projects and engage effectively in urban development projects. Cities need not only money, but also knowledge and expertise to successfully prioritise competing issues, identify appropriate stakeholders as partners and develop economically feasible proposals that can be practically implemented on the ground. Without this capacity in place, municipalities may fail to realise the full benefits of their investments.

One area that is now relatively widely deployed in larger cities across the ASEAN region is public-private partnerships (PPPs). The potential benefits can be considerable for smaller municipalities with limited budgets; they can outsource some of the expenditure to businesses, which in some cases may have more resources at their disposal than such municipalities. Yet, given the complexity of the arrangements, there are also dangers and vulnerabilities of which local governments need to be properly aware when brokering agreements. This is particularly the case with PPPs due to the need to balance equitable service provision with sufficient profit generation for private investors; without clear regulations in place, corporate providers may charge higher rates than municipalities and exclude low-income communities from their coverage. PPPs are also better suited to some services than others; for example, wastewater treatment and sewerage can be a challenging sector in which to develop these, as users are less willing to contribute to the upkeep of these services.[151]

Strengthening the capacity of local governments to design and implement collaborative agreements with the private sector is therefore a key area on which to focus.[152] One way to support smaller cities with the administrative burden of developing collaborative frameworks from scratch is for the central government

to establish standardised contracts for small-scale PPPs that cities can apply to relatively straightforward agreements.[153] Specialised central agencies can provide critical support in other ways as well. For example, in the Philippines, the central government's PPP Center is engaging municipalities to help them "bundle" together waste-to-energy projects to make them more appealing to private investors.[154] Similarly, Indonesia has a number of national government bodies to support local governments with the development of financially feasible PPPs, including the Indonesia Infrastructure Guarantee Fund, to provide investors with greater security.[155] Yet, the focus of these organisations has generally been on national-level investments, leaving a significant unfilled gap in terms of capacity development for cities to develop PPPs themselves.[156]

Many cities also contend with limited access to credit and loans in the area of international development finance. Despite the diverse range of sources potentially available, such as global climate funds and multilateral loans, the volume of resources channelled directly into city-level projects has historically been low.[157] Typically, funding agreements have been brokered between international institutions and national governments, rather than directly with cities, especially smaller ones; this has often left them dependent on the willingness and ability of central government to prioritise local needs. Furthermore, international finance is frequently geared towards major investments at a scale far beyond the means of small cities: the USD520 million allocated by the ASEAN Infrastructure Fund between 2011 and 2019, for instance, went into just nine projects with a total portfolio size of approximately USD3 billion.[158] Despite the fact that relatively small sums can deliver significant impacts in smaller cities, these are often not seen to be as attractive to investors as more costly, large-scale projects, particularly because the associated planning and administrative costs may be similar. This can lead to an overemphasis on expensive megastructures over low-cost, technologically simple solutions that could be highly effective in many urban contexts.

This is despite the significant opportunities that the rapidly expanding sector of social bonds potentially offers for positive urban investments. Companies are integrating SDG indicators into their programmes to raise funds across a range of different sectors; for example, SDG Accelerator Bonds provide cheaper sources of funding for projects that will drive sustainable development. Social bonds have been developed not only by global corporations and multilateral

$500 MILLION

was allocated by the ASEAN Infrastructure Fund between 2011 and 2020.

The investment however, **went into just nine projects** with a total portfolio size of approximately $3 billion, despite the fact that relatively small sums can deliver significant impacts in smaller cities.

Investing in small-scale projects are often not seen to be as attractive to investors as more costly, large-scale projects, particularly because the associated planning and administrative costs may be similar.

SOURCE: Asian Development Bank (2020), "ASEAN Catalytic Green Finance Facility"

organisations but also domestic financial institutions in various ASEAN countries.[159] Notwithstanding the growing field of SDG bonds, however, there are a range of challenges for cities seeking to develop SDG-aligned projects in the ASEAN region. These include a widespread lack of integration of SDGs into project planning, capacity gaps and the difficulties of ensuring that clear measurable indicators are in place.[160] The dilemma for many cities, then, is a vicious cycle between limited capacity and lack of funding; without the necessary administrative structures and technical expertise in place to support an enabling environment for investment, their prospects of improvement remain slim.

While multilateral funding allocations for upgrading and poverty reduction are still predominantly channelled through central governments, municipal bonds also have potential to deliver significant benefits across the region, provided that the hurdles to access and implementation are addressed. In Indonesia, where an

While mass transit systems have brought huge benefits to large cities, smaller cities are often better placed to channel their resources to active transport modes such as cycling or walking, shared private vehicles such as jeepneys and conventional bus services.

active green bonds market is already well established, the possibility of local governments being able to secure credit through these financial instruments to fund investments in such areas as renewable energy is considerable. In principle, cities should be able to link investments in areas such as climate resilience to international commitments, such as the Paris Agreement and the Sendai Framework for Disaster Risk Reduction 2015-2030. By crafting local resilience efforts in line with internationally agreed standards, they could then be eligible to include their investments as part of their country's nationally determined contributions (NDCs), allowing them to access concessional finance while creating an enabling environment for domestic private investors to fund long-term projects.[161] However, the complexity of the bureaucratic processes required to prove eligibility, and the need for interested local governments to demonstrate high credit rankings to investors, are constraining the development of these opportunities. Simplifying these processes, as well as clear messaging from the national government, could help provide local investors with greater confidence in lending directly to cities.[162]

Nevertheless, there is increasing recognition among international donors and development agencies of the value and opportunity to channel funding more directly to cities and subnational governments. In this regard, the Asian Infrastructure Investment Bank (AIIB) published its Sustainable Cities Strategy in 2018 to outline its urban-focused approach to financing across Asia, involving a variety of financing mechanisms, including government funding, private investment and PPPs.[163] The mandate of AIIB places particular focus on the complex contexts of cities and their need for holistic multisectoral programmes. It also explicitly intends to work with smaller cities and in the medium term those facing the most challenging conditions. In 2019, in partnership with the government of China and a number of regional and international donor agencies, AIIB was involved in the creation of the Multilateral Cooperation Center for Development Finance (MCDF).

AIIB and MCDF are now poised to work with ASEAN to support Southeast Asia's post-pandemic recovery through targeted investments in infrastructure and connectivity.[164]

An important element in the AIIB Sustainable Cities Strategy that is relevant for all urban financing in ASEAN, regardless of how the funding is channelled, is its prioritisation of investments that are "financial viability-driven."[165] Put simply, cities should invest in infrastructure that is locally appropriate and affordable. For smaller cities in particular, there is a danger that simply importing successful solutions from elsewhere could prove far less cost effective in their own contexts. Given the very different scales at play, municipalities should ensure that infrastructure programmes are financially feasible and make the best use of existing resources. For example, while mass transit systems have brought huge benefits to many large cities in the region, smaller cities are often better placed to channel their resources to active transport modes, such as cycling or walking, shared private vehicles (e.g. jeepneys) and conventional bus services.[166] Donors accustomed to funding larger megaprojects also need to become more responsive to such small-scale, pragmatic investments as these.

An important element in Asian Infrastructure Investment Bank (AIIB)'s Sustainable Cities Strategy that is relevant for all urban financing in ASEAN, regardless of how the funding is channelled, is its prioritisation of investments that are "financial viability-driven". Put simply, cities should invest in infrastructure that is locally appropriate and affordable, particularly for smaller cities.

BOX 5

THE GROWING IMPORTANCE OF GREEN FINANCE

Climate change adaptation and disaster resilience comprise a clear funding priority across the ASEAN region, both in terms of disbursements by national governments and international organisations. All ASEAN Member States are signatories to the Paris Agreement, with each country bound to deliver NDCs through climate adaptation and mitigation measures. Importantly, Article 9 of the text also commits developed countries to financially support developing countries in these efforts, thus ensuring a clear financial framework for programmes to be funded.

However, the complexity of the arrangements surrounding loans and other financing frameworks can create barriers even between national and local governments. This can mean that those cities with the most knowledge and resources at their disposal end up as the main beneficiaries, while others are left behind. For example, the People's Survival Fund, established in the Philippines in 2012 to provide additional financial assistance to cities to combat climate change, has provided support to only six municipalities in the country despite the multitude of local governments contending with these same challenges. Notwithstanding the positive intentions of the programme, its strict eligibility requirements and complicated administrative processes mean that in practice most cities are unable to access funding through it.

Despite the challenge that smaller cities in particular face in terms of attracting green investment, some recent initiatives show that in fact there are significant opportunities to support low-carbon transitions in secondary urban centres as well, particularly when external funding and expertise are leveraged. For instance, the small city of Bavet in Cambodia, with a population of about 42,500 and a per capita GDP of USD1,621, has recently benefited from the construction of a solar power plant by the Singaporean company Sunseap with financial support from the Asian Development Bank. The project is estimated to reduce emissions by about 5,500 tons of carbon dioxide equivalent annually and provide Bavet with about a quarter of its energy needs, reducing power cuts in the city and providing the local community with a source of employment.[167] Nevertheless, as with most other urban programmes in the region funded by international donor agencies, the funds are still primarily channelled at the country level rather than through cities, leaving the latter dependent on the support and political will of national governments to secure these resources.

However, as the landscape of green finance in the region continues to evolve, the current barriers preventing local governments from accessing credit markets may change. One promising area is the potential of municipal green bonds. In the Philippines, for instance, the LGU Guarantee Corporation previously offered some credit enhancement options to local governments and was able to provide guarantees for a number of climate mitigation projects. Although it was dissolved in 2019, some of its functions were transferred to the organisation Philguarantee, and it is possible that more opportunities could emerge in the future.[168] As climate change becomes a more visible policy concern, the importance of green bonds will only increase, presenting new opportunities for cities and municipalities to access affordable finance.[169]

However, to go one step further in terms of delivering accessible pro-poor climate funding, there is also the potential for international donor funds to link directly with local community development funds. Providing financial assistance to these groups to invest in strengthening resilience and settlement upgrading could prove highly effective, ensuring that resources are channelled directly to local priorities and needs. These frameworks would also empower poor urban residents, providing them with a means to participate as partners rather than passive recipients of externally designed and delivered programmes.[170]

DELIVERING INCLUSIVE FINANCE

Community funds, pro-poor credit and participatory budgeting

Underlying all the financial pressures facing cities is the exclusion of the urban poor, even in cities that have enjoyed rapid economic growth and attracted an abundance of investment. The persistence of profound inequalities has left low-income neighbourhoods sidelined from the benefits of their city's development, with limited support mechanisms or pro-poor subsidies in place to assure essential needs or survival of a sudden shock. In this context, particular attention needs to be given to how poor communities can be supported with sustainable funding. Currently, the barriers for accessing secure, affordable loans for poor urban households are considerable; this exclusion forms a major obstacle to their capacity to expand livelihoods, upgrade housing or provide a safety net in the event of an emergency.

As for national disbursements to local governments and communities, a widespread problem not confined to Southeast Asia alone is the tendency for "elite capture" – the allocation of public funding to the specific priorities of politicians, well-connected corporations and richer residents at the expense of low- and middle-income residents. To counter this tendency, participatory budgeting can support more equitable and transparent distribution of resources by empowering communities to play a decisive role in proposing projects and determining where local spending is channelled. The value of this approach in promoting inclusive, accountable municipal finance has been widely demonstrated, but to be meaningful it requires the continued involvement of civil society organisations and citizen-led groups independent of local authorities. In Indonesia, where it is known as musrenbang – a process of community-led discussions and decision-making first practised in cities two decades ago, building on established practices of consensus-building in Indonesian society – the government embraced participatory budgeting and formalised it as part of its broader move towards decentralisation. Yet, leading community organisations have argued that this process of mainstreaming has transformed citizen-led activism into a primarily administrative mechanism, weakening the autonomy of civil society and their ability to challenge local governments.[171] To promote truly inclusive outcomes then, cities need to ensure that their expenditure is directed by genuinely participatory and citizen-led platforms.

Poor households also struggle to access loans from the private sector. With many employed informally and located in slum settlements lacking secure land tenure, meaning that their property cannot be used as collateral, they are typically ineligible for loans from commercial banks and credit providers despite their central contribution to local and national economies. As a result, many private organisations now targeting

While drawing their strength from their localised structure and compact size, typically ranging between 10 and 20 members, community development funds are able to mobilise far greater resources than individual households could muster alone. Many also benefit from being scaled up into citywide networks, expanding the pool of available resources for members to draw on while providing stronger oversight and accountability.

Among other benefits, the relatively simple administrative procedures surrounding microfinance, compared to the onerous requirements of commercial banks, can support greater access for poor households.

In Lao PDR, several microfinance mechanisms have been put in place to support poor households:

127
MICROFINANCE INSTITUTIONS

250,000
POOR HOUSEHOLD CLIENTS

$88 MILLION
OF LOAN PORTFOLIO

SOURCE: Lao PDR (2021) National Progress Report on the Implementation of the New Urban Agenda

poorer households are predatory lenders offering loans at inflated interest rates that can drive families and individuals into even deeper destitution. Nevertheless, when provided equitably and sustainably at affordable rates – an approach epitomised by such pro-poor foundations as the Grameen Bank in Bangladesh – microfinance can deliver benefits. Among other benefits, the relatively simple administrative procedures surrounding microfinance, compared with the onerous requirements of commercial banks, can support greater access for poor households. In the Lao PDR, for instance, there were some 127 microfinance institutions operating in the country as of 2017 with almost 250,000 clients, of whom a quarter were active borrowers with a total loan portfolio of USD88 million.[172]

Similarly, digital payment solutions have a major role to play in driving greater financial inclusion across the ASEAN region, particularly for poor households and smaller businesses unable to access traditional credit systems.[173] However, while e-finance options are increasing across the region, the sector nevertheless remains underdeveloped. To fully realise their potential, national governments and cities need to invest not only in developing the necessary infrastructure, but also work with citizens to boost digital skills and ensure popular uptake of these new platforms. Crucially, this means establishing multistakeholder partnerships with communities and civil society groups to ensure that the different elements of a successful digital finance system are in place. As with microfinance more generally, there is the potential that, without clear regulations and ethical safeguards in place, e-finance could be dominated by unscrupulous lenders with high-interest loans that drive poor households into deeper levels of debt.

However, credit cooperatives, community savings groups and other pro-poor funding models can drive substantive change in upgrading and improving urban areas. One key strength of community finance is that, by and large, the focus extends beyond individual households to bring collective benefits. It can also offer a diverse array of credit and loan packages that are adaptable to the different needs and contexts of the urban poor across the region; for instance, to support enterprise development (Thailand), boost incomes from communal agriculture and informal transport services in peri-urban areas (Cambodia) and provide disaster-affected communities with recovery funds to rebuild their homes and livelihoods (Philippines). While drawing their strength from their localised structure and compact size, typically ranging between 10 and 20 members, community development funds are able to mobilise far greater resources than individual households alone could muster. Many also benefit from being scaled up into citywide networks, expanding the pool of available resources from which members can draw while providing stronger oversight and accountability.[174]

These community-based funding models can be integrated even into a national-level federation, potentially providing stronger public visibility and official recognition. For instance, international development projects have increasingly focused on engaging poor communities as partners and loan recipients due in part to the significant returns that relatively modest sums can deliver and the demonstrated ability of poor households to repay with the right structures in place. However, while there are opportunities to integrate community finance into formal systems, it is important that their "bottom up" social mechanisms are not weakened by hierarchies and power imbalances. The strength of community finance derives as much from its processes of collaboration, knowledge-sharing

Over the course of 15 years (2003 - 2018) and in collaboration with their community networks and local governments, Thailand's Baan Mankong ("Secure Housing") Programme delivered the following:

+1,000
HOUSING PROJECTS

+400
PARTICIPATING CITIES

+105,000
POOR HOUSEHOLD CLIENTS

SOURCE: CODI (undated) "Citywide housing for all, planned and built by people"

and mutual support as the funding generated as a result. Strikingly, community development funds are especially potent in such countries as Thailand, where the majority of funds are mobilised from among community members themselves rather than from international or local donors, as is the case elsewhere.[175]

Indeed, one of the best-known examples of innovative financing for community-driven housing development in the region is Thailand's Baan Mankong ("Secure Housing") programme, which channels government subsidies and soft housing loans directly to community cooperatives in a community-led, bottom-up approach to provide secure, permanent land and housing for the urban poor. The programme was launched in 2003 and is implemented by the Community Organizations Development Institute, an independent public institution under the Ministry of Social Development and Human Security. With help from Baan Mankong, and in collaboration with their community networks and local governments, by 2018 poor communities had designed and built more than 1,000 housing projects in more than 400 cities, providing secure land and decent housing to more than 105,000 urban poor households in the process.[176] Although funded entirely by the national government, Baan Mankong is notable for its highly localised and people-driven approach to project design and delivery. The programme's collaborative nature and focus on citywide housing solutions has enabled it to succeed in a range of urban contexts, including smaller cities and towns. The programme unlocks the immense development force of poor communities using the tool of flexible finance, allowing communities that no bank would touch to access housing and land loans that are then repaid over time. The programme's effectiveness, compared with most top-down housing delivery models, is underpinned by the fact that it mobilises collective community resources and draws on the skills and social networks of residents to address their own housing needs at scale. The programme's ongoing work has provided cities across the region with an inspiring set of best practices for sustainably financing housing and upgrading for the urban poor.

RECOMMENDATIONS

Develop innovative ways to improve municipal income:

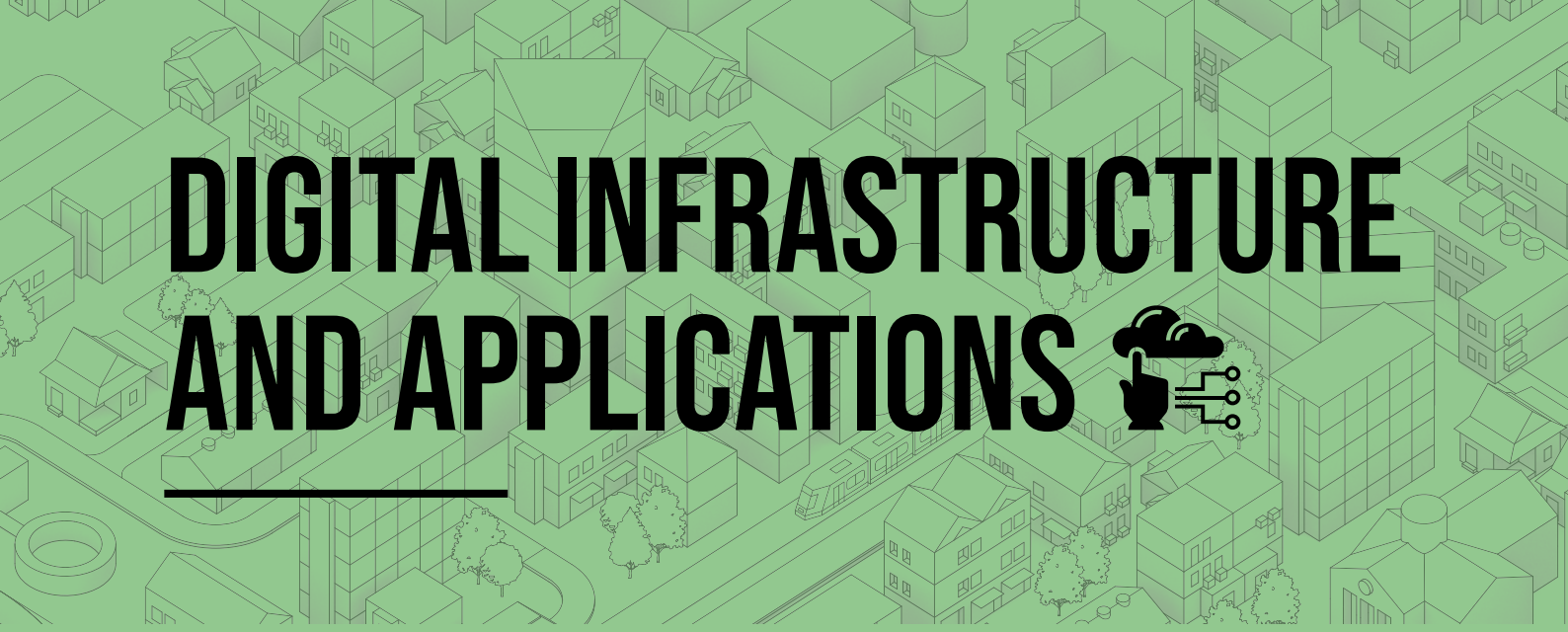
In a context of ongoing decentralisation and impacts from COVID-19, cities face growing financial pressures. However, local governments can develop and improve their income in ways that also support their transition to greater sustainability; for example, through progressive taxation and targeted pricing structures that penalise negative behaviours such as “polluter pays” penalties to discourage environmental degradation. Other examples include congestion charges assessed on private road users at peak traffic times and land taxes for unused plots to reduce speculative hoarding.

Focus on strengthening capacity as well as funding:

A key challenge for many cities is their limited access to financial markets, with most still heavily dependent on the central government to broker international donor assistance and credit. While empowering local governments to have greater autonomy to raise loans and broker agreements is an important step, this needs to be accompanied by significant capacity development to allow effectively identifying priorities, designing “bankable” projects and channelling resources into cost effective programmes. For smaller cities in particular, it is crucial that projects are economically feasible and locally appropriate, rather than replicated from other contexts. If this process of capacity development is left out, then there is a real risk of poor budgeting and potentially ruinous investments being made.

Expand affordable finance options for the urban poor:

A key driver of inequality, even in cities that have enjoyed rapid economic growth, is the fact that many of the urban poor continue to be denied access to mortgages, loans and other forms of formal financial assistance from banks. While many such persons may be forced to borrow from predatory private lenders out of desperation, credit cooperatives, community savings groups and affordable microfinance all offer sustainable and pro-poor alternatives with high rates of repayment and positive long-term impacts. Local governments can support these processes by improving tenure security for low-income households, giving them a measure of assurance to invest in their homes and livelihoods, as well as committing to inclusive mechanisms, such as participatory budgeting, to ensure that the priorities of the poor are prioritised in municipal spending.



DIGITAL INFRASTRUCTURE AND APPLICATIONS

Across ASEAN, there is increasing focus on the development of "smart" cities, reflected in the ASUS and other strategic policies. Smart initiatives can encompass a range of interventions, however, from costly investments in sensors, artificial intelligence (AI) systems and other high-tech infrastructure to relatively simple smartphone apps. With the right systems in place, balancing appropriate and financially feasible technologies with participatory governance and human rights protection, ASEAN cities have the potential to transform many aspects of urban living. Yet, the emerging opportunities of these new technologies also bring new challenges, particularly for smaller cities that may require a different approach to those widely deployed in larger cities. It is also important that smart city programmes incorporate clear targets and indicators to ensure that they directly address the needs and priorities of citizens, rather than becoming an end in themselves. Any programmes should include transparent mechanisms for monitoring real-world impacts, with adequate data collection and measurable outcomes to determine their performance.

Both the ASUS and NUA are focused closely on smart cities as a key priority. While the ASUS highlights "digital infrastructure and applications" as one of the four enablers of urban sustainability, it also highlights a number of requirements that they should meet to be truly sustainable. The NUA also frequently references information and communications technologies (ICTs), digital technologies and smart cities in the context of urban sustainability. Consequently, with their complementary focus on challenges and ways forward, the two strategies are closely aligned and together comprise a useful road map for cities to follow. The table below highlights some of these synergies.

ASUS AND NUA

ASEAN SUSTAINABLE URBANISATION STRATEGY	NEW URBAN AGENDA
Increasing cyber-security threats "Rapid digitisation in cities has increased the threat of cyber-security crimes. These crimes tend to target the confidentiality, integrity, and availability of data, and exacerbates traditional trans-border crimes, such as human trafficking, drug dealing, and piracy.... Furthermore, most people in the region are not fully aware of cyber-risks."[177]	**Strengthened governance** "...promote the development of national information and communications technology policies and e-government strategies, as well as citizen-centric digital governance tools, tapping into technological innovations, including capacity-development programmes, in order to make information and communications technologies accessible to the public... broadening participation and fostering responsible governance, as well as increasing efficiency."[178]
Weak infrastructure "Before digital solutions can be introduced at scale, proponents should ensure that the city has the appropriate network and communications structures for effective implementation. Common problems in this area include large swathes of 'dead zones' with no mobile connection, slow and unreliable internet bandwidth, infrequent electricity supply leading to unusable computers, weak integration between various data sources."[179]	**More efficient service delivery** "...adopting a smart-city approach that makes use of opportunities from digitalization, clean energy and technologies, as well as innovative transport technologies, thus providing options for inhabitants to make more environmentally friendly choices and boost sustainable economic growth and enabling cities to improve their service delivery."[180]
Disruptive change "A... challenge related to the growth of digital technologies is managing the potential disruption in the labour market. Technological advances such as automation and AI [artificial intelligence] will require a radical shift in education and training.... Women could be particularly impacted by these changes."[181]	**Enhanced planning** "The use of digital platforms and tools, including geospatial information systems, will be encouraged to improve long-term integrated urban and territorial planning and design, land administration and management, and access to urban and metropolitan services."[182]
Lack of digital skills and knowledge "...cities as well as national governments often lack the technical know-how as well as resources to provide the population with adequate digital training, for example a lack of teachers or trainers with adequate digital skills themselves. There can also be significant shortcomings on basic ICT infrastructure required."[183]	**Open and accessible digital platforms** "...foster the creation, promotion and enhancement of open, user-friendly and participatory data platforms using technological and social tools available to transfer and share knowledge among national, subnational and local governments and relevant stakeholders, including non-State actors and people, to enhance effective urban planning and management, efficiency and transparency through e-governance, approaches assisted by information and communications technologies, and geospatial information management."[184]
Siloisation and limited information sharing "Cities struggle with a number of information failures when it comes to employing digital solutions.... [T]here is a tendency to gravitate towards new, often expensive technology instead of utilising already existing ones more effectively. This is exacerbated by a lack of coordination between city agencies....This has led to instances where, despite certain departments already having data or other equipment in place, it cannot be accessed by other agencies."[185]	**More inclusive and integrated data** Support ..."the collection, analysis, standardization and dissemination of geographically based, community-collected, high-quality, timely and reliable data disaggregated by income, sex, age, race, ethnicity, migration status, disability, geographic location and other characteristics relevant in national, subnational and local contexts."[186]

REALISING THE BENEFITS OF SMART URBANISATION

Transformative technologies and big data

Smart city solutions have been a major policy focus in recent years across the ASEAN region and could, if appropriately designed and implemented, support improved urban management and service delivery in the region. Different strands of smart city development work in order to enhance urban efficiency in multiple areas. Land use regulations and environmental resilience, for instance, can be refined through the collation and analysis of satellite imagery, sensors and crowdsourced information to create a detailed geospatial database. Urban services can also be strengthened through the deployment of wireless networks and real-time data analysis to address, far faster and more effectively than before, such "old world" problems as leaking water pipes. In addition, smart tools can improve the logistical aspects of urban programming, such as financial management, creating more streamlined and integrated budget and spending flows.[187]

One area where smart technologies can enhance service delivery is in the collation and synthesis of "big data" from a range of different sources; for example, traffic flow prediction from smartphone GPS tracking or weather forecasting from emerging meteorological patterns. The latter is especially relevant for many cities across ASEAN seeking to strengthen their resilience to natural disasters and the impacts of climate change. In Baguio, a city in the Philippines of about 350,000 people that is regularly exposed to typhoons and heavy rain, a smart flood early warning system is being developed that, among other components, will include a real-time data capture system across four rivers in the city.[188] Importantly, though, the project seeks to expand its data beyond these technical inputs to encompass community surveys and interviews with women and other marginalised groups. The hope is that, by gathering extensive information on gender and inclusion, the system will deliver better outcomes for poor communities by recognising the social dimensions of vulnerability.[189]

The fact that much of the region is still projected to continue rapidly urbanising for decades to come means that the dividends of investing in these approaches now could be considerable. Furthermore, the already rapid pace of change in ASEAN cities has been accelerated by the COVID-19 pandemic. Although some aspects of day-to-day life may revert to the "old normal" predating the pandemic, many of the changes in governance, work and consumption that it has ushered in will remain. As the region begins its recovery, governments

will need to consider how the potential benefits of this transformation can be fully realised. It is essential to ensure that any smart programmes are appropriate and socially responsive – otherwise, they risk becoming technocratic interventions rather than opportunities for genuine innovation and improvement. One barrier at the local level, for instance, particularly in smaller cities, is that there is often limited knowledge or engagement in digital technologies among officials; addressing this gap through training and awareness-raising initiatives is therefore an essential element for driving digital innovation.

BEST PRACTICES IN DIGITAL TECHNOLOGIES

Promoting "bottom up", locally appropriate digital technologies that enable participation from citizens themselves

One example is Qlue, an application first piloted in Jakarta, to enable users to report poorly operated or inadequate services in the city directly to authorities. By providing a platform for users to highlight problems, such as undisposed water, potholes, blocked drains and broken street lights, it enables citizens to upload photographs and monitor ongoing progress of the problem. Since its launch, Qlue has been uploaded by hundreds of thousands of Jakartans, providing an important means to ensure accountable and responsive governance in the capital.[190]

Ensuring smart initiatives are appropriate and practical for local urban contexts

As many digital technologies are initially designed and implemented in large, relatively affluent urban centres, it is not always the case that they can be transplanted wholesale to smaller or less developed cities elsewhere. Qlue again provides an interesting example in this regard, based on the organisation's experience of expanding its application beyond Jakarta. While it has been successfully adopted in dozens of other cities in Indonesia, the disparities in infrastructure, connectivity and digital literacy across the country meant that uptake in some areas was much lower. Consequently, Qlue developed an index to assess the readiness of different regions to adopt smart city approaches, depending on local conditions, to guide their programmes.[192]

Embracing the possibilities of knowledge exchange and collaboration to promote smarter cities

Given that the development of smart cities is still evolving, the importance of sharing information on best practices and lessons learned is crucial to guide future policies and investments in this area. Cities have an important role to play in facilitating this through collaborative partnerships, knowledge-sharing platforms and other forms of exchange. One example is a partnership between Singapore, Jakarta and Cauayan City in the Philippines to "digitally twin" smart city projects to promote knowledge-sharing.[191] This provides a potentially useful model for other cities in the ASEAN region to replicate.

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One barrier at the local level, for instance, particularly in smaller cities, is that there is often limited knowledge or engagement in digital technologies among officials: addressing this gap through training and awareness raising initiatives is therefore an essential element in driving digital innovation.

TACKLING THE DIGITAL DIVIDE

Equitable technological access and upskilling

The ASEAN Smart Cities Network's 2018 ASEAN Smart Cities Framework outlines a holistic vision of sustainable, inclusive urban development; "a smart city is also equivalent to a smart sustainable city, promoting economic and social development alongside environmental protection through effective mechanisms to meet the current and future challenges of its people, while leaving no one behind."[193] In principle, this is an important corrective to the narrowly "technocentric" vision of smart cities that, while focused on the latest digital tools, overlooks the needs and sensibilities of urban residents themselves. However, while national and local governments need to promote the realisation of "people-smart" cities – where the participation of citizens is amplified, not weakened, through the application of new technologies[194] – in practice, many smart city initiatives have been criticised for their failure to deliver inclusive or participatory outcomes.[195]

In Cambodia, the proportion of smartphone users has increased significantly in recent years.

2008	2018
0.5% →	40.5%

SOURCE: World Bank (2021) "Individuals using the Internet (% of population) – Cambodia"

One way that smart urban development can support more equitable outcomes is to provide citizens with the skills to participate as active technology users themselves. This means addressing different forms of the so-called "digital divide" – the widening gap between those with the knowledge and tools to use ICTs and those unable to access their benefits. With the rapid uptake of smart phones, broadband and other technologies that in many Member States were largely unavailable a decade or so previously – in Cambodia, for instance, 33 per cent of the population were

In the Indonesian city of Makassar, authorities were able to accelerate their ongoing development of digital tools used to access health care, digital payments and other services.

1.2 MILLION QR CODES

already rolled out to Makassar's citizens

1.5 MILLION QR CODES

are the ultimate target for Makassar's authorities

SOURCE: ASUF (2021), "Inclusive and equitable growth – digital payment solutions to enhance financial inclusion"

Internet users as of 2017, compared with just 1 per cent in 2008[196] – overall access levels are clearly improving. Yet, within cities, there are often sharp differentials in knowledge and access between high-income and poor neighbourhoods. These disparities are also often evident between major centres and smaller urban areas, where the degree of digital literacy and service quality can be markedly lower as local governments there lack the resources to invest in infrastructure or employ digital specialists.[197]

As coverage increases and the uptake of new technologies becomes more commonplace in banking, government and the workplace, the cost of exclusion for the millions of residents still denied these opportunities only grows. Without effective action to close these gaps, it is likely that existing social inequalities will be further entrenched as the importance of smart technologies increases, particularly with the increasing shift online of employment and education in the wake of COVID-19. However, some cities have notably used the pandemic as an opportunity to expand smart services among their population. In the Indonesian city of Makassar, authorities were able to accelerate their ongoing development of digital tools and have rolled out 1.2 million QR codes to citizens, with the ultimate target being 1.5 million; these are now used to access health care, digital payments and other services such as parking.[198] Even in this context, however, with uptake improving and clear targets in place, it is important that data are disaggregated to identity those still denied access.

For smaller urban areas, lack of investment and limited local capacity have put them at risk of being left behind; with little or no access to national and global infrastructure and networks, and frequently dependent on tired or outmoded technologies, "many secondary cities are not in the position to engage effectively in the information age."[199] Nevertheless, it is also important that smart strategies in secondary cities should be pragmatic and responsive to their specific contexts, rather than simply importing costly cutting-edge technologies deployed in larger and more affluent cities. In most cases, the best approach for smaller urban areas seeking to become smarter is to focus on enhancing their existing infrastructure where possible, and to ensure that the appropriate policies and regulations are in place. In short, digital tools should be seen as enablers rather than solutions in themselves.[200] Smart city policies and investments therefore need to be guided by local conditions, rather than simply replicated from other cities where the social and economic contexts may be very different. With this in mind, the Bandung Institute of Technology in Indonesia developed the Garuda Smart City Framework to assess the readiness and suitability of smart city programmes in different parts of the country, drawing on a range of measurable indicators spanning governance, economic and environmental indicators.[201]

Another dimension that has received less attention in the digital debate is the need for smart rural development: for instance, the potential for emerging technologies to support climate-resilient agriculture and improve the efficiency of food supply chains from

farms to cities. The importance of an interconnected approach to smart transformation is also acknowledged in the ASEAN Smart Cities Network and its emphasis on improving "people's lives across the urban-rural continuum, creating new opportunities for them and ensuring that no one is left behind."[202] Smaller cities in particular, where the social and economic interface between urban and rural is often strong, are well placed to act as intermediaries to support knowledge exchange and uptake of smart tools in agriculture and environmental management.

Finally, from a region-wide perspective, it is vital that the gap in technological attainment between different Member States is closed. Digital integration between countries and cities, between urban and rural, lies at the heart of the ambitious drive for connectivity across the region. Cities can benefit from city-to-city partnerships, national forums, as well as the multitude of ASEAN-wide initiatives, including the ASEAN Smart Cities Network. Some examples from across the region demonstrate the diversity and vitality of smart city initiatives being rolled out across the region, from traffic management in Kuala Lumpur and security monitoring in Phuket, Thailand, to disaster preparedness in Da Nang, Viet Nam, and autonomised infrastructure in New Clark City, the Philippines.[203]

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SAFEGUARDING HUMAN RIGHTS ONLINE

Digital governance, privacy and surveillance

While ASEAN is still not a high-performing region in terms of its e-participation, with only two countries featured in the top 50 of the UN 2020 E-Government Survey, it is notable that both of these (Singapore at 11th place and Malaysia at 47th) are among the most urbanised of its Member States; other high-ranking countries in the ASEAN region are Thailand (57th) and Brunei Darussalam (60th).[204] Singapore's Smart Nation and Digital Government Office launched a "digital government blueprint" in 2018 to outline ambitious plans to upscale its online governance capacity and exploit cutting-edge tools, such as AI and the Internet of Things. The blueprint was updated in the wake of COVID-19, with the revised text stating that "COVID-19 has made the necessity of digitalisation and a digital government even more urgent," given the need for physically distanced services and the importance of technology-dependent public health strategies such as contact tracing.[205] While Singapore is a regional leader in this area, it is likely that other ASEAN countries will wish to pursue a similar strategy in the future.

Nevertheless, the potential contribution of smart systems to improved governance needs to be tempered with the recognition that new technologies must complement, rather than substitute, the essential functions of democratic governance. Although, with the right institutional arrangements in place, digital platforms can support greater transparency and anti-corruption efforts,[206] it is vital that smart systems prioritise participation and citizen engagement to help counter the potential power imbalances of technologies. Activists in Indonesia, for example, while highlighting the significant opportunities of online platforms for national and local government to disseminate information to youth more effectively, have also emphasised the need to ensure that these new tools are used to enhance existing processes rather than becoming an end in themselves.[207]

In fact, alongside the potential unintended consequences of smart systems, there are increasing concerns around the human rights implications that these tools could pose in terms of surveillance, privacy and censorship. Without adequate oversight, smart systems can reinforce opaque, even authoritarian, systems of control where citizens are monitored and

> **Though much of the responsibility falls to national governments, cities also have an important role to play in establishing safeguards and enabling transparency for residents to clearly understand how their data is being used.**

tracked without their consent. The same tools that can support more efficient banking, public transportation and other services, such as sensors, closed-circuit television (CCTV) cameras and phone applications, can also have troubling implications for privacy if improperly applied. This could mirror the steady attrition of online freedoms as some countries in the region have seen Internet access increasingly restricted. Thailand, for example, saw its rating fall recently in a Cybertech guide to Internet restrictions, placing it on the same level as Belarus and Syria as one of the world's "worst countries" for Internet freedom.[208]

These issues have been brought into sharp relief since the outbreak of COVID-19 and the various measures imposed to contain the virus. For instance, independent researchers identified a number of security bugs in contact-tracing apps deployed in Indonesia and the Philippines that could compromise the anonymity of their users and even lead to the theft of personal health data.[209] Similar concerns around the possibility that data could be accessed also emerged in Singapore, where tracking apps are mandatory for migrant workers.[210] Human rights activists have argued that, without clear oversight and accountability, many measures originally introduced as temporary could become permanent over time.

Although much of the responsibility of ensuring that technology use is ethical and legal falls to national governments, cities also have an important role to play in establishing safeguards and enabling transparency for residents to clearly understand how their data are being used. There is also an important role for the UN to play in ensuring that digital access is adequately emphasised in the implementation of the 2030 Agenda, in ASEAN and elsewhere, and properly protected as a public good. This is crucial from a governance point of view because so many digital functions are owned and operated by private sector actors, despite their increasingly significant public role.[211] Consequently, clear legal and ethical safeguards should be in place to compel businesses and operations to respect the rights and privacy of consumers at all times. As stated in a recent UN publication, "digital technology does not exist in a vacuum – it has enormous potential for positive change, but can also reinforce and magnify existing fault lines and worsen economic and other inequalities."[212]

BOX 6

URBAN-RURAL DIGITAL INNOVATION IN THE PHILIPPINES: CAUAYAN CITY AND THE DIGITAL FARMERS PROGRAMME

With a population not exceeding 150,000 and located in the predominantly rural province of Isabela in the north of the Philippines, Cauayan may not conform to the standard image of a smart city. Yet, this small urban centre, acting as a hub for the surrounding agricultural territory and a cluster of towns, has received awards for its digital innovation and is playing a leading role in the country's smart city movement. Cauayan was in fact formally recognised as the country's first smart city in 2015, the same year that the SDGs were established, and has aligned its strategy closely with the principles of the 2030 Agenda.

Many of the measures rolled out in Cauayan, such as free Wi-Fi coverage across the city, a standardised electronic payment system and even a local app to support public services, Cauayan City Connect, are widely recognised best practices for smart cities. However, Cauayan is notable for the extent to which much of its digitalisation has focused on not only such issues as transportation and urban governance, but also the enhancement of the agricultural sector, which remains a central element in its economy. Its ground-breaking Digital Farmers programme and other initiatives have been built on partnerships between ministries, private corporations and academic institutions, with a focus on providing simple and accessible tools to support local farmers in crop management, sales and other priority areas, such as efficient energy use.[213] It demonstrates the underdeveloped opportunities for small and intermediate cities across the ASEAN region to exploit digital technologies to strengthen traditional agricultural livelihoods.

RECOMMENDATIONS

Address the growing “digital divide” in cities:

As education, employment, governance and other areas of life move increasingly online, this shift could become a major driver of inequality, as those without the necessary knowledge, hardware or Internet connection to benefit are left even further behind. This will require targeted education, infrastructure investments and careful monitoring to ensure that all groups are reached, particularly in smaller cities and rural areas where access may be more limited. In particular, rather than focusing simply on average targets, cities should disaggregate data on Internet coverage, computer ownership and other indicators of digital inclusion to assess disparities in poor and disadvantaged areas, including informal settlements.

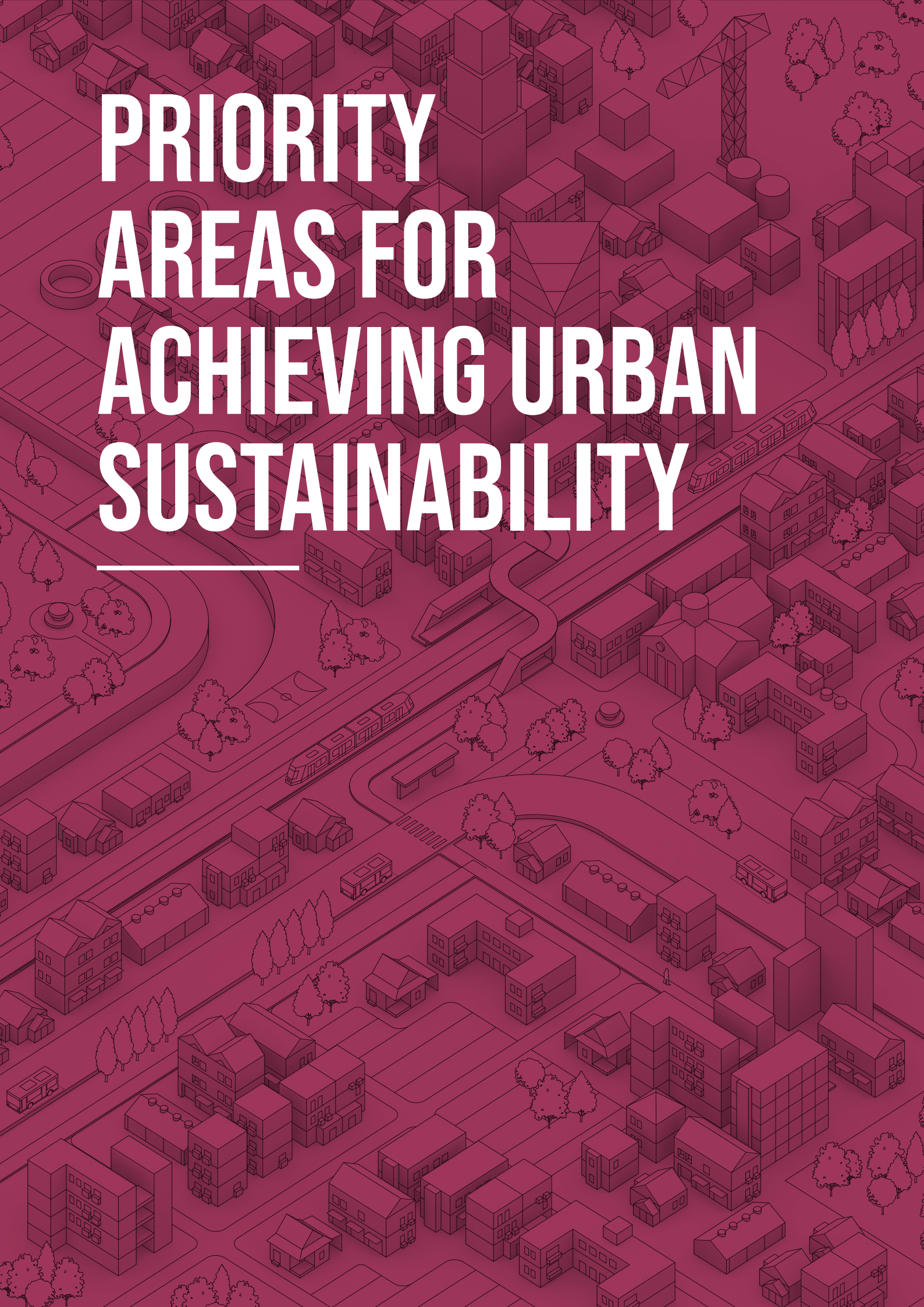
Protect digital rights for citizens online:

While enhancing digital literacy and infrastructure is key, there is also a need to have clear checks and balances in place to ensure that privacy rights are respected by powerful formal actors as well, including governments and businesses. The growing risk of surveillance, censorship and tracking in place should be countered by robust and transparent mechanisms to safeguard users from the exploitation of their data without their consent.

Ensure smart city programmes are meaningfully aligned with social realities on the ground:

Given the risk of top-down, technocratic approaches to smart urbanisation, potentially resulting in costly investments that fail to have positive impacts on poor communities, it is essential than technological innovation is accompanied by adequate consultation and engagement to connect with local needs and priorities. Data collection should be accessible to all and participatory, including citizen-led platforms that can be compiled by residents themselves to highlight problems and advocate for concrete action.

PRIORITY AREAS FOR ACHIEVING URBAN SUSTAINABILITY



This section focuses in depth on seven priority areas, originally identified in the ASUS through an extensive consultation of cities and urban stakeholders during the development of the strategy. The sections begin with a summary of the key challenges in the sector before exploring the potential ways forward for cities to address them as well as case studies providing a snapshot of how different cities across ASEAN are practically responding to these issues. Each section ends with four short recommendations, linking back to each of the four "enablers" – dynamic urban governance, integrated master planning and development, partnership and funding, and digital infrastructure and applications – to illustrate how cities can take steps to achieve more sustainable outcomes in these areas.

URBAN RESILIENCE

The ASEAN region is one of the areas most exposed to natural disasters, such as storms and flooding, a predicament worsened in many urban settlements by poverty and limited access to basic services, such as clean water and sanitation. Climate and disaster resilience extends beyond the environmental dimensions of vulnerability to encompass a variety of other areas, from health and nutrition to livelihoods and economic security; ultimately, vulnerability is determined to a large extent by inequality and marginalisation.[214] Nevertheless, while the gap between the resilience-oriented rhetoric of countries and cities across ASEAN and their practical action on the ground remains substantial, the region has piloted an array of successful measures to build different forms of resilience, such as disaster risk insurance, community-based capacity-building and safe schools programmes.[215] Hence, the importance of appropriate and inclusive adaptation and mitigation efforts for cities across ASEAN: these will need to address not only the environmental realities of climate change, but also its social and economic effects.

Acute environmental vulnerability

The impacts of climate change across ASEAN will be profound and wide-ranging, including rising sea levels and an increase in such extreme weather as typhoons. As construction continues at breakneck speed, often in inappropriate or environmentally fragile areas, the implications for the future sustainability of cities are troubling. Despite this vulnerability to typhoons, tsunamis, earthquakes, landslides, volcanic eruptions and other environmental threats, however, efforts to implement effective adaptation and resilience strategies across the region have so far been inadequate.[216]

Increasingly unsustainable urbanisation

For a region where so much urban development is concentrated in low-lying areas or along its extensive coastlines, these environmental pressures pose serious threats to the survival of some Southeast Asian cities. But while evolving environmental conditions are creating new pressures for cities, it is also the case that speculative and unsustainable urban development is increasing their exposure to costly, even deadly, impacts from climate change-related issues. This can serve to undermine urban resilience further, leaving cities even more exposed in the future. Unsustainable levels of consumption of water, energy and land are exacerbating these impacts; electricity consumption in Southeast Asia has been increasing at twice the speed of the rest of the world and is expected to double again by 2040, driven by urbanisation, rising incomes and industrialisation. Alongside the heavy environmental costs, the implications for human health are startling, with projections suggesting that, if current energy policies continue, the annual death toll from outdoor and household air pollution in the region could rise from 450,000 in 2018 to 650,000 in 2040.[217]

Deepening inequalities

The implications of climate change are as much social as environmental. Within cities, the impacts are often felt unevenly, with the poorest communities typically most at risk of landslides, flooding and other environmental catastrophes. This has been illustrated in the Philippines, where a succession of natural disasters affected the country in recent years. In December 2011, for example, while about 40 per cent of the population of Cagayan de Oro were displaced by a catastrophic typhoon, 85 per cent of the affected households were based in informal settlements. The danger is that, as climate change impacts become more severe, existing inequalities will be reinforced and leave women, persons with disabilities and other marginalised urban groups even more excluded.[218]

PROMOTING NATURE-BASED RESILIENCE

Conservation, green belts and flood-resistant design

The combined effects of climate change and urbanisation have meant that, while the frequency of extreme weather events has increased, their economic and human costs have also risen. Expensive engineering solutions, such as sea walls, besides being unaffordable for many cities, are often insufficient on their own to prevent disasters and can themselves have a range of negative impacts on local environments and communities. It is therefore vital that efforts to strengthen urban climate adaptation and disaster preparedness do not focus exclusively on hard infrastructure and other costly, potentially carbon-intensive development.

Rapid urbanisation in many ASEAN cities has frequently led to the destruction or degradation of vital ecosystems, leaving residents more exposed to the effects of environmental shocks. In Phnom Penh, for example, a 2015 assessment found that some 60 per cent of the city's lakes and wetlands had been infilled in recent years to accommodate new development, much of it in the form of luxury housing compounds to accommodate the capital's elite.[219] Given the vital role of these water systems in natural purification and channelling floodwater during the rainy season, their steady erosion has troubling implications for the city's ability to withstand monsoons and deluges in the future, especially in low-lying areas of the old city.[220] Elsewhere in the region too natural drainage capacity

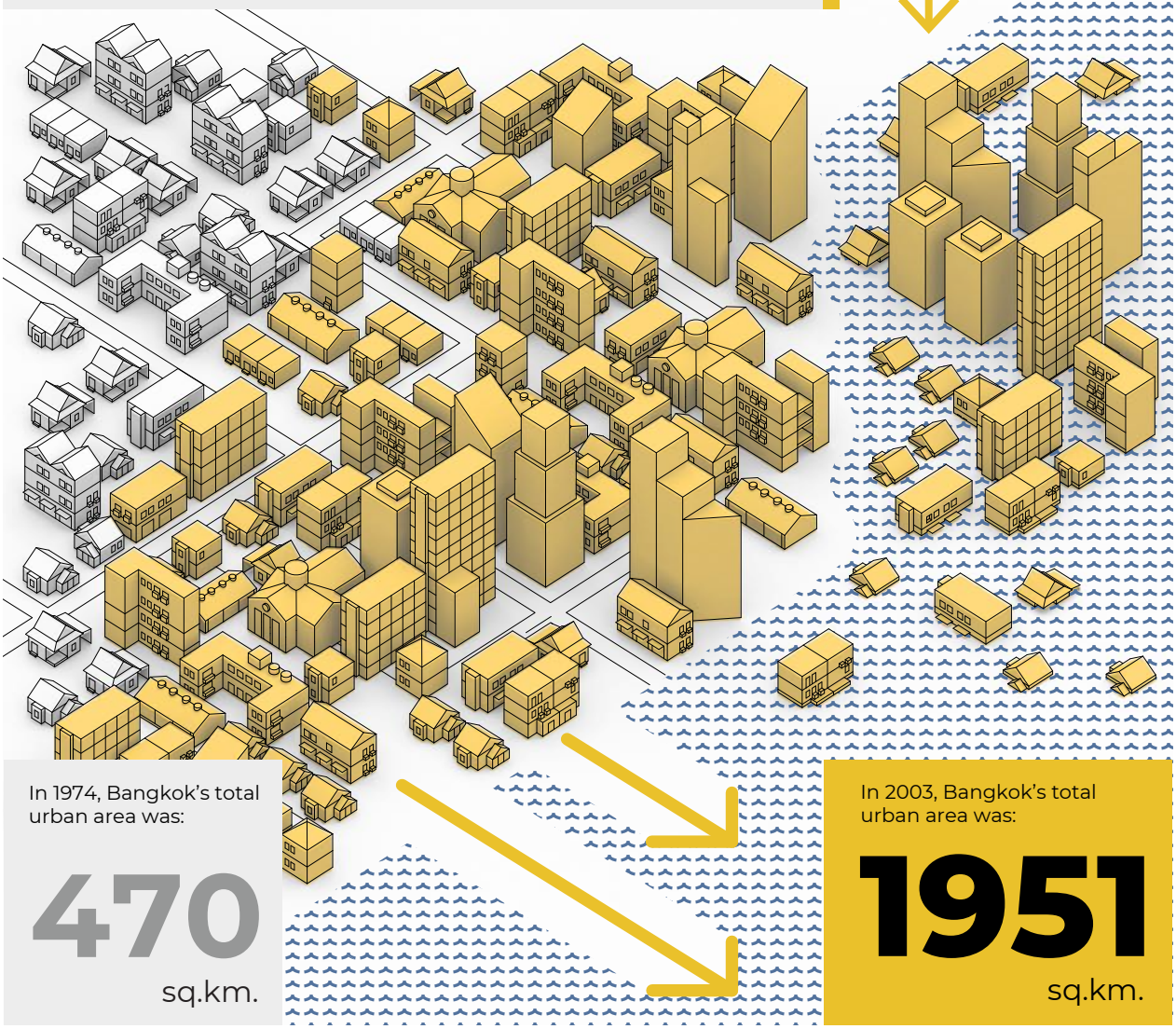
> **Mangroves – a rich and diverse resource across ASEAN – can play a central role in strengthening resilience by providing a unique buffer to coastal communities exposed to the threat of rising sea levels, erosion and storms.**

in urban areas has been diminished by the spread of non-permeable surfacing, such as concrete and tarmac, that retain water and so raise the risk of flooding. Some cities have adopted innovative measures to mitigate these impacts. In the Indonesian city of Bandung, for instance, local authorities have attempted to reduce flooding through the construction of culverts, lakes and wells, as well as a large-scale biopore programme; this involved the drilling of thousands of holes into the ground to enable water drainage and was aided by the enthusiastic participation of community groups in the process.[221]

While commendable, however, efforts to mitigate the impacts of prior development are likely to prove more costly than integrating appropriate environmental

BANGKOK'S RAPID URBAN EXPANSION AND GROWING VULNERABILTY

Areas of agricultural land in eastern and western Bangkok were designated as no-development zones to serve as floodways. Yet these regulations were widely ignored by developers, who continued to construct housing estates there: many of these were severely damaged in the 2011 floods.



In 1974, Bangkok's total urban area was:

470

sq.km.

In 2003, Bangkok's total urban area was:

1951

sq.km.

SOURCE: Marks, D. (2019) "The political ecology of uneven development and vulnerability to disasters", in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon and New York, p.348

standards and regulations on construction to prevent adverse impacts before they occur. However, the challenge here is not only having the right regulations in place, but also ensuring that they are properly enforced. In Bangkok, following decades of urban expansion that saw the total built-up portion of the metropolitan area more than quadruple from 470 square kilometres in 1974 to 1,951 square kilometres in 2003, the Bangkok Metropolitan Administration formally designated large areas of agricultural land in eastern and western Bangkok as no-development zones so that they could serve as floodways. Yet, in practice, these regulations were widely ignored by developers, who continued to construct housing estates there; many of these were severely damaged in the 2011 floods and had the added effect of preventing the water from flowing on southward towards the sea.[222] For smaller cities still undergoing rapid growth, the lessons from these examples are clear; it is far more sustainable to take steps now to ensure that urban growth is well integrated and environmentally sound, rather than having to mitigate negative impacts in the years to come.

Yet, some of the most promising ways forward for cities to strengthen their resilience involve reimagining established approaches to urban development, promoting a more ecologically balanced and socially inclusive approach. There is growing recognition of the high returns that investment in ecosystems, such as forests, wetlands and green spaces, can contribute through boosting the resilience of cities to environmental stress.[223] In particular, mangroves – a rich and diverse resource across the ASEAN region – can play a central role in strengthening resilience, yet about a third of the region's mangroves were destroyed between 1980 and 2020.[224] Alongside their importance as a food source, mangroves provide a unique buffer for coastal communities exposed to the threat of rising sea levels, erosion and storms. This was illustrated in 2013 by the case of General MacArthur, a small city in the

> **Greening urban spaces through the expansion of green and blue infrastructure will not only boost urban resilience to challenges such as flooding, but also provide much needed shade and natural cooling when temperatures are high.**

Philippines, when a typhoon devastated much of the surrounding area but largely spared the town itself: a situation credited by its residents to the preservation of a large mangrove nearby.[225]

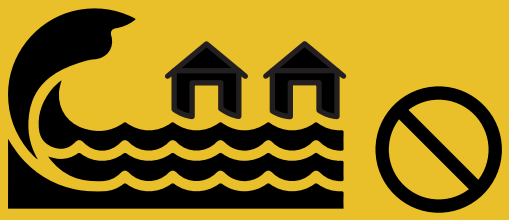
While the responsibility to protect such ecosystems as mangroves extends far beyond any narrow monetary calculation, incorporating projections of the potential financial losses that could be incurred in the future in the event of worsening climate change or an extreme weather event can help strengthen the "business case" for their conservation – an important measure, given that environmentally damaging urban development is often justified for the sake of short-term economic gains. Furthermore, in addition to their importance as protective assets, nature-based resilience can also significantly enhance quality of life and well-being. These "co-benefits" need to be factored into the calculus of long-term climate investments, especially in smaller cities where the upfront costs of resilience measures may at first seem daunting. For example, ongoing initiatives in the coastal Vietnamese cities of Dong Hoi and Hoi An, with populations of about 120,000 and 150,000 respectively in some of the most vulnerable areas of the country, are currently focused on strengthening their resilience to extreme weather through improvements to existing infrastructure alongside the development of new measures, such as a warning system and evacuation route, with regreened buffer zones and restored sand dunes also playing an important role. The total cost of the programme is USD144 million, an investment enabled through the leverage of about USD104 million in multilateral funding. Furthermore, with an average of USD2 million in damage from coastal erosion prevented every year, the project will deliver significant savings over time and provide a variety of positive knock-on effects, such as improved water services, better roads and an expanded tourism sector.[226]

Ongoing initiatives in the coastal Vietnamese cities of Dong Hoi and Hoi An responding to extreme weather are currently focused on improvement of existing infrastructure, development of warning systems and evacuation routes, regreening of buffer zones and restoring sand dunes.

Even while the intiative cost **$144 million,** the investment was able to **prevent**:

$2 MILLION

worth of damage from **coastal erosion** every year, meaning this investment will pay itself back over time.



The investment also delivers a variety of positive knock-on effects, such as **improved water services, better roads and green public space, and an expanded tourism sector.**

SOURCE: ADB (2021) 100 Climate Actions from Cities in Asia and the Pacific, Manila, p.128"

Factoring in future climate impacts and disaster risks can provide an added economic imperative to programmes that also address immediate social and environmental needs. Heatwaves, another consequence of climate change, will also have serious implications for cities in a region that has already seen historic increases in temperatures as the world has industrialised.[227] This will have severe impacts on the liveability of cities and human health, with heat-related cardiovascular disease and respiratory illnesses taking an increasing toll on urban populations already contending with air pollution and the "heat islands" associated with built-up urban areas where much of the surface area is covered in concrete or tarmac. High temperatures are already posing a threat – cooling centres were set up in a number of Vietnamese cities during the 2021 heatwaves to prevent potential hospitalisations and even deaths.[228] Greening urban spaces through the expansion of green and blue infrastructure will not only boost urban resilience to such challenges as flooding, but also provide much needed shade and natural cooling to enable residents to enjoy exercise and recreation when temperatures are high.

BOX 7

NATURE-BASED RESILIENCE IN SECONDARY CITIES IN VIET NAM: THE BENEFITS OF WATER SENSITIVE URBAN DESIGN

Water-sensitive urban design has considerable potential for cities across the ASEAN region, providing them with a means to creatively incorporate rivers, lakes, wetlands and other elements of the natural landscape into their built environment. Besides providing residents with healthy and liveable urban areas and green spaces, this approach boosts resilience by carefully incorporating water flows into architecture and planning. The benefits can be considerable, from improved wastewater recycling and cooler air temperatures to enhanced biodiversity and neighbourhood revitalisation.[229]

With this in mind, the Secondary Green Cities Development Project, an initiative supported by funding from the Asian Development Bank and the Global Environmental Facility, is supporting the roll-out of a range of improvements to urban drainage, ponds, riverbanks and wastewater treatment in Hue, Vinh Yen and Ha Giang. As well as enhancing the local urban environments, these activities will contribute to the broader objective of reducing the developmental lag that these and other smaller cities in Viet Nam face; under 60 per cent of households in secondary urban areas have access to clean water and just 10 per cent of wastewater is adequately processed. These programmes will improve social and environmental outcomes in the pilot cities, potentially providing positive models that can be replicated in other cities in Viet Nam and Southeast Asia.[230]

STRENGTHENING SOCIAL RESILIENCE

Community assistance, safety nets and gender-sensitive programming

Recognising and responding to the social dimensions of urban resilience is crucial. The degree to which environmental disasters, such as flooding, landslides and earthquakes, devastate certain communities disproportionately is determined in large part by their political connections, financial assets and a host of related issues, such as housing tenure, livelihoods, access to basic services and underlying health. These in turn are strongly shaped by local governance, inequality and inclusion. A range of measures are therefore needed to address related challenges, such as extreme poverty, lack of services and the ongoing impacts of COVID-19. Crucially, this means working with communities, rather than against them; all too often, disaster resilience has been used as a justification for evictions without adequately consulting or compensating residents.

Despite their limited material resources, poor urban communities across the region have developed a variety of measures, such as collective clean-ups, housing updates and early warning systems to reduce their disaster risk. Nevertheless, in addition to those living in extreme poverty, there are millions of "near-poor" or "crisis-vulnerable" urban dwellers who have little or no assets to cushion them from such an extreme event as flooding.[231] Their vulnerability to sudden shocks has been highlighted during the pandemic, with the most marginalised urban residents bearing the brunt of the adverse economic and health impacts, including millions of "new poor" pushed into poverty. From a resilience perspective, the key lesson from COVID-19 is that it has only exacerbated long-standing vulnerabilities – and without a fundamental shift in the rights and protections of the urban poor, these are likely to remain. Notwithstanding the emphasis on a green post-pandemic recovery, the apparent focus of many cities in prioritising rapid economic growth could undermine urban resilience in the long term if social inclusion and environmental sustainability are not adequately reflected in these plans.[232] While

governments across the ASEAN region have rolled out social safety nets and other services as temporary provisions in response to the pandemic, there is likely to be a continued need for such measures in the future to respond to worsening climate change and social inequality.

Because disasters have uneven impacts on urban populations, typically affecting the most excluded groups disproportionately, policies should be tailored to address the specific vulnerabilities that women, children, migrants, persons with disabilities and other marginalised residents face. For example, ensuring that boys and girls are able to maintain continuity in their education if displaced by flooding, that gendered livelihoods are adequately considered in any emergency response and that the specific barriers which a wheelchair user may face in accessing food, water and health care are factored in, are all dimensions that cities must address when focusing on resilience. In particular, women frequently face a host of additional threats in the wake of a disaster, including access to adequate sanitation and the heightened risk of sexual violence, that if overlooked can expose them to even greater danger. Gendered resilience gaps are often rooted in deep-seated inequalities around access to education, political power and income inequalities that can only be properly resolved through full participation, inclusive data collection and awareness-raising among urban communities.[233]

Specialists working in the region have also highlighted the central importance of power and control to urban resilience, critiquing the widespread tendency to prescribe largely apolitical and infrastructural solutions while overlooking the inequalities and conflicts that underpin the disproportionate vulnerability of particular groups. Consequently, there needs to be a shift in emphasis towards collaborative governance and inclusion: "rather than focusing on technical solutions suggested by engineers and bureaucrats to manage impacts, resilience must support social innovations through place-based creativity among affected communities and stakeholders."[234] Furthermore, greater

In the coastal city of Ranong, Thailand, a pilot agreement was reached in November 2020 between the government, human rights groups and dozens of landless families to allow them to settle in a mangrove forest as part of an agreement where in return they will support conservation efforts there.

attention should be paid to the political and societal drivers of vulnerability that such marginalised urban populations as migrants face, and actively challenging this status quo through a range of measures, including expanded public participation, broader policy reform and collaborative partnerships.[235]

Finally, it is important to recognise that environmental and social resilience are interlinked. While zoning and prohibitions on intensive development may be needed to protect fragile ecosystems, it is not necessarily the case that these areas should be ring-fenced from all human activity. Indeed, in many cases the most sustainable approaches to environmental management are community-based solutions that attempt to balance local needs with the preservation of vital ecosystems. In the coastal city of Ranong, Thailand, for example, a pilot agreement was reached in November 2020 between the government, human rights groups and dozens of landless families to allow them to settle in a mangrove forest as part of an agreement where in return they will support conservation efforts there. This participatory arrangement is aimed at providing marginalised locals, many of them members of the indigenous Moken tribe, with housing and basic services while at the same time protecting the area from redevelopment. Similar programmes are now being rolled out in the seaside cities of Krabi and Phuket.[236]

ENHANCING PREPAREDNESS

Disaster risk monitoring and recovery

The challenges faced by such megacities as Jakarta, with its chronic subsidence and rising sea levels, are well known. Understandably, much attention has been focused on the increasing vulnerability of the largest urban settlements to climate change, a situation driven in large part by short-term decision-making and unsustainable development; a recent study by Greenpeace projected that by 2030 extreme sea level rise and flooding could affect almost 10.5 million people in Bangkok and result in damage worth USD512.3 billion, amounting to 96 per cent of the city's entire GDP.[237] Indeed, as megacities concentrate the most assets and industries in one place, these are where the greatest exposure to climate change is judged to be.

However, this perspective often fails to factor in the different capacities and human susceptibilities at play in small and medium-sized cities, particularly those undergoing rapid growth. The impacts of changing weather patterns and the increasing frequency of such extreme events as typhoons are also being felt in smaller cities and across a variety of contexts. In fact, it is frequently the case that "the speed of urban population growth matters more than city size when it comes to how susceptible people are to an adverse event" because "unplanned development soon overwhelms local administrative capacities".[238] Without the connections and resources of larger cities, such as dedicated disaster management teams, secondary urban centres are also more likely to struggle to recover from a major disaster. In addition, the economic vulnerability of populations in many smaller urban areas may leave them disproportionately exposed to the impacts of climate change.[239]

In any urban context though, regardless of size, local capacity – the ability of governments, communities, businesses and other actors to assess, plan and respond effectively to a variety of risks – is key in determining resilience. In this regard, multistakeholder coordination, knowledge-sharing and other forms of collaboration can achieve more than expensive engineering solutions. This was reflected in an assessment of potential resilience pathways in the Vietnamese city of Da Nang, which concluded that, while such "hard" infrastructural interventions as raising roads could deliver benefits, investing in "soft" resilience measures like early warning systems was significantly more cost effective.[240] In this regard, local governments should recognise and support community-based approaches to risk monitoring and preparedness, as these are often the most flexible and responsive in contexts where disasters are an everyday threat. In the community of Banaba in San Mateo, the Philippines, for instance, a local initiative known as Buklod Tao has successfully mobilised residents to act as early warning "river watchers" and rescuers in the event of major flooding.[241]

Urban resilience is also underpinned by effective knowledge exchange and information-sharing at all levels, including clear communication and awareness-raising activities with at-risk communities. "Siloisation" and institutional barriers between different governmental agencies, as well as poor collaboration with other urban stakeholders, can hamper a city's potential to produce a well-coordinated, effective resilience strategy. By establishing resilience as a clear cross-cutting urban policy, national and local governments can help drive stronger collaboration between departments and ensure a coherent citywide strategy.

In the Philippines, for example, the National Disaster Risk Reduction and Management Council was established to oversee resilience-building efforts across the country, bringing together a range of government agencies and non-governmental actors at all governance levels to improve preparedness, response and recovery.[242] However, given the increasingly transnational nature of many urban hazards, as well as the common threats that many cities across ASEAN share, city-to-city partnerships, regional networks and other platforms also have a potentially important role to play in boosting resilience. While not confined to the ASEAN region exclusively, such programmes as the Rockefeller Foundation's Asian Cities Climate Change Resilience Network and the UN Office for Disaster Risk Reduction's ongoing Making Cities Resilient 2030 campaign have demonstrated the strong appetite among many cities in the region to engage in global collaborative partnerships.

Cities in the region have also used global frameworks to design and implement local resilience strategies. In Denpasar (Indonesia) and Luang Prabang (Lao PDR), demonstration projects are aimed at contributing to the four priority actions of the Sendai Framework for Disaster Risk Reduction. The two cities developed action plans for improving disaster risk reduction plans and land use plans by using checklists and responding to the results of the preliminary disaster risk assessments. The project revealed some issues in using checklists and conducting preliminary disaster risk assessments, and offered lessons and good practices in building urban resilience for other ASEAN cities.[243]

Finally, digital technologies have supported the development of smart and integrated disaster monitoring and response. Satellite imagery, remote sensing and GIS mapping have all helped provide a clearer picture of changing land use patterns and the implications of urban expansion on disaster risk. Digital catalogues, aided by increasing flows of crowdsourced information, are now being applied to record and predict flooding, landslides and other hazards.[244] Technological advances have also enabled the synthesis of highly complex information flows to fine-tune urban resilience planning. One recent project in the Greater Mekong

"The good news is that, though the challenges are immense, investing in climate resilience can support a city's transition to greater sustainability through the development of a green economy, an inclusive urban community and more participatory governance structures.

Region combined water infrastructure upgrading with improved weather forecasting to strengthen disaster preparedness in Cambodia, the Lao PDR and Viet Nam, and reduce potential exposure to flooding.[245] As in other areas of urban management, these "smart" approaches are most effective alongside community participation, pro-poor safety nets and other such activities.

While urban areas themselves are heavily implicated as major emitters and polluters, putting the right policies into place could help alleviate their adverse impacts while strengthening resilience, with added benefits for health, local environments and well-being. The good news is that, though the challenges are immense, investing in climate resilience can support a city's transition to greater sustainability through the development of a green economy, an inclusive urban community and more participatory governance structures. These opportunities are particularly relevant for smaller cities as putting strong systems of data collection, monitoring and other preparedness measures into place now will optimise their path of development as they continue to grow in the years to come.[246]

BOX 8

ACHIEVING DISASTER RISK REDUCTION THROUGH INCLUSIVE PARTNERSHIPS IN SEBERANG PERAI, MALAYSIA

Stretching along the coast of Penang state, Seberang Perai is one of the largest cities in Malaysia. The impacts of climate change are more and more visible to the people of this city, which lies at sea level and is subject to flooding due to high tidal waves. Despite its growth and development trends, local authorities still face many limitations in tackling these issues. Extreme weather events, such as Typhoon Damrey in 2017, have led to a citywide consensus that action needs to be taken.

The Seberang Perai City Council, responsible for the city's governance, decided to take a participatory approach to resilience-building and engaged with different local stakeholder groups in working towards disaster risk reduction (DRR) consistent with other development goals (such as becoming a low-carbon, inclusive and "smart" city, among others). DRR investments were channelled through comprehensive planning, and this policy alignment allowed for the creation of a disaster management plan that filled an existing gap in legislation between the local and national levels.

Local actors worked together to develop a common strategy for the future of Seberang Perai, which intends to carve a route for it to become a truly sustainable city. This collaborative model, known as the "Seberang Inclusive Partnership," has helped to mainstream the global agendas at the local level and increase citizens' understanding of the need for policy alignment and coherence. An essential element in this framework is its "extensive inclusiveness," which includes local groups ranging from citizens and local authorities to academics, industry leaders, businesses and NGOs. This participatory vision for the future of Seberang Perai is leading the city to become greener by improving environmental protection actions, more resilient through community-based DRR initiatives and transparent inclusive governance, and more competitive by enhancing local economic development.

As part of its "smart community" objective, several key initiatives were implemented which include the Smart Monitoring System (SMS) – a system to improve service quality for Seberang Perai residents, especially for services related to flood monitoring and response, earthworks monitoring and enforcement, illegal dumping of solid waste and other environmental issues. SMS enables the City Council to deal with complaints quickly and helps to reduce costs as SMS provides a comprehensive monitoring system with minimal manpower. It uses an integrated approach, providing a regulated environment within an institutional framework that encourages the use of information technology. The effectiveness of this system has attracted interest from local authorities in other Malaysian cities, including Alor Gajah, Hulu Salangor, Johor Bahru and Penang.

RECOMMENDATIONS

The following recommendations support the achievement of greater urban resilience. The recommendations directly align with each of the four key "enablers" discussed in the first section of the report, providing insights to ensure the long-term sustainability of a broad range of urban interventions.

DYNAMIC URBAN GOVERNANCE

Integrate environmental concerns as a priority in all areas of urban decision making:

Given the complexities of environmental issues in urban areas, it is important that climate resilience, waste reduction and other efforts are treated as cross-cutting institutional challenges, rather than as a single, self-contained sector. Currently, at both the national and local levels, environmental departments typically have limited scope to determine decision-making in such areas as real estate and economic development, despite their considerable impact on air quality, resource consumption and land use. ASEAN governments and cities should therefore seek to mainstream disaster risk reduction, climate change adaptation and other environmental issues as cross-cutting priorities across different agencies to ensure an integrated approach.

INTEGRATED MASTER PLANNING AND DEVELOPMENT

Plan around the local environment, rather than against it:

The consequences of poorly managed development in floodplains and other sensitive areas are already evident across the ASEAN region, with natural disasters and other climate change impacts threatening communities and infrastructure. However, by actively incorporating ecological assets, such as mangroves and water bodies, into their design, cities can boost their resilience and promote more liveable local environments. The need for a coherent and balanced approach to land use and environmental protection is also evident in peri-urban areas, where growth is often poorly regulated and there is little coordination between municipalities and surrounding areas, leading to environmental degradation and unplanned development on disused agricultural land. By establishing a more collaborative approach that brings in both urban and rural stakeholders, planning can support the creation of more compact cities and protect peripheral environments from uncontrolled or inappropriate development.

PARTNERSHIP AND FUNDING

Recognise the true cost of environmental degradation to cities and their residents, as well as the added benefits that green investments can bring:

Many adverse outcomes in cities across the ASEAN region have been driven by narrow or short-term economic calculations that deliver quick profits without acknowledging indirect and longer-term impacts. The continued construction of new housing in flood-prone areas is a case in point, not only destabilising sensitive ecosystems but also raising the cost of future natural disasters. Rather than considering environmental risk as something to be mitigated, sustainability criteria should instead be applied as key priorities to guide financial investments. This is not simply a question of mitigating negative outcomes, but also recognising the positive economic benefits that investments in urban resilience can deliver to cities through improved public health, more efficient land use and the creation of new livelihoods.

DIGITAL INFRASTRUCTURE AND APPLICATIONS

Combine the opportunities of new and emerging technologies with successful community-based and participatory environmental management systems:

There are a range of areas where digital tools can support stronger environmental resilience, such as the use of GIS mapping to develop a detailed picture of flood-prone areas within a city. In such areas as solid waste disposal too, smart systems have played an important role in driving efficient and integrated environmental management. Yet, it is also important, particularly in secondary cities where the resources and capacity to develop and maintain these technologies are lacking, that smart systems build into rather than supplant community-based initiatives. For example, relatively well-established and affordable technologies, such as SMS messaging, GPS and social media, can bolster community-led early warning systems.

HOUSING AND HOME

Affordable housing is delivered through a variety of mechanisms across the ASEAN region, depending on the institutional context; though public sector provision dominates in Singapore, in other countries, such as Malaysia and Thailand, the private sector leads the way, while in Indonesia, the Philippines and Viet Nam informal housing systems serve as the main providers.[247] However, many countries still face serious shortfalls in the provision of affordable housing, rooted in a range of issues, including weak regulations, limited land available and the exclusion of the urban poor from formal finance. Furthermore, the absence of comprehensive data means that the true extent of housing need continues to be unacknowledged. Unless these issues are addressed, slum growth is likely to persist.

Limited affordability

The rapid urbanisation in ASEAN has exacerbated one of the fundamental challenges facing cities – the increasing difficulties experienced by millions of residents to find secure, affordable housing in the face of land shortages and accelerating population growth. While unaffordability tends to be more acute in larger cities, it is a growing concern in secondary cities too, especially as many small and medium-sized urban centres are now undergoing their fastest rate of growth.[248] One aspect of the problem is that demand is typically outstripping supply in many cities across ASEAN, particularly as developers focus much of their efforts on middle- and high-income development. However, more construction alone will have only a limited effect on the affordability crisis – what is also needed are innovative, inclusive finance and delivery models.

Slum growth and spatial segregation

The entrenched inequalities in housing in the ASEAN region are illustrated by the continued presence of informal settlements; between 22 and 55 per cent of the urban population across the region are currently based in slums.[249] The situation of many low-income neighbourhoods in peripheral areas, far from urban centres, is also a reflection of the lack of options elsewhere. When developments are built in remote or flood-prone areas without the necessary infrastructure in place for residents to access services, livelihoods and other opportunities, the result is further spatial segregation and sprawl. Cities with a clear long-term planning vision and the political will to enforce it, on the other hand, are much better placed to develop "preventative" solutions to the growth of informal or isolated settlements.[250]

Weak land tenure

While high prices and financial barriers are significant factors in the prevalence of overcrowding and insufficient living space among many urban residents, lack of secure tenure is also a central dimension of housing insecurity. Opaque ownership or land rights violations have contributed to displacements and demolitions in cities across ASEAN, leaving marginalised communities in even greater precarity. Although well documented in larger cities, these issues are also evident in smaller cities, particularly those experiencing rapid growth. As a result, across ASEAN, poor communities face the constant threat of eviction.

TACKLING UNAFFORDABILITY AND HOUSING SHORTFALLS

Pro-poor finance, efficient land use and innovative design

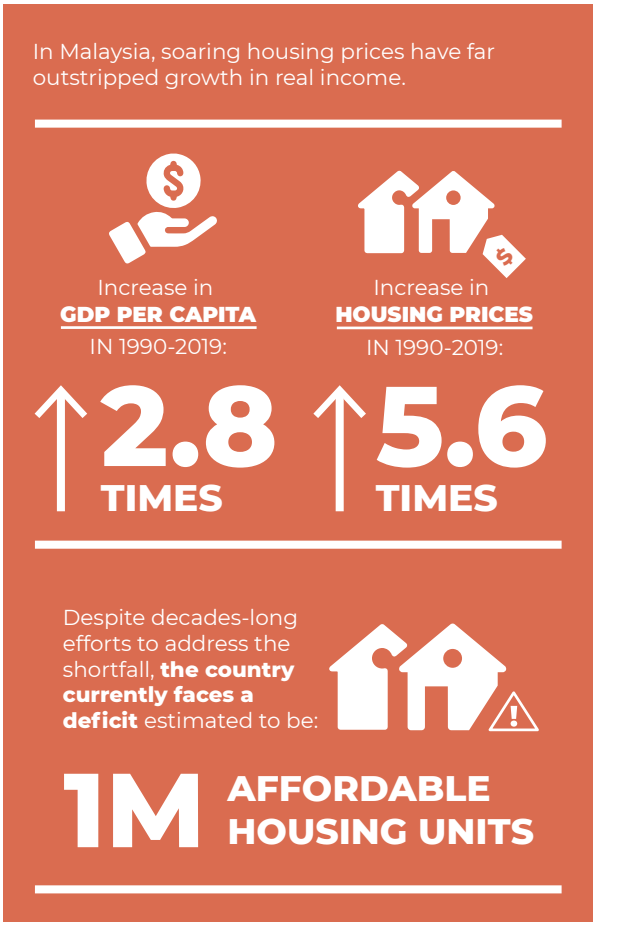
Without adequate interventions and support, urban housing markets in the region are typically afflicted by the problems of "missing markets" – the absence of options for low-income groups as developers focus exclusively on the provision of middle- and high-end housing where profit margins are more assured.[251] This is made worse by the fact that what housing credit is available is typically skewed towards middle-income groups, leaving the urban poor with little access to formal finance options. Even then, in many cities housing challenges are experienced not only by the urban poor; the middle-class people are also being affected by soaring prices and property markets skewed towards high-income buyers. In Malaysia, for instance, soaring housing prices have far outstripped growth in real income, increasing by 5.6 times between 1990 and 2019 while GDP per capita rose by 2.8 times during the same period. Despite decades-long efforts to address the shortfall, the country currently faces an estimated deficit of about 1 million affordable housing units. A lack of reliable data to connect supply and demand has also contributed, paradoxically, to a large proportion of vacant housing units being those classified as affordable.[252]

The absence of affordable housing options for a significant portion of the urban population has been a major driver of slum development across the region.[253] While the urban poor are frequently seen as the main driver of informal settlement growth, this is ultimately a symptom of unmet housing need and the lack of affordable options in the formal market. While targeted public subsidies to support affordable housing development can deliver significant results, good-quality social housing programmes can be difficult to achieve due to high land and building costs and the low prioritisation of housing stock for the poorest groups. Singapore's successful public housing strategy, with

about 80 per cent of residents living in government-subsidised housing and a strong emphasis on well-considered neighbourhood design,[254] is something of an exception in the region due to its advanced economic development and the large proportion of urban land that is State-owned. In general, as State subsidies and public housing programmes have been steadily phased out in recent decades, it has increasingly fallen to the private sector to deliver affordable low-income housing. Yet, in practice developers have been unable or unwilling to meet this demand, and as a result slum growth has continued.[255]

For public-private partnerships (PPPs) to deliver more affordable housing options, the right conditions must be in place, including a clear regulatory framework and the involvement of community organisations and NGOs.[256] It is also essential to monitor and review planning targets carefully to avoid unforeseen consequences. In Malaysia, for instance, though the government has for decades had in place price ceilings and social housing quotas for private developers, pricing pressures and lack of enforcement have meant that in practice supply has often fallen far short of these targets. Furthermore, what stock has been constructed for poor households has largely comprised low-quality, inaccessible developments in peripheral urban areas. Despite a building boom in recent years, with the country's housing stock increasing by 35 per cent between 2005 and 2015, the gap between the number of available housing units and the number of households requiring them has grown, with low-income families being the worst affected.[257]

There are a range of factors that contribute to unaffordability, from high construction costs to weak regulations, so a coherent strategy to address these challenges needs to be multipronged. In particular, given that the lack of available land in many cities poses a major barrier to the provision of affordable housing, national and local governments should focus on how to make suitable plots available for developers to construct housing for low- and middle-income residents. Importantly, this does not mean rolling back vital



SOURCE: Liu, J. and Ong, H.Y. (2021) "Can Malaysia's National Affordable Housing Policy guarantee housing affordability of low-income households?", Sustainability 13 (8841), p.2; Central Bank of Malaysia (2017) Annual Report 2016, Kuala Lumpur, p.95

Lack of access to credit for low-income households, especially those engaged in informal sector employment, is currently a key driver of the affordability crisis. Likewise, denied mortgages from formal lenders, the urban poor are unable to raise the money necessary to purchase or upgrade a property. However, pro-poor financing mechanisms such as community funds and microfinance can offer a valuable alternative for low-income households.

environmental protections or approving construction in public green spaces, but rather enhancing coordination and relaxing outdated restrictions where applicable in order to address supply bottlenecks and open up appropriate plots for development. A related challenge is the phenomenon of "land banking," where private developers effectively sit on unused land as an investment to be realised at a future date, once values have increased even further; municipalities can help reduce this practice through targeted land taxes on idle plots to encourage owners to release them.

There are also various innovative programmes that use land value capture mechanisms to leverage public or private funding to fund housing development for poor communities. Many of these are notable for their ability to make relatively modest sums achieve a great deal on the ground by engaging the skills and knowledge of local residents themselves. For example, land adjustment frequently plays a critical role in financing upgrading and rebuilding of informal settlements, in particular; following negotiations between private landlords and communities, low-density informal housing is rebuilt into multistorey dwellings to rehouse residents, and the space freed up on the site is used as collateral to help fund these improvements and compensate the landowner. Promoting more inclusive finance can also deliver tangible results as lack of access to credit for low-income households, especially those engaged in informal sector employment, is currently a key driver of the affordability crisis. Denied mortgages from formal lenders, the urban poor are unable to raise the money necessary to purchase or upgrade a property. However, pro-poor financing mechanisms, such as community funds and microfinance, can offer a valuable alternative for low-income households.[258]

Better public transportation can also play a role in the provision of housing. The challenge around peri-urban growth in many ASEAN cities is that, without adequate public transit and clear zoning, poorly connected urban sprawl develops and brings a range of other challenges in its wake, including spatial exclusion, long commuting times and environmental degradation. An inclusive and effective public transit system, however, can help reduce pressure on inner-urban areas and guide coherent, compact housing development outside the city centre that is still easily accessible and within an acceptable commuting time from employment opportunities.[259]

A 10-POINT STRATEGY TO IMPROVE HOUSING AFFORDABILITY IN MALAYSIA

BOX 9

The long-standing challenges faced in the provision of affordable housing in Malaysia were recognised in the government's 2019 National Affordable Housing Policy (DRMM), an ambitious strategy to address the barriers that low-income groups continue to experience in accessing housing. However, a recent study[260] highlighted the array of factors contributing to unaffordability, from low incomes and turbulence in the national economy to high construction costs and weak home financing mechanisms. Recognising the need for a wide-ranging set of solutions, the authors highlight the following 10 entry points in DRMM that could help improve the supply of affordable housing:

1. **Centralise affordable housing authority:** Given the proliferation of federal and national agencies involved in housing provision, the designation of the Ministry of Housing and Local Government as the central coordinator of the new strategy is a positive step towards a more harmonised and comprehensive approach.

2. **Create a unified housing database:** The lack of a centralised information hub on households and associated characteristics, such as income and family size, has contributed to a protracted mismatch between supply and demand, resulting in large numbers of unsold units. The creation of a central database along these lines, as mandated in DRMM, should encourage a more responsive housing market.

3. **Strengthen development control:** Previous pro-poor provisions on affordable housing quotas and allocations have been undermined by lack of implementation on the ground. The DRMM should empower government officials to enforce a stronger adherence to these regulations.

4. **Control affordable housing price:** High land and construction costs have pushed up the prices of supposedly affordable units beyond the reach of many low-income households. The DRMM seeks to resolve this by fixing urban and rural housing costs in each state according to local median incomes.

5. **Prepare land for affordable housing:** Escalating land costs in urban areas serve as major barriers to affordable housing provision. The DRMM therefore stipulates that state governments should identify appropriate public land for affordable housing development, in partnership with the private sector.

6. **Reduce construction cost:** The DRMM recommends that developers reduce building costs through the application of cost-saving approaches such as pre-fabrication, automation and digital modelling, with subsidies to support the uptake of these technologies.

7. **Reduce compliance cost:** As administrative and development charges can contribute significantly to overall housing costs, the DRMM proposes streamlining regulatory fees, approval processes and land premiums where possible to reduce the financial burden.

8. **Ensure appropriate dwelling conditions:** As affordable housing has often been constructed in the absence of substantive information on local needs and preferences, resulting in thousands of unsold units, providing clear criteria around floor size, density and amenities for developers will help ensure that finished homes are more adaptative and appropriate.

9. **Improve household financial literacy:** Research has highlighted a widespread lack of financial knowledge and capability that can contribute to debt and constrain credit access. Education and awareness raising can help address these gaps.

10. **Launch various housing finance schemes:** As different low- and middle-income groups face different constraints around savings, credit access and repayment, the DRMM suggests that a range of financial programmes are rolled out to provide a wide range of constituencies with feasible borrowing and interest rates to allow them to purchase a home.

IMPROVING LIVEABILITY

Healthy housing, energy efficiency and public space

Besides providing shelter, housing plays a central role in determining access to health, well-being, services, education and employment. Housing quality is therefore connected to a wide range of other issues that threaten the future sustainability of cities across the ASEAN region, including smaller and emerging urban centres. In Cambodia, for instance, despite the ongoing development pressures in the capital, residents in Phnom Penh still have an average of 18.5 square metres per person of living space – close to a quarter more than the 15 square metres available to those in other urban areas in the country.[261]

Long before the outbreak of COVID-19, the link between housing, public health and well-being was widely acknowledged; according to the 2018 WHO Housing and Health Guidelines, "improved housing conditions can save lives, prevent disease, increase quality of life, reduce poverty, help mitigate climate change and contribute to the achievement of the SDGs."[262] Durable materials, good ventilation, physically accessible design and healthy urban environments free of pollution and the presence of hazardous materials, such as asbestos or lead, are all factors that can strongly determine long-term health, morbidity and life expectancy. The importance of adequate housing has been brought into even sharper focus by the COVID-19 pandemic, with overcrowding and unsanitary living environments contributing to higher levels of infection in some communities; for example, the cramped dormitories where migrant workers in Bangkok and Singapore were forced to quarantine, with little opportunity to socially distance.[263]

While unsanitary living conditions in informal settlements have often been used as a pretext for their destruction and the removal of residents from the area, incremental upgrading of the existing structures through subsidies or microfinance can deliver substantial benefits, ranging from more resilient housing and safer public spaces to the provision of such services as solid waste management. Many successful informal settlement upgrading programmes demonstrate the potential of participatory spatial

DELIVERING LOW-COST HOUSING IN DAGON MYO THIT (SEIKKAN) TOWNSHIP, YANGON

BOX 10

Yangon has approximately 300,000 squatters, many of whom were originally displaced from the Ayeyarwady Region after the devastation inflicted on that coastal area by Cyclone Nargis in May 2008, while others are rural migrant workers who came to the former capital of Myanmar in search of job opportunities. Located in the eastern part of the city in a former industrial zone, with some 50,000 residents, Dagon Myo Thit (Seikkan) is one of the largest informal settlements in Yangon. Living conditions in these settlements have steadily deteriorated as a result of overcrowding, inadequate accommodation and limited access to clean water, sanitation and waste disposal.

In this context, with the financial support of the Government of Japan, UN-Habitat implemented a low-cost housing project to address the problem of these communities through a pilot project to provide the most vulnerable families with housing and basic facilities. In the first phase, once land was made available by the Department of Housing and Urban Development under the Ministry of Construction, the project erected six apartment buildings for 120 vulnerable families. This was followed by another project that saw another three apartment buildings constructed in South Dagon township for 60 poor families living in informal settlement areas there.

The project's People's Process, a participatory approach adopted by UN-Habitat, integrated a continuous process of social engagement and organisation that led to the successful voluntary resettlement of residents into more dignified living conditions. Because the beneficiaries were ultimately the most important stakeholder in the project, they were involved from the beginning in determining the priorities and implementation of the project. Women for the World, a local civil society organisation, was also engaged in the facilitation of the community mobilisation process and the identification of the poorest families, based on their housing assets, income, job stability, children's educational access and their previous experience with forced eviction.

Once the beneficiaries and the design of the buildings were finalised, Apartment Users Committees were formed for each building alongside an Integrated Apartment Users Committee (IAUC) made up of the new residents. Each committee is responsible for social work, conducting meetings and funding the maintenance of their respective buildings. Further, IAUCs are responsible for maintaining shared services and facilities. The project is aimed at addressing the critical issues that surround the urban poor in Yangon and has been recognised for its pioneering projects to solving the housing problems faced by poor and vulnerable families in informal settlements.

planning to deliver well-functioning, productive urban neighbourhoods. For example, in Indonesia, the Comprehensive Kampung Improvement Programme in the city of Surabaya placed central emphasis on community-led approaches through technical trainings, consultations and mobilisation, thereby bringing significant improvements to the urban environment and public health.[264] Ensuring that community-led mechanisms are in place and some degree of tenure security to provide residents with the confidence to invest in the process is key.

To ensure that settlement upgrading is successful in the medium term, it is important that architects and designers develop solutions that properly reflect the needs and priorities of residents themselves. Without meaningful collaboration and consultation, professionals can end up imposing inappropriate or top-down solutions that are not properly suited to such informal contexts as slums.[265] Consequently, while communities can benefit from their skills and expertise, these must be delivered through equitable partnerships that place communities front and centre in decision-making processes. This is illustrated by the work of the Community Architects Network (CAN). Established in 2010, CAN is an Asia-wide grass-roots organisation that brings together architects, planners, engineers and students with communities to support housing upgrading, disaster rehabilitation, heritage mapping and other activities. Among other activities, the organisation has facilitated participatory workshops to develop typhoon-resistant housing in Cambodia and

Contemporary housing trends across ASEAN, often promote a dependence on air conditioning and other wasteful systems that contribute significantly to urban emissions. Given that so much stock still needs to be constructed, investing in the latest digital tools to promote better resource use in buildings could bring significant future benefits at a relatively modest upfront cost.

worked in partnership with communities to design locally appropriate engineering solutions, including the construction of a bamboo footbridge connecting informal riverside settlements in Davao City, the Philippines.[266]

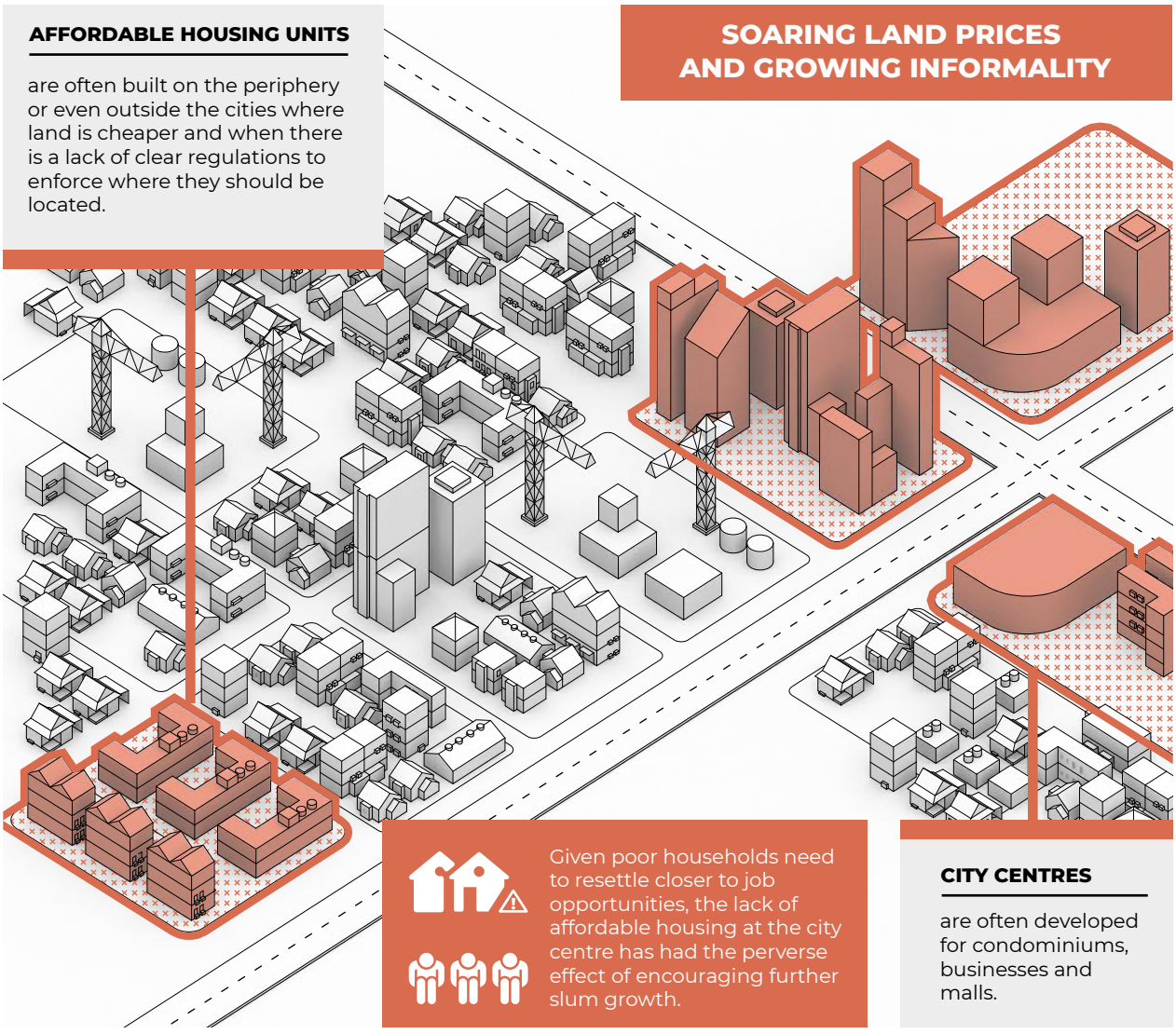
Finally, the growing potential of smart technologies in the housing sector could also support the development of more efficient, sustainable housing. Contemporary housing trends across the ASEAN region, especially for middle- and high-income buyers, often promote a dependence on air conditioning and other wasteful systems that contribute significantly to urban emissions. Given that so much stock still needs to be constructed, investing in the latest digital tools to promote better resource use in buildings could bring significant future benefits at a relatively modest upfront cost. Singapore is arguably leading the way in this area, with the Housing Development Board's Smart Enabled Home initiative offering citizens the opportunity to install monitors to manage their utilities and monitors to ensure the safety of elderly relatives.[267] By promoting water conservation and reduced energy consumption, these digital tools can play a crucial role in supporting urban sustainability. Although smart solutions are frequently associated with more affluent households, there is also a real opportunity to adapt these technologies for low-income communities.

PROTECTING URBAN LAND RIGHTS

Tenure security, regularisation and an end to evictions

Although many common trends are experienced across the region, the drivers of informality can vary from country to country, depending on the context. For instance, while in Cambodia the widespread prevalence of informal tenure is in part a legacy of the Khmer Rouge and its systematic destruction of land deeds, in Viet Nam onerous and expensive restrictions around minimum plot size and other criteria have effectively pushed households into informality.[268] While informal settlements are often characterised as the ultimate symptom of dysfunctional urbanisation – particularly by those seeking their erasure through demolition or redevelopment – in practice, many informal settlements simply represent the best available solution for poor or excluded urban residents who have no access to social housing or affordable rentals.

Against a backdrop of soaring land prices and speculation, even apparently pro-poor housing policies can have unintended effects that contribute to informality. In the Philippines, for instance, developers are obliged to ensure that 20 per cent of the units they produce can be classed as affordable – however, without any accompanying requirement on where these are located. As a result, while the more expensive city centres are developed for condominiums, businesses and malls, the cheaper housing is typically situated on the outskirts and in peri-urban areas where land is cheaper. This means that the



SOURCE: Singru, R.N. (2015) Regional Balanced Urbanization for Inclusive Cities Development: Urban-Rural Poverty Linkages in Secondary Cities Development in Southeast Asia, ADB, p.5

BOX 11

FLOOD-RESILIENT COMMUNITY UPGRADING IN SECONDARY CITIES OF VIET NAM

Many secondary and small towns in Viet Nam are now facing a shortage of affordable housing stock due to scarce housing budgets and the absence of alternative models of community engagement. However, through multistakeholder engagement, these cities can mobilise sufficient resources in the community to address these challenges. A participatory approach, supported by appropriate funding mechanisms, will help ensure good-quality outputs and also offer potential for replication elsewhere.

Since 2013, the flood-resistant housing programme initiated by Song Foundation under the Community Development Fund has benefited a variety of households and communities severely affected by natural disasters and climate change. Since it started in Ha Tinh Province and the rocky valley of Tan Hoa, Quang Binh, the programme has successfully provided technical and financial support for about 4,000 people in a total of 10 provinces and cities across Viet Nam. Specifically, the programme has supported nearly 750 people living in Dien Ban Town and Ba Bon Town to build or reinforce their houses since 2015. A recent survey revealed that 93 per cent of participating households thought that the programme produced positive impacts on their life.

The success of this housing programme came from a consensus among all stakeholders and a precise working mechanism. The participatory approach is applied to build and maintain a strong relationship between the project team, beneficiaries and other stakeholders. While local authorities help to identify the most vulnerable families and are responsible for overseeing the construction process, community members not only collaborate with volunteer architects in the design process but also share the building costs. This collaborative and bottom-up approach also extends to the project's financing, combining grants and loans from the Song Foundation, various national NGOs and private enterprises with savings or labour provided by the selected households. Youth and academics are also mobilised to provide professional advice. The positive outcome of the project proves that once key partners participate fully and familiarise themselves with the local community, more resources can be raised and shared in innovative ways to deliver pro-poor housing solutions. The knowledge and best practices demonstrated in this project could also be replicated in other flood-prone settlements in cities across the ASEAN region.

bulk of low-income housing is built on the periphery or even outside cities; this has had the perverse effect of encouraging further slum growth, as poor households have then resettled in more central areas closer to the economic opportunities they need.[269]

Tenure insecurity is a particular concern for informal settlements, a situation that can discourage any individual or communal improvements as the constant threat of eviction means any investment can be undone without warning if they are moved from their land. In Cambodia, for example, where land registration is still incomplete and evictions take place on a regular basis, informal settlements have repeatedly been uprooted to accommodate infrastructure or private sector investments. One example is ING City, a planned development in a large wetlands area to the south of Phnom Penh that could displace hundreds of families and place up to a million residents at risk of flooding once the waterways are infilled with sand.[270] Cambodia is not alone in already having land legislation in place; the problem is that in many cases these regulations are not implemented in practice.

This is why a core element in any urban upgrading strategy is tenure regularisation, providing residents with a measure of certainty that resources channelled into improving their housing and surroundings are not wasted. Yet, it is important that the process of increasing tenure security does not pave the way for the land to be sold later to higher-income groups or developers, and in the process thus displacing the urban poor.[271] Granting collective land rights can help protect the plot from being gentrified, meaning that individual households are able to own their homes but, if they wish to sell, they have to sell them back to the community rather than on the open market. There are in fact an array of different forms of tenure security that can be provided to communities for the urban poor, distinct from individual property ownership; these include official recognition

There is significant potential for local governments to address insecure tenure through land titling, registration and other forms of regularisation, providing a range of benefits besides safer shelter, including better educational outcomes, improved livelihood opportunities and increased local government revenue through formal taxation.

of informal settlements by city authorities, upgrading programmes and guarantees around compensation and resettlement in the case of eviction, as well as collective ownership, such as cooperatives and community land trusts.[272] Given the wide variety of informal settlements across the ASEAN region, different approaches to tenure regularisation may be more appropriate depending on the urban context, and if well implemented can provide many of the same benefits as land titling. What is crucial is that residents can securely invest in their homes and futures, confident in the knowledge that their presence is recognised and that any planned resettlement, should it ever occur, will be preceded by consultation, consent and proper compensation.

Currently, basic land and housing rights remain weak in many cities across the ASEAN region, a legacy of decades of exclusionary urban development that if unresolved will continue into the future to replicate inequality in the form of slums. A recent study on patterns of "spatial violence" in six ASEAN capital cities (Bangkok, Ho Chi Minh City, Jakarta, Kuala Lumpur, Manila and Phnom Penh) argued that long-standing exclusionary policies around issues such as documentation had actively contributed to informality and ultimately the "displaceability" of communities in the name of public interest, disaster resilience or beautification.[273] Without a fundamental shift in the housing rights and protections that cities are willing to grant all residents, particularly migrants, non-nationals and other groups who face discrimination on account of their language, ethnicity or religion, an end to the ongoing cycle of slum growth and evictions seem unlikely. However, there is significant potential for local governments to address insecure tenure through land titling, registration and other forms of regularisation, providing a range of benefits besides safer shelter, including better educational outcomes, improved livelihood opportunities and increased local government revenue through formal taxation.

RECOMMENDATIONS

The following recommendations are intended to improve access to affordable, adequate and secure housing. The recommendations directly align with each of the four key "enablers" discussed in the first section of the report, providing insights to ensure the long-term sustainability of a broad range of urban interventions.

DYNAMIC URBAN GOVERNANCE

Establish a clear regulatory framework for affordable housing, with measurable and enforceable provisions:

A central factor in the ASEAN region's growing housing crisis is the dominance of market-driven development, with little or no protection in place for poorer residents. This has favoured the construction of high-end and middle-income houses while low-income housing stock is either substandard or non-existent. Although private housing markets will likely remain the dominant driver of urban development across the region, governments should establish clear requirements around social housing quotas, price bands and efficient land use to discourage speculation and ensure that the rights of the most marginalised communities are not overlooked. Local governments should also focus on strengthening tenure security in informal settlements to support community upgrading.

INTEGRATED MASTER PLANNING AND DEVELOPMENT

Ensure a holistic approach to housing construction that supports the development of safe, adequate and connected homes:

Given the profound and wide-ranging impacts of housing on health, employment, education and well-being, poorly designed and geographically isolated developments will only serve to entrench existing social inequalities among the urban poor. On the other hand, by ensuring that homes are liveable, serviced and enjoy easy access to the amenities of the city through public transport, well-planned housing can support social inclusion and poverty reduction. Planning future housing development in parallel with transport and service infrastructure is key to ensuring that, while suitable land is available for development, it is used in a compact and coherent fashion.

PARTNERSHIP AND FUNDING

Promote flexible, inclusive housing finance and resources for all income groups, with a particular focus on pro-poor funding and capacity development:

Currently, even the cheapest houses are not accessible for many poor residents, who are excluded from formal credit and loans on account of their informal employment or residence in an informal settlement or slum. Innovative financing models, including community savings and loans, that can deliver meaningful funding options for those with the most acute housing needs should be actively supported. Some of the most successful community-based initiatives not only encompass housing finance but also engage the skills of residents through various initiatives, such as self-build programmes and cooperative partnerships, among other models.

DIGITAL INFRASTRUCTURE AND APPLICATIONS

Exploit the potential of digital tools to support the development of more resource efficient housing:

Urban homes in the ASEAN region, particularly those of the more affluent residents, are a major source of emissions and waste due to their high use of energy and water. Digital technologies, however, offer the potential for households to reduce their consumption through smart meters, monitors, remotely operated air conditioning systems and other tools. These investments should be made now to maximise future savings, with a focus on socially inclusive and affordable solutions to ensure that these benefits are also extended to low-income communities.

WATER, WASTE AND SANITATION

One of the primary characteristics of informal settlements, in the ASEAN region and elsewhere, is their limited or non-existent provision of clean water, improved sanitation and solid waste management. When housing growth is rapid and unregulated, these expanding areas typically outpace the development of the infrastructure necessary to service them. When these settlements have been built informally in particular, these gaps can remain in place for years or even decades, with profound implications for local environments and human health. Lack of access to these services along with overcrowding and unhealthy urban environments have driven the spread of a host of communicable diseases, including cholera, diarrhoea, dysentery and more recently COVID-19. These gaps highlight the difficulty of achieving sustainability when many of these challenges appear to be steadily worsening alongside urban growth. However, the benefits of providing inclusive access to services for waste, water and sanitation are also enormous, ranging from cleaner and healthier neighbourhoods to the creation of new livelihood opportunities.

Millions of urban residents in ASEAN still lack access to water and sanitation

While there has been considerable progress across the region in recent years, with cities leading the way, significant disparities remain. In Cambodia, for instance, while urban water service coverage is markedly better than in rural areas, it is still highly variable from city to city, with residents of Phnom Penh enjoying much better access than smaller cities in the country. For instance, while about 81.7 per cent of households in the capital enjoy water piped into their homes, the proportion falls to just 32.9 per cent in other urban areas.[274] Besides geography, access is also sharply defined along socioeconomic lines, creating significant inequalities within urban areas between richer and poorer residents.[275]

Solid waste has been a longstanding concern across ASEAN and continues to escalate in pace with increasing urbanisation

By 2025, according to projections, the total volume of waste produced in the region will be about 150 per cent higher than levels in 1995, three decades previously.[276] Rapid urban growth, higher consumption and the increasing complexity of waste streams, such as electronics and plastics, have left cities struggling to effectively regulate recycling, segregation and safe disposal.[277] Yet, poorly managed waste, particularly when dumped illegally in waterways or incinerated through open burning, can have a variety of negative impacts on local environments, public health and liveability.

Data on service access remains incomplete, obstructing effective and inclusive interventions

While overall urban areas are performing much better in most countries relative to rural areas, these averages often conceal a far more challenging reality in slums and peripheral areas. More broadly, the limited availability of reliable data on access to water, sanitation and solid waste management in many ASEAN cities makes it difficult to identify service gaps or for communities to pressure local governments to address these shortfalls; coverage in these areas could be greatly strengthened through the implementation of regular monitoring and reporting.

MAKING SERVICE EXCLUSION VISIBLE

The importance of reliable data

Alongside the struggle to deliver affordable housing, the exclusion of millions of urban poor from water, waste management and sanitation is one of the most pressing challenges cities face across the ASEAN region in achieving sustainability. The human and environmental costs when these services are unavailable, from pollution to disease, are often central to the continued poverty and deprivation that slum dwellers and low-income groups face. Indeed, one study of informal settlements in Metro Manila found that lack of access to clean water was the single most significant contributor to multidimensional poverty among residents.[278]

The failure of many cities to keep pace with the consequences of their own growth raises important questions about their future. Until now, urbanisation in ASEAN has been strongly associated with an uptick in per capita waste generation as personal consumption rises among city residents; Singapore's prosperity and economic growth have directly contributed to the production of large volumes of waste that are also increasingly inorganic in composition. However, while Singapore currently has one of the highest per capita waste generation rates in the region, some projections have suggested that rates in other urbanizing countries, such as Malaysia and Thailand, will continue to rise and could soon overtake Singapore.[279] In this context, without effective remedial action, environmental degradation could become inextricably intertwined with the region's urbanisation.

The absence of essential services has long been a defining feature of many slums and informal settlements, playing a major role in the spread of communicable illnesses, such as diarrhoea, dysentery and cholera. In the wake of COVID-19, widespread concerns around the need for clean water and adequate sanitation to reduce transmission has driven some emergency interventions in communities of the urban poor. Consequently, many urban organisations and NGOs across the region have invested significant efforts into improving hygiene and service access where these are limited or unavailable. In Yangon, Myanmar, for instance, where prior to the pandemic UN-Habitat had already been working with communities to improve water, sanitation and waste management in informal

BOX 12

AN INNOVATIVE APPROACH TO SOLID WASTE MANAGEMENT IN BATTAMBANG, CAMBODIA

Battambang, Cambodia, is one of the pilot cities in the joint ESCAP and UN-Habitat programme entitled, "Localizing the 2030 Agenda in Asian and Pacific Cities." Using the SDGs as a common point of reference, the project – spearheaded by Habitat for Humanity Cambodia in close cooperation with the municipal government – has brought together an array of different groups, including community organisations, NGOs, private sector actors and the University of Battambang, to work towards strengthening the city's solid waste management while increasing livelihood opportunities and improving housing.[280]

The project has delivered this through three main interlinked approaches. First, by bringing together a broad range of different groups through workshops, visioning exercises and other activities, it is supporting the development of partnerships and multistakeholder governance. Second, it has focused on the production of a strong evidence base to guide decision-making, aligned closely with SDG indicators and incorporating vulnerability assessments, gender analyses and informal settlements. Third, working with these networks, it seeks to facilitate integrated, systems-based approaches to the city's challenges. Besides supporting the delivery of better services and living conditions for Battambang's residents, it is hoped that the project will leave a lasting legacy of collaboration and community engagement that will drive the continued realisation of the SDGs at the local level.[281]

> **Enabling residents to be part of the data collection process themselves, can provide governments with a much clearer picture of service needs while empowering communities to play a leading role in their upgrading. It is also essential in ensuring that local governments remain accountable to their citizens, especially the most marginalised.**

settlements, the agency mobilised local networks in the early weeks of the first lockdown to set up handwashing stations and distribute masks, sanitisers and personal protective equipment (PPE) to help contain the spread of the virus. However, while these initiatives are welcome in alleviating some immediate shortfalls, they also point to the need for a sustained, long-term strategy to close gaps and realise truly universal service access across the ASEAN region.

Incomplete or non-existent data are a major barrier to delivering more inclusive water, waste management and sanitation, particularly as lack of access to these services is generally most acute in slums. As the situation of informal settlements is frequently overlooked in official statistics, especially when not disaggregated by geography, income level and other variables, these inequalities can remain invisible to local authorities. Furthermore, without reliable data to support them, poor communities face an uphill battle to highlight their exclusion and advocate for better service provision. Enabling residents to be part of the data collection process themselves, however, can provide governments with a much clearer picture of service needs while empowering communities to play a leading role in their upgrading. It is also essential in ensuring that local governments remain accountable to their citizens, especially the most marginalised. Digital tools can assist with this process, too. For instance, mWater is a free, open-access android-based platform that is easy to use and has supported bottom-up data collection in urban areas to build up a detailed evidence base on water and sanitation. Among other contexts, it has been rolled out as part of a programme funded by the United States Agency for International Development (USAID) to identify gaps in urban services in Indonesia. Working with cities across the country, the project has included tailored trainings to enable local stakeholders to use the application independently and develop their own surveys. Compared with the manual data collection methods used previously, this new approach is quicker, easier to disaggregate by location and can also include photographs, providing additional detail that can help prioritise funding for the most vulnerable households and communities.[282]

ADDRESSING GAPS IN SERVICE PROVISION

The need for multistakeholder solutions

National and local governments have a crucial role to play in ensuring that water, waste and sanitation services are universally available; the struggle to achieve this in many cities is a symptom of wider failures in urban governance. Some of the challenges relate to the fact that many informal settlements are not legally recognised or are located in peri-urban areas. Furthermore, municipalities may explicitly refrain from providing services to informal settlements out of fear this will drive further growth in the future. In Indonesia, for instance, though a significant portion of urban communities lack legal tenure – in Jakarta, more than half of land parcels are untitled – residents of these settlements are denied access to water and sanitation. This is also true of other countries in the region, where the provision of basic services is often regarded as signalling de facto recognition of a settlement, leaving the local government reluctant to address these gaps. Documentation issues, commonly experienced by migrant populations, can also create barriers to access.[283]

In addition, municipalities often outsource service provision to the private sector. While there are reasons to justify this approach – in many cases, companies may have more technical expertise in these sectors than local governments, particularly in smaller cities, as well as the resources to make upfront infrastructural investments – problems arise when the contractual arrangements do not include clear stipulations to compel operators to service all residents equitably. As a result, working on the basis of profit and practicality rather than need, private providers may prioritise centrally located, relatively affluent areas over spatially segregated, unserviced informal settlements. This is reflected in uneven access to solid waste management, with richer residents frequently enjoying much higher levels than the urban poor, even when the local municipality in principle provides these services. Among other reasons, including the cramped conditions in many informal settlements, this may be because the largely organic waste in these areas is regarded as less lucrative by private actors and informal waste collectors due to the low proportion of plastic, metals and other recyclables.[284]

Research by the Stockholm Environment Institute shows that **"waste pickers"** play an important role in urban waste management in cities such as Bangkok, collecting on average:

190 KG. / WEEK

Yet the research also identified a number of challenges waste pickers faced in their work, including:

- **Lack of personal protection equipment (PPE)**
- **Fluctuating prices**
- **Lack of social protection**

SOURCE: Archer, D. and Adelina, C. (2021) Labour, Waste and the Circular Economy in Bangkok, SEI, Bangkok

One programme with funding from the World Bank and a number of country donors engaged individual households in Viet Nam's secondary cities in a sanitation microfinance project.

The programme was able to provide poor households:

$145 PARTIALLY SUBSIDISED LOAN

to cover around two-thirds of the cost of **upgrading their housing with sanitation facilities.**

The funding was dispersed through small-scale revolving funds controlled by a **community cooperative**.

This helped to ensure very **high repayment rates** of around:

99%

SOURCE: Asian Development Bank (2016) Financing Mechanisms for Wastewater and Sanitation, Manila, pp.30-32

Another perception that can contribute to the exclusion of the urban poor is that they cannot afford to pay for services themselves. This is not necessarily accurate, however, given that many slum dwellers are compelled to pay even higher levies for clean water than better-off residents with piped connections to the mains. Ironically, though local governments will often have tiered tariffs and subsidies in place to increase affordability for low-income residents, the fact that a significant proportion of the very poor are excluded from formal services means that in practice they are unable to benefit from these provisions.[285] What is true is that ensuring pro-poor access to clean water and other basic services may often require an innovative financing structure that is affordable for the urban poor; for example, zero-interest loans to support infrastructure or upfront development with costs slowly recouped through affordable user fees.[286] When affordable finance is made available, the impact of these investments can be considerable, with the majority of loans repaid in many cases. For example, one programme with funding from the World Bank and a number of country donors engaged individual households in the cities of Da Nang, Hai Phong, Ha Long and Cam Pha in Viet Nam in a sanitation microfinance project. This programme provided poor households with a partially subsidised loan of USD145 to cover about two thirds of the cost of upgrading their housing with sanitation facilities, with households sourcing the remainder from other sources; the funding was dispersed through small-scale revolving funds controlled by a community cooperative, which helped ensure very high repayment rates of about 99 per cent.[287] Notwithstanding the apparent success of many such programmes, however, it is important that the burden of service provision does not fall disproportionately on poor communities rather than on local and national governments.

Local governments should also focus on working productively with small-scale and informal service providers, given the vital contribution that they make in providing water and sanitation, especially in reaching households and communities that are unable to

connect to public systems. Although not without their problems, including higher prices and the potential risks of quality control issues, such as improperly treated drinking water, many of these operators essentially fill the gaps where formal systems should be. Surveys in Cambodia and the Philippines have also suggested that on the whole these providers have earned some form of legitimacy or license to serve these areas, with customers generally reporting themselves reasonably satisfied with the services that they received.[288] National and local governments can best address any shortcomings by allocating more resources, capacity development and credit access to these operators, who often lack the equipment and training to undertake the necessary quality and safety protocols. The same is true in solid waste management and recycling, where so-called "waste pickers" have long played a central role. In Thailand, for instance, a growing number of people have turned to waste recycling as a source of income in the wake of COVID-19. A programme by the Stockholm Environment Institute has highlighted the significant role that these workers play in urban waste management; its researchers found that on average, among dozens of urban waste pickers surveyed in Bangkok, each collected an average of 190 kilograms of plastic every week. Yet, they also identified a number of challenges they faced in their work, including a lack of PPE, which left them exposed to potentially hazardous or contaminated materials.[289] Other challenges include fluctuating prices, social discrimination and a lack of social protection.[290] Local authorities can take steps to integrate these workers more fully into urban waste management while supporting safer and less precarious livelihood options for them.

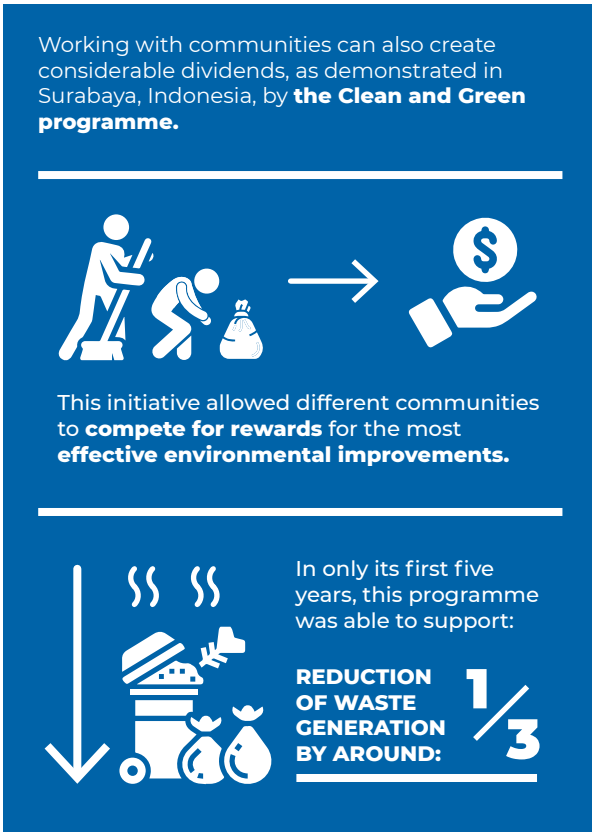
Unfortunately, municipal authorities seeking to improve waste management in their cities have often marginalised these groups in favour of formal models, often led by private sector actors. Yet, more progressive approaches that have sought to partner with informal sector actors have managed to strengthen livelihood options in this area while also promoting more effective waste management. In Quezon City in the Philippines, where thousands of residents rely on waste recycling, the municipal government took steps from the mid-2000s to minimise the impacts of reduced flows of materials into the local dump by establishing formal trading areas near the site and encouraging waste collectors to establish cooperatives in order to access training, education and access to credit. The programme even enabled some waste collectors to take out loans to purchase trucks to collect waste in other neighbourhoods, resulting in positive economic and environmental outcomes.[291]

IMPLEMENTING A "WHOLE SYSTEM" APPROACH

A holistic vision of basic services

As water access and waste management are determined by a variety of social, economic and environmental factors, some of the most effective solutions are those that embrace a holistic approach to service delivery. These are generally participatory in focus, engaging communities in design and implementation, and often extend beyond the immediate need for service provision to improve public health, generate livelihoods and promote equitable development. Furthermore, there are clear benefits to a "whole system" perspective that incorporates every stage of the water, waste and sanitation cycles.

For example, though such grey infrastructure as water pipes and sewerage are an important component in water, sanitation and waste management, other practices, such as rainwater harvesting, nature-based filtration and water recycling, are key, particularly as climate change threatens to significantly reduce future water reserves in many cities. The value of an integrated approach is illustrated by a number of successful water and sanitation projects in urban communities, including a "water-sensitive informal settlement upgrading" programme undertaken in Makassar, Indonesia. This involved a range of technological interventions, such as wastewater treatment wetlands and drainage improvements, but coupled with a proper commitment to allow co-design with communities themselves; architects worked extensively with residents over a period of months to inform the design of pumps, sewage systems, access ways and open spaces. This has helped ensure a more appropriate, locally managed system of water supply, sanitation and waste management that has also delivered a plethora of other benefits, from cleaner streets to improved flood resilience.[292]



SOURCE: ASEAN (2018) ASEAN Sustainable Urbanisation Strategy, Jakarta, p.18

> **Upstream, engaging businesses and households to both reduce and segregate their waste will help minimise unnecessary garbage and facilitate more efficient recycling of reusable materials.**

Similarly, to achieve significant improvements in the management of their solid waste, cities need to undertake a sweep of measures at different stages of the waste cycle. Upstream, engaging businesses and households to both reduce and segregate their waste will help minimise unnecessary garbage and facilitate more efficient recycling of reusable materials. Improvements to local collection and disposal can also be realised through investment and partnerships; these may be physical (such as trucks and skip bins) or digital (for example, sensored waste receptacles), but it is also important that the socioeconomic dimensions are not overlooked. Working with communities can also create considerable dividends, as demonstrated in Surabaya, Indonesia, by the Clean and Green programme. This initiative, which enabled different neighbourhoods to compete for rewards for the most effective environmental improvements, saw waste generation reduce by a third in its first five years.[293] In Malang, Indonesia, meanwhile, the local government pioneered the development of "waste banks" that sought to

address the stigma around waste management and provide a formalised membership system for recycling with benefits, including medical insurance and digitised payments. The sites also doubled up as community spaces and training sites for marginalised groups to learn how to transform waste materials into saleable products.[294]

For intermediate and smaller cities, which may lack large budgets or established in-house expertise to deal with an emerging waste crisis, a pragmatic approach can still reap significant dividends. One development programme piloted in five cities – Buriram and Maha Sarakham (Thailand), Mandalay (Myanmar), Quezon City and Sorsogon (Philippines) – outlined a range of measures, from home composting to awareness-raising, that could deliver real impacts. The findings also pointed to the value of investing in technologies that were feasible and affordable, rather than holding out for the latest innovations, when financial resources are stretched. In Maha Sarakham, for example, the application of simple improvements, such as chippers and balers, helped lessen the volume of waste going to landfill.[295]

What is important, regardless of what model is put into place, is that any infrastructural development or service restructuring is accompanied by meaningful education and awareness-raising. While economic lures and deterrents can play a role in transforming behaviours, at least in the immediate term – for example, various programmes have employed such "results-based financing" mechanisms as reward payments to incentivise recycling[296] – engaging collectors, operators, communities and local businesses to be a part of that change is essential in achieving the necessary attitudinal shift. This ultimately will provide the most sustainable foundation for progress in the provision of urban services.

Given the profound impact of waste management, water access and sanitation on health, quality of life and local environments, cities should also see their provision as a central part of their push towards greater sustainability. In Indonesia, the "Cities without Slums" programme Kota Tanpa Kumuh (KOTAKU)[297] has focused much of its efforts for slum upgrading on supporting the "100-0-100 Movement" – meaning 100 per cent access to safe drinking water, 0 per cent slums and 100 per cent access to proper sanitation. This approach built an integrated method for slum improvement, led by local governments in collaboration with a wide range of stakeholders in planning and implementation, including the residents themselves. KOTAKU has operated in numerous cities across the country, targeting a diversity of slum typologies in different urban contexts.

BOX 13

UN-HABITAT'S WASTE WISE CITIES TOOL: A SEVEN-STEP PATH TO MORE SUSTAINABLE URBAN WASTE MANAGEMENT

Cagayan de Oro, located in the Northern Mindanao region in the Philippines, demonstrated the potential of cities to lead progress towards sustainable development when it became the first city in the world to complete UN-Habitat's Waste Wise Cities Tool (WaCT). Despite being unable to access in-person support with implementation due to COVID-19-related restrictions in place at the time, local authorities succeeded in undertaking the assessment independently, with remote support from UN-Habitat's national partner Wasteaware. The study was carried out collaboratively with local government officials, informal recycling associations and waste collection operators to develop a detailed picture of the city's waste cycle.[298]

Besides providing a blueprint for Cagayan de Oro to transform its existing waste management practices, it also offers an inspiring example of remote learning and capacity development that can be replicated in other cities across the ASEAN region. WaCT provides cities with a seven-step pathway, from calculating different sources of municipal solid waste and assessing disposal facilities to determining waste composition and levels of food waste, greenhouse gas emissions and pollution.[299]

What is important, regardless of what model is put in place, is that any infrastructural development or service restructuring is accompanied by meaningful education and awareness raising. Engaging collectors, operators, communities and local businesses to be a part of that change is essential in achieving the necessary attitudinal shift.

RECOMMENDATIONS

The following recommendations are intended to support the achievement of more sustainable waste, water and sanitation services. The recommendations directly align with each of the four key "enablers" discussed in the first section of the report, providing insights to ensure the long-term sustainability of a broad range of urban interventions.

DYNAMIC URBAN GOVERNANCE

Support the development of multistakeholder collaborations to improve services:

While many local governments outsource at least part of their service provision to private companies, with varying degrees of success, the potential of informal sector operators, such as water vendors and waste pickers, is frequently overlooked and even discouraged. However, these actors are generally the only available form of service provision for informal settlements and other communities which are excluded from formal water, waste and sanitation services. Rather than sidelining informal providers, authorities should seek to engage them through training and targeted financial assistance to improve the quality, affordability and reach of their services.

INTEGRATED MASTER PLANNING AND DEVELOPMENT

Strengthen upstream recycling and waste reduction to minimise consumption and waste:

Rather than attempting to address only the visible problems of waste generation and water shortages, planners can work to incorporate such elements as rainwater harvesting, natural filtration and drainage to improve water use and disposal at every stage of the cycle. Similarly, awareness-raising and low-cost interventions, such as the provision of recycling tubs to every household, can dramatically reduce the volume of unmanaged waste that ends up in landfill or is illegally dumped.

PARTNERSHIP AND FUNDING

Promote positive practices and inclusive service coverage through well designed incentives and funding:

Among other measures, local authorities can implement reward systems to encourage household recycling and invest in such accessible infrastructure as local waste stations. To extend water and sanitation services, cities should develop responsive and pro-poor pricing structures that also benefit slum dwellers and other residents not connected to the formal network. Affordable and accessible subsidies and microfinance can also enable communities to upgrade their available infrastructure.

DIGITAL INFRASTRUCTURE AND APPLICATIONS

Capitalise on smart technologies to gather data and strengthen accountability:

A key challenge to achieving universal coverage in many cities is the lack of reliable data on water, sanitation and waste management, particularly in informal settlements, meaning service gaps are often unacknowledged and therefore unaddressed. Even such relatively simple tools as smartphones can support community-led data collection to highlight shortfalls and hold providers to account. Online complaint mechanisms can also enable citizens to report such issues as leaking pipes and blocked drains.

MOBILITY

While cities across the ASEAN region have swelled, mobility within them is often constrained by lack of public services and infrastructure, poorly integrated planning and congestion. This creates a variety of negative outcomes, from long commuting times to air pollution, that undermine health, liveability and local economies. [300] Transforming urban mobility therefore necessitates an integrated approach for infrastructure and services to deliver better social and environmental outcomes for city residents, particularly those in informal settlements or slums that are poorly connected to the benefits and amenities of the centre. This requires a targeted investment in the roll-out of appropriate services that acknowledge and reach outlying areas, including the often-substantial number of settlements that are not officially recognised by local governments, but are served by informal feeder systems. This will be supported by a planning approach that designs transport systems around current and future housing and infrastructure needs.

Urban mobility is becoming increasingly difficult and time consuming, especially for those located in peripheral areas or cut off from accessible transport routes

One notable symptom of unsustainable urbanisation in the ASEAN region is the increasingly time-consuming commutes that many residents face, creating a host of social and economic problems. These issues are acute in many large cities across the region; in 2019, TomTom's global Traffic Index of 416 cities ranked Manila as the second most congested city in the world, just a fraction behind Bengaluru (also called Bangalore) in India, followed closely by Jakarta (10) and Bangkok (11).[301] Traffic jams are not a problem restricted to the region's megacities, however, with smaller urban areas also contending with similar challenges. A survey in Indonesia found that in some secondary cities, such as Padang and Malang, residents spent close to a quarter of their driving time in congestion – a higher proportion than in Jakarta, despite having only a fraction of the capital's population size.[302]

Transportation, in particular private vehicle use, is a key source of air pollution in cities across ASEAN

In Metro Manila, for instance, as much as 88 per cent of emissions were derived from vehicles in 2015.[303] The impact of urban air pollution on human health, from cardiac disease to respiratory illness, can be enormous; in Jakarta, as many as 13,000 preventable deaths were attributed to fine particulate matter (PM2.5) in 2020, with air pollution-related costs for the city that year estimated at USD3.4 billion.[304] Yet, these problems are not confined exclusively to the largest cities and conurbations in the region. Smaller ASEAN cities are also contending with major challenges as a result of air pollution, but often lack the data or resources to guide meaningful change.

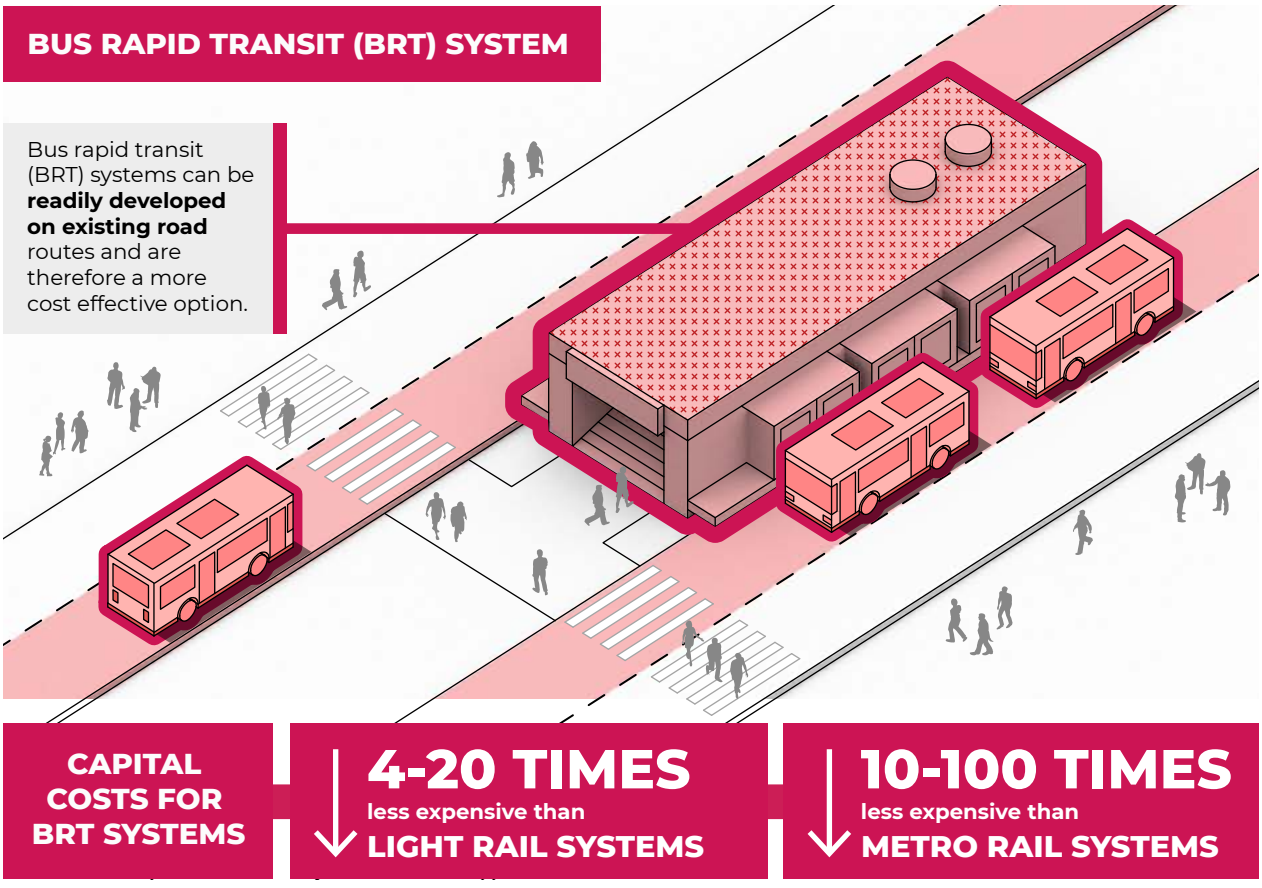
Road accidents continue to be a leading cause of death and injury in cities, with the poor among the worst affected

Poorly managed congestion has also contributed to what the World Health Organization has described as "the silent epidemic"[305] of road deaths and injuries in Southeast Asia, where traffic-related fatalities are among the highest in the world. Road deaths also reflect broader inequalities, as all too often cities prioritise the preferences of private vehicle users over the needs of pedestrians, cyclists and motorcyclists, leaving them more exposed to accidents as a result. As a result, low-income groups frequently bear a disproportionate burden of deaths and injuries. In Myanmar, for instance, almost one in five fatalities are pedestrians (14 per cent) or cyclists (3 per cent) while just under two thirds (65 per cent) are riders of motorised two- and three-wheel vehicles. This compares to about 1 in 10 fatalities among drivers (3 per cent) and passengers (7 per cent) of four-wheel cars and light vehicles.[306]

EMBRACING A NEW VISION FOR URBAN MOBILITY
From smart traffic systems to informal operators

The importance of a functioning, inclusive transport system extends far beyond the immediate impacts. As mobility determines accessibility, the success or failure of a city to facilitate the free movement of its residents can have wide-ranging implications for livelihoods, education, safety and other areas. This is illustrated by congestion, a common problem in many cities; in addition to its impact on well-being and liveability, its knock-on economic effects are estimated to cost between 2 and 5 per cent of national GDP among ASEAN Member States.[307] The personal costs can be even higher in the most congested cities, such as Bangkok, where residents spend about 7.5 per cent of their monthly income on commuting.[308]

In principle, the antidote to the problems of pollution, congestion and inaccessibility experienced by many urban populations is the implementation of an extensive low-carbon, electrified public transit system that is affordably priced and inclusive in its coverage.[309] However, for a variety of reasons ASEAN cities are struggling to realise this in practice, be it a lack of available resources or the fact that many are already locked into inequitable, carbon-intensive systems that require significant investments and political will to reform. The development of an appropriate mobility system also depends heavily on the specific social and economic context of each city. While megacities in the region have led the way with the implementation of subways, high-speed rail and other developments, these expensive options are frequently neither affordable nor appropriate for smaller cities. Bus rapid transit (BRT) systems, on the other hand, can be readily developed on existing road routes and are therefore a more cost-effective option. Capital costs for BRT systems are estimated to range between 4 and 20 times less than those needed for light rail, and between 10 to 100 times less than those for metro rail systems.[310] More broadly, secondary cities may be able to deliver better outcomes for their citizens by building and improving on the resources they already have, rather than committing wholesale to an entirely new system.[311]



SOURCE: UN Environment (2018) Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, UNEP, Nairobi, p.13

In the short-term, cities often face a difficult set of trade-offs between different economic, social and environmental concerns. The tensions between delivering affordable and accessible transport options that are also environmentally sound are illustrated by the widespread use of two- and three-wheel transport, such as motorcycles and tuk-tuks, across ASEAN. The evident popularity of this mode of transport in many Southeast Asian countries – past surveys have suggested that the vast majority of the population in such countries as Indonesia (85 per cent), Thailand (87 per cent) and Viet Nam (86 per cent) have at least one motorbike or scooter at home[312] – is underpinned by the low cost compared with car ownership, making them an affordable option for low-income residents. Although motorcycles are still less polluting than cars, the millions of these vehicles in cities across ASEAN are nevertheless a major source of pollution, noise and greenhouse gas emissions. To combat these impacts, such countries as Indonesia, Philippines, Singapore and Thailand have promoted the uptake of electric models as a cleaner alternative through subsidies and other incentives.[313]

The same is true for many jeepneys, rickshaws and other forms of paratransit, where older and less efficient vehicles are often kept in operation, making them an obvious target for local governments seeking to crack down on pollution. However, given the critical role that private and informal moped and tricycle fleets play in urban mobility systems across ASEAN, particularly as a feeding system from formal transport networks, simply prohibiting their activities would not only have a devasting impact on local livelihoods but also constrain

Past surveys have suggested that the vast majority of the population in various ASEAN countries have at least one motorbike or scooter at home:

85% in INDONESIA
87% in THAILAND
86% in VIET NAM

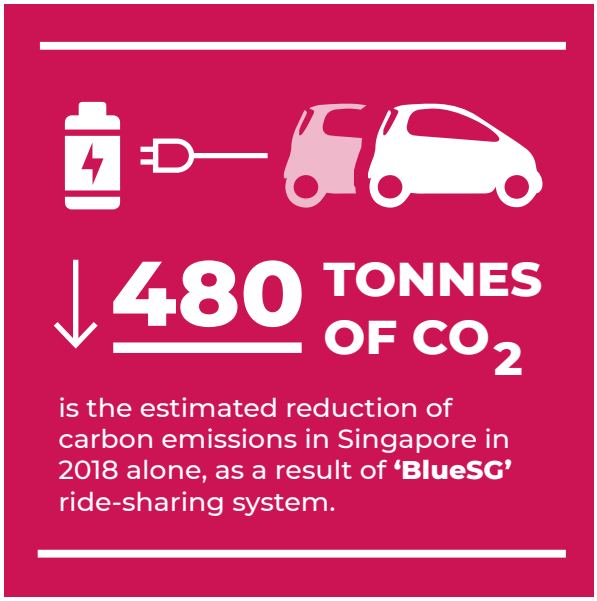
SOURCE: Poushter, J. (2015) "Car, bike or motorcycle? Depends on where you live', Pew Research Center

even further the movement of poor communities. This reflects a broader reluctance in official transport planning to acknowledge the sector's contribution to urban mobility – a situation driven in part by the fact that many workers are operating informally. In engaging productively with this sector, however, local authorities can instead help to improve professional and environmental standards while ensuring that this important mode of transport is not overlooked or forced out of business.

Digital systems and big data, exploiting sensors, CCTV and other tools, can help reduce the problems of congestion by redirecting drivers away from traffic

jams or signalling where car parking spaces are unavailable. Public transportation systems too have benefited from technological advances that have enabled the integration of ticketing and journey times across different modes of transit, enhancing speed and convenience in the process; in Kuala Lumpur, for instance, the MyRapid TnG Card allows users access to all the bus and rail lines in the city through a single contactless card that can be easily topped up in pharmacies, petrol stations and ATMs. However, other new forms of "smart mobility," exploiting the potential of such recent technologies as smartphones, also offer the promise of a deeper paradigm shift in urban transport. These include taxi-sharing and car-pooling platforms that have been successfully deployed in cities across the ASEAN region, in the process reducing congestion, pollution, commute times and traffic injuries. In Singapore, for instance, where the adoption of ride-sharing has dramatically reduced road accidents, an electric car-sharing system called BlueSG has demonstrated the added value of using low-emission vehicles for improving air quality, with an estimated reduction of 480 metric tons of carbon dioxide in 2018 alone.[314]

Smart tools also have relevance in alleviating the mobility challenges that smaller urban areas face. Sihanoukville, for instance, the fastest-growing secondary city in Cambodia, has undergone rapid urbanisation and infrastructure development in recent years due to a surge in foreign investment, especially from China. Alongside this accelerated economic growth, in the absence of an adequate public transport system, the city is contending with a large number of road accidents and hours of congestion. To alleviate these problems, Australian Aid has funded a pilot to establish a "smart parking management system" for Sihanoukville. With sensors in place to count and identify available parking spaces, drivers can then access information through LED signs or a simple mobile application to locate the nearest available parking space and even reserve a spot ahead of their journey. City authorities in turn can use such data to develop a clearer picture of public parking behaviour, as well as identify peak travel times and hotspots to inform better traffic management. Once implemented, the new system is expected to significantly shorten travel times and reduce the risk of road accidents, in turn enhancing city sustainability by promoting urban safety and reducing GHG emissions.[315]



SOURCE: ESCAP (2022) Increasing the Use of Smart Mobility Approaches to Improve Traffic Conditions in Urban Areas of South-East Asia, Bangkok, p.24

Notwithstanding the diversity of urban contexts across ASEAN, a number of principles for transport planning are likely to be relevant to some degree regardless of size, status and wealth. These include the need for a multimodal strategy that effectively links major transit lines to the variety of secondary services in operation – formal and informal, public and private, motorised and non-motorised – to ensure that "last mile" connections are easily accessible for those who live a distance from stations and bus stops. Local governments should also ensure, alongside the roll-out of new technologies and tools that can improve traffic flow and reduce emissions, that such conventional dimensions as physical planning are not disregarded. Finally, national and local governments should also focus on effecting deeper behavioural changes to support the uptake of more sustainable transport practices, as social norms and fashions can serve as obstructions to better practices. In Jakarta, for example, where the number of vehicles outnumbers the total population, the widespread perception of private motorised vehicles as status symbols has meant that many people purchase one even when they do not really need them.

There is a need for a multimodal strategy that effectively links major transit lines with the variety of secondary services in operation – formal and informal, public and private, motorised and non-motorised – to ensure "last mile" connections are easily accessible for those who live a distance from stations and bus stops.

AVOID-SHIFT-IMPROVE

A THREE-PRONGED APPROACH TO IMPROVING URBAN MOBILITY

The Avoid-Shift-Improve (ASI) framework[316] provides cities with a multi-layered approach to enhancing urban transportation systems by adopting a number of strategies simultaneously. The three pillars are:

- **Avoid:** The need for vehicle-dependent trips is reduced by ensuring that employment, services and shops are locally available, meaning that residents have less need to routinely travel beyond their own neighbourhoods. A key element in this is supportive planning and investment policies to enable infrastructure development, economic diversification and commerce. These conditions can be challenging in informal settlements, however, particularly when authorities regard communities as illegal squatters and land tenure is insecure.

- **Shift:** To reach destinations that cannot be accessed easily on foot, journeys on public transport or using active transportation are encouraged as an alternative to private vehicle use. Among other measures, this might include expanded bus networks to reach underserviced areas, subsidised pricing for public transit options and the creation of dedicated cycle lanes to make public and non-motorised transport more convenient and economically attractive for residents.

- **Improve:** Finally, for private vehicle use that cannot be avoided or shifted to other modes, the focus is on minimising the negative impacts of pollution and congestion through a range of proactive measures such as strengthened fuel efficiency standards, intelligent traffic management technologies, green subsidies and incentives such as the waiver of congestion charges and other taxes for low-emission vehicles such as electric cars.

The value of the ASI framework is that it reflects the wide range of interventions at different levels, jurisdictions and timeframes to transform urban mobility, from improved spatial planning and physical upgrading to technological change and green investments. Sustainable urban mobility not only requires the cooperation of multiple transport divisions, but also an active partnership with urban planners, businesses and communities.

PLANNING LOCALLY APPROPRIATE, INCLUSIVE TRANSIT

The impact of urban transport on the built environment

A key component in ensuring more equitable outcomes for urban populations is the provision of an inclusive, affordable and accessible transportation system that effectively reaches the least connected corners of a city. Frequently, however, the channelling of financial resources and political will into such infrastructure-based projects as highways tends to favour private car use while delivering few tangible benefits for many residents who cannot afford vehicles of their own or the high running costs associated with them. In fact, the physical impact of this sort of urban planning can have the opposite effect for poorer groups whose own accessibility may be compromised by new roads and heavy flows of private traffic, cutting off essential routes and increasing journey times even further.

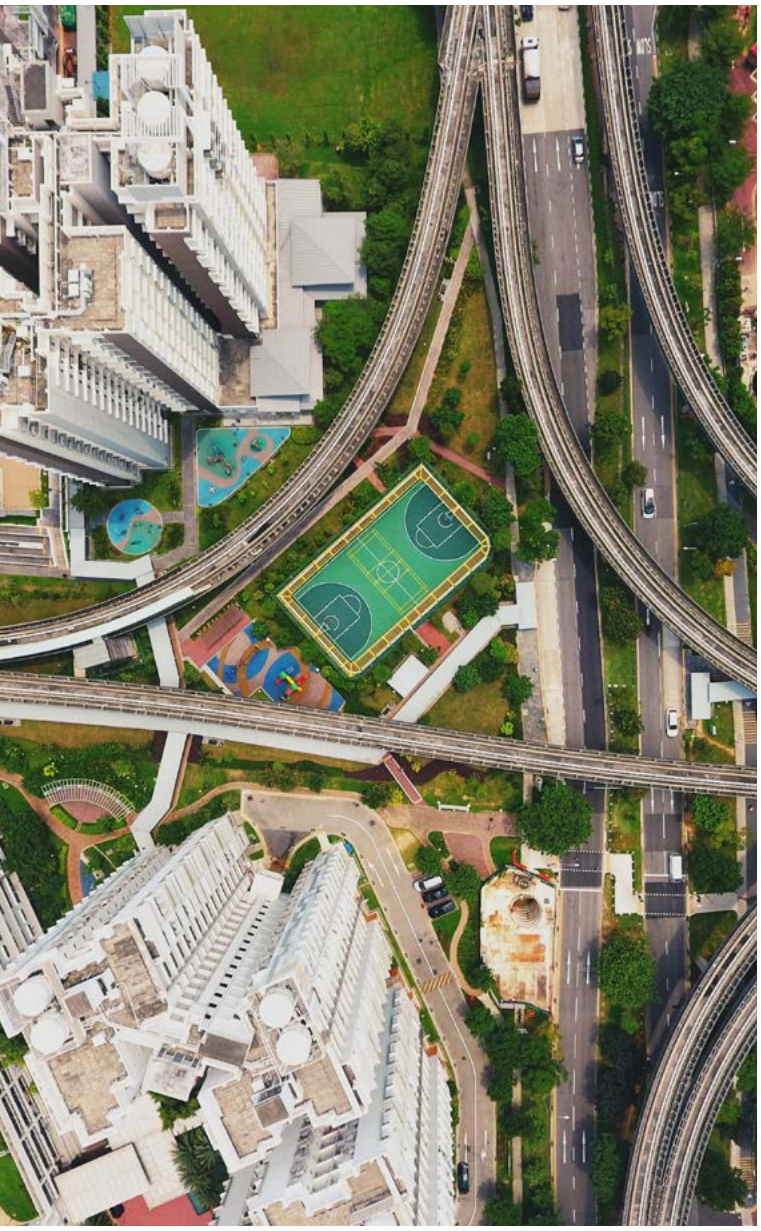
In some cases, autocentric urban planning has been actively driven by the influence of vehicle manufacturers and other economic interests. Bangkok is a case in point; the rapid motorisation of the Thai capital in the 1980s and 1990s was accelerated by central policies designed to boost the country's car industry. This, together with a flood of cheap credit and a speculative real estate boom, drove the development of poorly planned suburban housing and sprawl.[317] Although the costs of this approach in terms of environmental degradation, inefficient land use and long commutes have long been apparent, investments continue to be poured into new megaprojects at the expense of a more integrated strategy to address shortcomings in the city's mobility systems, including critical gaps in its secondary road networks. Having been built haphazardly over the years, often by private landowners, these now create bottlenecks for local traffic and would generate better returns in terms of reducing congestion than further investments in new highways. The poor state of Bangkok's secondary road system has also served as a barrier to the development of effective, accessible feeder bus services, leading to the growth of such informal transport as motorcycle taxis to fill the gap.[318]

Bangkok also illustrates, in a piecemeal fashion, the possibilities of a very different approach to transport planning; paradoxically, even as autocentric development has continued, the construction of rail transit lines across the city has led to the concentration of condominium developments along transit corridors.[319] This model of transit-oriented development (TOD) actively connects transportation infrastructure with housing, services and employment to support the growth of well-connected, compact urban areas – a counterpoint to inefficient land use and isolated, poorly

> **All too often, transport planning is attempting to catch up with urban growth when it should instead be leading it; cities that plan beyond their current boundaries will be best placed to guide their future growth rather than react to it, avoiding the pitfalls of spatial segregation and immobility.**

integrated developments that foster dependence on private vehicle use. Crucially, while TOD projects often require significant upfront investments in transit stations and associated infrastructure, a large portion of these costs can be covered through land value capture mechanisms that recoup some of the economic gains from opening up underdeveloped areas as prime locations for housing, business and retail. This can dramatically improve their feasibility in smaller or financially constrained cities, leveraging this future windfall through well-designed partnerships with private developers and investors.

> **For small urban areas, the transit-oriented development model (TOD) can offer these cities an effective blueprint for promoting high-density and well connected development.**



While substantial challenges to effective TOD implementation in Bangkok remain – not least the fragmentation of its transportation system across multiple bodies and jurisdictions[320] – recent developments nevertheless signal a real interest in reconfiguring the city towards more inclusive public transport. About USD3 billion has been invested in the modernisation of Bang Sue railway station into a major transport hub connecting inner-city lines and national rail networks, with the aim of promoting connectivity across Bangkok and the rest of Thailand. The government also hopes that the project will reduce congestion and promote dense, mixed-use development in the neighbourhood around it.[321] While affordability could still be a challenge – the existing elevated rail network is too expensive for most low-income residents to use and condominiums next to stations are typically targeted at the higher end of the market, driving further gentrification and displacement – Bang Sue could drive more inclusive and efficient land use in Bangkok if it incorporates pro-poor measures, such as low-income housing and a mix of local businesses.

These two contrasting approaches to urban mobility illustrate the decisive role that transportation can play in shaping the fabric of a city. Just as many of the challenges that cities currently face are rooted in transport policies from previous decades, the decisions made now will also determine housing, land use, accessibility and spatial inclusion for generations to come. Currently, approaches such as TOD are generally associated with larger cities, often as a means of retrofitting more sustainable transit systems into existing neighbourhoods. Yet, for smaller urban areas where public transport is minimal, it can also offers an effective blueprint for promoting compact and well-connected development as these settlements continue to expand.[322] All too often, transport planning is attempting to catch up with urban growth when it should instead be leading it; cities that plan beyond their current boundaries will be best placed to guide their future growth rather than react to it, avoiding the pitfalls of spatial segregation and immobility.

TRANSFORMING URBAN MOBILITY

The opportunities of non-motorised transport

The same policies that support more inclusive and low-carbon mobility can also drive the development of safer, better managed urban road systems. Rather than continuing to prioritise the construction of more roads – an approach that has been widely shown to escalate private vehicle use without addressing congestion in the long term[323] – cities should ensure an adequate allocation of space for pedestrians and cyclists, giving them greater protection from potential threats while at the same time facilitating an uptick in non-motorised transport. In this regard, Singapore has demonstrated the value of investing in the development of public transit, pedestrian and cycling infrastructure while curtailing private vehicle use. Although traffic jams can still occur at rush hour, it has nevertheless managed to achieve a significant reduction in congestion and pollution alongside the lowest road fatality rates in the ASEAN region.[324] Paradoxically, digital technologies have also played an important role in promoting non-motorised forms of travel, exemplified by the emergence of new platforms, such as dockless bike-sharing and e-scooter services, that combine digital innovations (in this instance, smartphones and GPS tracking) with a traditional mode of travel (a bicycle or scooter).

The benefits of promoting more accessible pedestrian and cycling spaces are wide ranging. As the urban poor make up a disproportionate number of those walking and cycling in urban areas, supporting non-motorised modes of transport is a crucial means of redressing decades of autocentric investment that has generally benefited the most affluent residents. Furthermore, wider pavements and cycling paths help reduce the heavy toll of death and injury that poor urban communities face as a result of road traffic. Cycling and walking also bring a range of personal and public benefits compared with car use, from cleaner air and reduced emissions to improved health and more active lifestyles. To promote change, however, requires a reconsideration of the current priorities of ASEAN cities, with a focus on creating streets rather than roads: "putting people and activity first, and cars second."[325] Research has also shown that, while heat and humidity are often presented as overriding barriers to cycling and walking in Southeast Asia, such cities as Singapore have shown that well-planned public spaces, greenery, street shading and other design elements can create more conducive environments for active and non-motorised transport.[326] These in turn can also support the process of urban "placemaking," an area now attracting increasing interest within

ASEAN. The first conference on placemaking in the region, ASEAN Placemaking Week, was organised in Kuala Lumpur in November 2019 and has been followed by an annual Placemaker Award ASEAN ceremony to recognise key achievements in this field.[327] The impact of COVID-19 on cities has brought these issues further into the spotlight. Across ASEAN, as elsewhere, many cities experienced a sharp reduction in mobility in the first months of the pandemic as restrictions were put into place and those who could work from home did so. One striking side effect of the lockdowns imposed across the region was the dramatic reduction in urban air pollution, in part due to the curtailment of traffic emissions within them and a reported surge in bicycle sales.[328] However, as pollution has subsequently returned to previous levels in such cities as Bangkok,[329] it has become clear that a more fundamental reorientation of urban mobility is needed to deliver lasting change. As cities plan their recovery from the pandemic, there is both a need and an opportunity to rethink their current approach. A transformative shift towards a more people-centred, inclusive vision of urban mobility could help reduce the deep-seated problems of existing transport systems and bolster resilience to future shocks.

A key element in this is the provision of adequate pedestrian and cycling infrastructure. While in many cities across the world the experience of COVID-19 has prompted greater investment and interest in the provision of cycle paths, walkways and car-free public spaces,[330] these efforts appear to have been relatively limited in Southeast Asia, despite the urgent need for such approaches. Nevertheless, there are notable exceptions; in Pasig City in Metropolitan Manila, for example, the local government has responded to the restrictions imposed on shared transit in the wake of the pandemic by facilitating increased uptake of active transport. Among other measures, authorities have cordoned off dedicated cycle lanes and set up priority areas at busy intersections to improve road safety. At the neighbourhood level, the barangay (the country's smallest administrative unit) of Ortigas even launched a free bicycle repair shop in March 2021 to support cyclists and encourages other citizens to follow suit.[331] Other examples include a "safe routes" pilot in Jakarta that saw government agencies, public institutions and community work together to paint temporary pedestrian-only pathways on shared streets for school children; an assessment of the project found that behaviours had been successfully transformed, with an almost universal uptake by school children and calmer traffic.[332]

"Research has shown that, while heat and humidity are often presented as overriding barriers to cycling and walking in Southeast Asia, cities like Singapore have shown that well planned public spaces, greenery, street shading and other design elements can create more conducive environments for active transport.

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IMPROVING ACCESSIBILITY AND WELLBEING THROUGH INCLUSIVE PLANNING IN UDON THANI, THAILAND

BOX 14

Although secondary cities can face a range of challenges around limited resources and rapid growth, they also have the opportunity to learn from the successes and missteps of larger cities and guide their own development more sustainably. With this in mind, the Stockholm Environment Institute's City and Health Initiative in the city of Udon Thani in northeastern Thailand focused on promoting an innovative form of community-based data collection for the urban environment.[333] Through participatory methodologies, such as mental mapping and citizen-led photography, the project has provided a platform for residents to explore issues around access to green space, the provision of adequate pavements and the potential dangers posed by poorly managed traffic, low-hanging electric cables and other common hazards.

By engaging community perspectives directly, the research has drawn attention to many everyday issues, such as dust, the need for shaded walkways and even the problem of excessive smoke from food stalls, that are not typically picked up in conventional top-down planning. These findings come at a crucial time for Udon Thani as urbanisation pressures and financial shortfalls are now threatening the city's public areas and parks. Fortunately, the municipality has been very receptive and is seeking to incorporate these insights into its planning. If successfully implemented, the result could be a more liveable and accessible urban environment that promotes healthy, physically active lifestyles and enhanced well-being.[334] Other cities across the ASEAN region, facing similar challenges, also have the chance to adapt this approach to their own contexts.

RECOMMENDATIONS

The following recommendations are intended to support the enhancement of urban mobility. The recommendations directly align with each of the four key "enablers" discussed in the first section of the report, providing insights to ensure the long-term sustainability of a broad range of urban interventions.

DYNAMIC URBAN GOVERNANCE

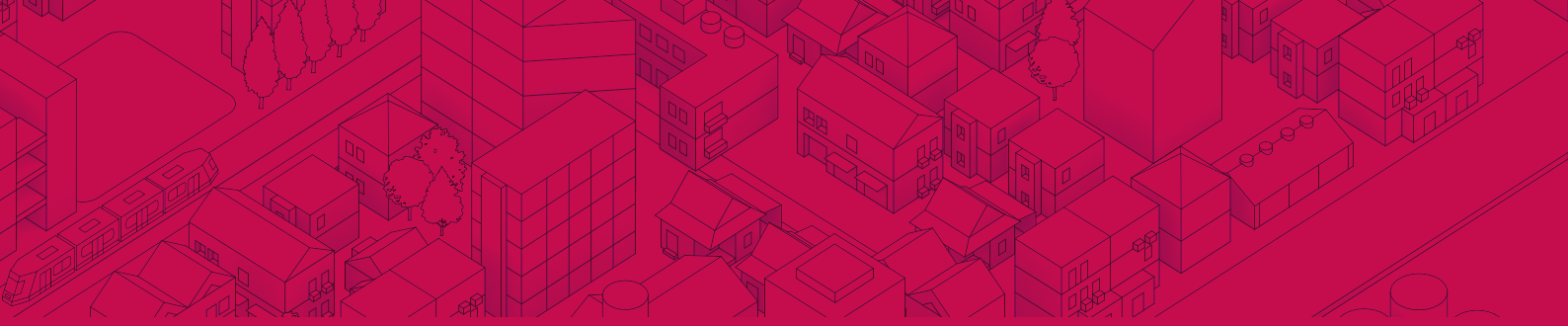
Prioritise the development of safe, affordable, non-polluting transportation systems by changing the fundamental paradigm of urban mobility:

The inadequate transport systems that afflict many cities in the ASEAN region are a reflection not only of poor planning, but also a conscious strategy over decades to reshape cities for private motor vehicle use. Rather than seeking to alleviate the problems of congestion and traffic emissions through even more road construction, local governments should commit to the promotion of public and non-motorised transport. This requires not only adequate funding, but also concerted efforts to promote behavioural change by engaging citizens directly through clear communication and such incentives as subsidised user fees.

INTEGRATED MASTER PLANNING AND DEVELOPMENT

Promote integrated approaches to mobility planning that support inclusive, accessible transportation networks connecting to all parts of the city, including the peripheries:

This requires proper consideration of access to work, education and shops to ensure that residents are properly served with reliable transport links. Importantly, in the context of small and intermediate cities undergoing rapid urban growth, planners should design and integrate transport links in emerging areas particularly to guide appropriate development there. Anticipating future housing needs, cities can deploy transport planning as a tool to guide growth and ensure that any urban development that occurs is properly connected to public transport.



PARTNERSHIP AND FUNDING

Adopt a holistic approach to transport budget planning that recognises the indirect benefits of a cleaner, more inclusive transport system:

Effecting real change requires a significant move away from continuous expansion of road networks in cities and instead investing in the development of affordable, accessible public transport systems and the construction of cycle lanes and walkways. Small and intermediate cities should also consider what is feasible and appropriate in their specific context rather than simply adapting approaches from larger cities: for example, while underground metros and bus rapid transit (BRT) systems are often highly successful at a certain scale, in smaller urban areas it is often more effective and cost efficient to work on enhancing existing links. Pre-project financial assessments should also incorporate the social and environmental value of public transit systems – for example, the impact of reduced illness and mortality as a result of improved air quality – to ensure that the indirect benefits are included in their calculations.

DIGITAL INFRASTRUCTURE AND APPLICATIONS

Promote smart mobility systems that can strengthen transport management and reduce congestion:

Sensors, automated traffic signalling, CCTV and other technologies can help promote safer and more efficient transportation, reducing the risk of traffic jams and road accidents while improving traffic flow. The increasing availability of smartphones among urban residents also supports the uptake of ride-sharing and car-pooling platforms. As with other digital investments, however, small and intermediate cities should consider how their existing infrastructure can be strengthened before investing in costly new technologies.

INCLUSIVE AND EQUITABLE GROWTH

While cities have generally served as important drivers of economic growth and poverty reduction across the ASEAN region, this positive picture has been complicated by growing inequalities and the increasing "urbanisation of poverty." A central challenge is that, even while ASEAN has experienced rapid urban development, the benefits have not always trickled down to the urban poor; in fact, growth has often gone hand in hand with increased inequality.[335] From lack of access to adequate housing and basic services to spatial segregation and educational exclusion, there are many barriers to inclusive and equitable growth in ASEAN cities today. The breadth of these issues requires a wide ranging and holistic response to ensure that the urban poor are not left behind. The challenges are threefold – exclusion from urban economies, the lack of protections in place when shocks occur and a backdrop of broader social discrimination. To be more sustainable, these social and economic disparities must be addressed through education, infrastructure investment, livelihood development, expanded social welfare programmes and the promotion of rights-based policies of social inclusion for all groups.

The failure of many ASEAN cities to achieve equitable development has impacted most severely on the urban poor and other excluded groups, such as women, migrants and people with disabilities

The prioritisation of short-term growth has also contributed to the increasing precarity of vulnerable urban populations employed in the informal sector or day labour, typically with little in the way of labour protection. Among them are millions of migrant workers who play a central role in the urban economies of many Southeast Asian cities, and also play a significant role in poverty reduction in sending countries like the Philippines through the flow of remittances home. Despite their contributions, however, many migrants continue to be denied adequate housing, fair wages and other basic rights.

Urban poverty is characterised by increasing precarity, particularly in the wake of COVID-19

From overcrowded living conditions and unhealthy environments to greater food insecurity and the absence of basic safety nets, low-income urban communities face distinct challenges for poor rural populations.[336] Indeed, while poverty levels remain higher in rural areas, the pace of poverty reduction in Southeast Asian cities has generally been slower and accompanied by a growing income gap that has left behind many poor urban communities. This is due in part to the absence of adequate redistributive mechanisms to ensure that the benefits of economic growth are channelled down to the urban poor as well, a situation exacerbated by the high living costs associated with cities.[337] Furthermore, in the wake of the pandemic and its disproportionate impact on urban economies, a large majority of the millions of "new poor" who have been pushed into poverty since 2020 are based in cities.[338] Although urban poverty and inequality are often associated with the region's growing megacities, these challenges can be even more entrenched in secondary urban areas. In Cambodia, for instance, poverty levels are three times higher in urban areas outside the capital (12.6 per cent) than in Phnom Penh itself (4.2 per cent).[339]

The invisibility of the urban poor and other marginalised groups in many cities is perpetuating these problems

Despite comprising a significant share of the population, low-income communities are often overlooked by urban decision-makers. In some cases, for instance, slum dwellers and migrants may not even be officially registered as residents due to lack of legal tenure or documentation. This can make meaningful engagement and participation very difficult, further compounding their secondary social status. Gender discrimination, racism and stigma can also serve to sideline women, minorities and persons with disabilities from education, employment and public life. Addressing these issues requires a concerted effort to collect disaggregated, multidimensional data with the active participation of communities themselves. In particular, poverty reduction and social welfare programmes in urban areas need to be tailored to reflect the specific barriers facing different groups, such as women, migrants and persons with disabilities, to accessing equitable economic opportunities.

PROMOTING DECENT EMPLOYMENT

From fairer working conditions to green livelihoods

Even as they continue to attract more rural migrants in search of employment, adding to the numbers of urban poor, many cities are struggling to create sufficient work opportunities to sustain their growing populations. While alleviating urban poverty depends on a range of approaches, such as the provision of affordable housing and slum upgrading, a central element is ensuring that safe, decent and adequately paid employment is available to all. This is a challenge when many of the urban poor are dependent on temporary or insecure employment with little in the way of job security or labour rights, effectively trapping them in a state of working poverty. Even those who enjoy some guarantees through formal employment have only limited benefits; for example, while minimum wages across ASEAN have risen in recent years, they are still some of the lowest in Asia as a whole and in much of the region have been largely frozen during the pandemic.[340] Youth are especially vulnerable to protracted joblessness and underemployment. Some, having been forced through lack of options into informal employment, are likely to struggle with a lifetime of constrained options and working poverty.[341]

COVID-19 has also laid bare the deep-seated insecurities that have long afflicted informal employment in cities across the ASEAN region. The widespread precarity of this work, poor pay and lack of even basic protection, such as sick leave or insurance, meant that millions of people suddenly found themselves without an income when restrictions were put into place to prevent the spread of the virus. The impacts on women have also been especially severe, as many are employed informally in seriously affected sectors, such as services and tourism; they are also more likely to have to balance work with caring responsibilities.[342] While many countries were quick to roll out support packages for workers in the worst affected industries, the crisis has merely exacerbated long-standing vulnerabilities linked to a lack of protection, limited opportunities to upskill and discriminatory attitudes towards informal employment.

In this regard, the pandemic affords an opportune moment for national and local governments to develop a more constructive relationship with informal workers, one built on respect and recognition. All too often, the sector has been regarded more as a problem than an opportunity; for example, street vendors and other informal worker have been regularly targeted with eviction or, as is the case with the thousands of urban waste pickers active across the region, sidelined in favour of private sector providers. To make matters worse, the true contribution of informal and marginalised workers to their local economy is not recognised. An analysis of disaster vulnerability in the secondary Thai city of Khon Kaen, for instance, highlighted that slum labourers had little or no assets to invest in infrastructure or basic services despite generating much of the city's economic surplus.[343]

Rather than penalising informal sector workers, local governments should actively support their transition to formal employment through upskilling and other forms of support, such as access to affordable credit and business loans. The benefits of direct engagement between local government and informal workers are illustrated by the case of Surakarta (known colloquially as Solo), where in 2005 the newly appointed mayor Joko Widodo (now President of Indonesia) sought to resolve long-standing tensions around the presence of street vendors in parks and other public spaces. Through extensive discussions, he was able to negotiate their relocation to another site with facilities, food safety training and other forms of support. By 2014, less than a decade later, more than three quarters of the street vendors had voluntarily moved to the new location; with official recognition, they were no longer subject to extortion by criminal gangs, while food hygiene and safety standards had markedly improved.[344]

Another area where social inclusion, job creation and development overlap is cash-for-work programmes. This approach, popular in certain countries, including Indonesia and the Philippines, can be an effective means of providing informal sector workers with income and reskilling opportunities while also providing broader benefits in the form of infrastructure or service provision.[345] Their value was highlighted during the pandemic, when repeated lockdowns had heavy impacts on certain sectors. For example, a programme rolled out in the Philippines after the country first went into lockdown in 2020 provided almost 1 million people with temporary employment to undertake cleaning and sanitation services in their communities, offering

A programme rolled out in the Philippines after the country first went into lockdown in 2020 provided temporary employment to affected communities.

Almost

1 MILLION PEOPLE

were employed to undertake **cleaning and sanitation services** in their communities.

This initiative was able to offer:

An essential source of income to affected communities

An additional support for local governments to strengthen the country's public health response

SOURCE: Dreyer, M. and Nygaard, K. (2020) "The Philippines provides support to workers in the informal economy", Yale School of Management

an essential source of income while also strengthening the country's public health response; authorities also provided safety training and microinsurance enrolment to protect those undertaking that work.[346]

Ensuring that other objectives, such as climate change adaptation, are closely aligned with pro-poor policies is also key. There have been concerns that, if implemented in a top-down and non-participatory fashion, strategies to promote "green" outcomes could have adverse impacts on the livelihoods of the urban poor. For example, efforts to reduce the number of jeepneys used in the Philippines in favour of less polluting forms of public transport have been strongly resisted by operators who highlight the thousands of people employed informally in the sector and the essential service they provide to low-income urban communities.[347] While the transition to cleaner and more efficient transit systems is crucial, this must be accompanied by training, skills transfer and other activities to minimise any negative impacts on the livelihoods of the poor.

Another potential pitfall is that the need for climate adaptation is used as a justification to perpetuate further development of costly grey infrastructure in response to the complex challenges of urban resilience – an approach that, if implemented in isolation, can exacerbate existing inequalities and leave the poor even more vulnerable than before.[348] Again, local governments should seek to develop more holistic responses to these challenges that integrate the social and economic needs for all their citizens, regardless of age, gender or income. By focusing efforts on green job creation in such areas as waste recycling, ecosystem management and community upgrading, livelihood opportunities can be expanded alongside improved environmental outcomes.[349] What is clear is that "green" urban development policies are not always socially inclusive. The complexities are illustrated by recent efforts to transition the Vietnamese city of Trang An from a predominantly agricultural economy towards ecotourism. While potentially creating more climate resilient livelihood options, many small households that had previously had access to a small portion of land to cultivate for themselves now inhabit an altogether different power structure, dominated by a prominent private sector, and they face the risk of eviction.[350]

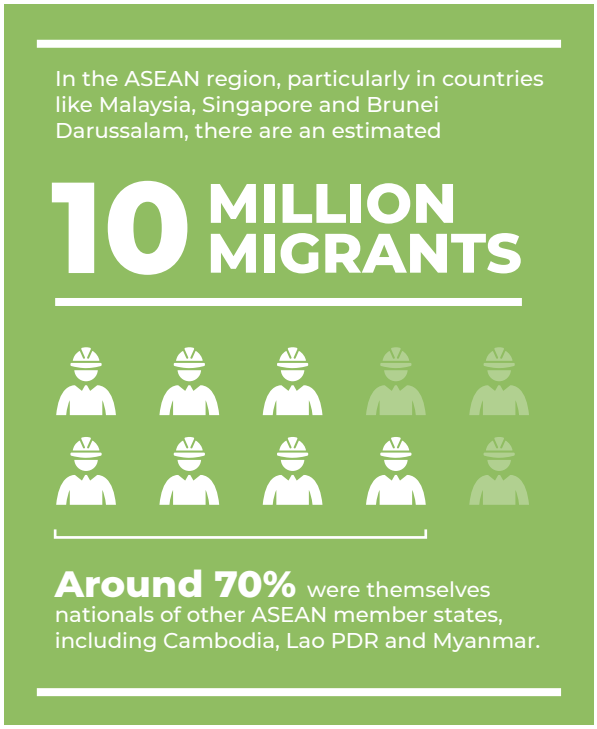
ALLEVIATING VULNERABILITY

Social protection and welfare in the wake of COVID-19

With the outbreak of COVID-19 and the closure of shops, businesses and factories in cities across the ASEAN region, millions of urban dwellers suddenly found themselves unemployed or unable to practise their livelihood due to restrictions. Deprived of an essential source of income, many of the urban poor faced destitution in the long months that followed. In response, some countries rolled out a range of short-term welfare packages to support those worst affected. Cambodia, for instance, set up a temporary programme to support at-risk workers in the country's garment and tourism sectors.[351] Nevertheless, the overall picture was of a deepening crisis among the most marginalised urban populations, including slum dwellers, migrant workers and women, struggling to cope with the impacts.

Despite its unprecedented nature, the pandemic has made visible many long-standing protection gaps in Southeast Asian cities, the result in part of the low levels of expenditure on social welfare across the region.[352] The need to have pro-poor safety nets in place to provide support during recessions, natural disasters and public health emergencies is acute in urban areas. Although poverty levels are generally higher in rural areas, the existence of established social networks and the capacity of households to grow their own food can afford some measure of resilience to shocks that are often not available to the urban poor.[353] Strikingly, this was illustrated in Indonesia at the beginning of the pandemic, when the largely unaffected agricultural sector was able to serve as a "safety net" for urban residents who had been forced by the loss of their jobs to move back to their village.[354]

It is also important that social security programmes should be universal in scope, readily accessible and non-discriminatory; as soon as administrative barriers or exceptions are put into place, the likelihood that the poorest and most marginalised sections will be excluded increases significantly. This is especially the case for the ASEAN region's large international migrant population, estimated at about 10 million people in 2019, who make up a considerable proportion of the labour force in such countries as Brunei Darussalam, Malaysia and Singapore. Of these, the majority – about 70 per cent – were themselves nationals of other ASEAN Member States, including Cambodia, the Lao PDR and Myanmar.[355]



SOURCE: Ducanes, G., Dutta, P. and Nixon, N. (2020) "Displaced, stranded, unprotected: ASEAN's migrant workers", The Diplomat

Following the outbreak of COVID-19, some national governments implemented steps to support migrants thrugh free health care and other temorary provision.

The challenges can be just as acute for the tens of millions of internal migrants across ASEAN, primarily those who have migrated from rural to urban areas in their own countries. In Viet Nam, for instance, many citizens who migrated to cities years or even decades ago in search of employment still lack official recognition as residents of those cities.[356] Similar barriers in Indonesia, the Philippines and Thailand have also served to marginalise new arrivals, locking urban migrants into protracted poverty.[357]

Following the outbreak of COVID-19, some national governments implemented steps to support migrants through free health care, improved employment rights and other temporary provisions,[358] but migrant workers have nevertheless been disproportionately affected during the pandemic. As a large proportion are based in urban areas and often face specific challenges around local policies on housing, service access and other issues, cities themselves have an important role to play in ensuring that their migrant populations are adequately protected from exploitation and destitution. However, some of the temporary measures put into place across ASEAN to support informal workers and small businesses point the way to how various vulnerable populations can continue to be supported once the current crisis has receded. These include the implementation of digital cash transfers in Thailand to reach those not covered by existing social programmes, the introduction of special grants to support "microenterprises" in Malaysia, and the innovative use of tax and utility bills to roll out financial assistance to informal and self-employed workers in Viet Nam. These strategies, while providing much-needed emergency assistance during the early days of the COVID-19 pandemic, could also serve as a basis for a longer-term "new deal" for the millions of informal sector workers whose lack of protection and support have been highlighted during the pandemic.[359]

In sum, given the evidence that social protection accelerates poverty reduction as well as strengthens resilience to major shocks,[360] it is important that the limited provisions put into place to alleviate the worst impacts of the pandemic are built on rather than dismantled in the future. From universal health care and targeted assistance to fairer labour regulations and social insurance, governments should have a responsibility to ensure that all residents are adequately protected from the precarity and uncertainty that has long characterised the lives of the most disenfranchised urban populations. Increasingly, these sorts of safety nets can play an important role in reducing the vulnerability of the urban poor to major shocks, such as natural disasters or eviction. Clear, inclusive welfare frameworks for all urban residents, including those often overlooked in social outreach, such as women, informal workers and migrants, are therefore essential to the future sustainability of cities in the ASEAN region.

Clear, inclusive welfare frameworks for all urban residents, including those often overlooked such as women, informal workers and migrants, are essential to the future sustainability of cities.

STRENGTHENING COHESION AND EQUALITY

Equality, integration and recognition for excluded groups

To ensure the provision of more equitable economic outcomes in cities, local governments need to address the specific barriers faced by different groups, including women, children, youth, the elderly, migrant workers, persons with disabilities, and vulnerable and marginalised people. Civil society and activist movements are typically concentrated in cities, meaning they frequently form the frontline of social progress and inclusion. Yet, unmanaged and exclusionary urbanisation has often undermined this potential.

As in other regions, many cities in the ASEAN region are still struggling to be truly gender-inclusive, with women and girls facing barriers in education, health, public participation and employment. Despite some improvements, significant opportunity gaps between genders remain; for example, only three ASEAN countries (the Philippines, the Lao PDR and Singapore) were ranked in the top half of the 156 countries in the Global Gender Gap Index in 2021.[361] This inequality is reflected in their widespread inability to access livelihood opportunities on a level footing with men. In Myanmar, for instance, a 2018 survey by the Asia Foundation of residents in the cities of Yangon, Mandalay, Taunggyi, Mawlamyine (formerly Moulmein) and Monywa found that the proportion of women who did not work outside the home (55 per cent) was almost double that of men (28 per cent).[362] While gender inequalities are often rooted in broader structural challenges that require nationwide actions, cities have the opportunity to lead the way in driving real change. To achieve this, however, requires a deeper resolution of the social norms, spatial segregation, labour discrimination, service gaps and physical insecurity that women frequently face in urban areas.

The problem of urban inequality is illustrated, too, by the situation of foreign migrant workers across the ASEAN region. Despite their essential role in the prosperity and development of the cities in which they live, migrants are often among the most marginalised urban communities and disproportionately concentrated in slums or dormitories. Their invisibility is not only a reflection of the economic challenges they face, but often also a product of discriminatory legislation or lack of documentation, particularly for those working

outside their own countries. In Singapore, the large and long-term presence of a foreign worker population is offset by their transient status and everyday constraints on their access to the city, a situation that civil society groups in Singapore had begun to challenge even before the pandemic.[363] The subsequent outbreak of COVID-19 and the forced quarantining of hundreds of thousands of migrants in cramped dormitories put a spotlight on the living and working conditions endured by Singapore's foreign labour force – particularly as it emerged that this was a central factor in their disproportionate exposure to infection, with almost half (47 per cent) of the migrant population having contracted COVID-19 by December 2020.[364]

As well as addressing discrimination at an institutional level, cities also need to actively challenge social prejudice through direct engagement. One example of this in Thailand is Saphan Siang (Bridge of Voices), an initiative that explicitly sought to reduce the barriers between Thai nationals and migrant workers. The programme appointed young Thai volunteers as "ambassadors" with NGOs working for migrant rights in Bangkok, Chiang Mai and Pattani, with the aim not only of sensitising those participating in the project but also, through media coverage and social media outreach, raising awareness more widely among the local population.[365] These and other programmes illustrate the unique role that civil society organisations and academic institutions can play in supporting cohesion and reconciliation in divided social contexts.

From gender-safe public spaces to wheelchair-accessible pavements and transport, physical design also has a vital role to play in ensuring that cities are inclusive for all their residents, regardless of their background. However, while urban areas have the potential to provide persons with disabilities with better access to services, economic opportunities and other benefits, in practice many cities across ASEAN are still a long way from being truly disability-inclusive. Besides inadequate physical design, such as lack of pavements or accessible public transportation, persons with disabilities are frequently subjected to social stigma and sidelined from political participation.[366] With clear commitments in place, however, cities are especially well placed to work with disability activists and organisations to deliver greater inclusion. To ensure accountability and measurable progress, however, clear indicators and monitoring mechanisms must be in place. This is a particular challenge in smaller cities, given that what limited data collection is available is often focused on major urban centres; for example, the Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific includes a number of indicators on accessibility and participation in national capitals. Secondary cities therefore need to put local assessments into place to gauge the experience of their disabled population.

Increasingly, policymakers and city administrators will also have to grapple with the profound and broad social and economic changes caused by shifting age demographics. Ageing and demographic trends in ASEAN mirror those in many other parts of the world, including longer life expectancies, declines in fertility, increased levels of education among younger generations, continued rural-to-urban and international migration and rapid economic development. These

A 2018 survey by the Asia Foundation in the cities of Yangon, Mandalay, Taunggyi, Mawlamyine and Monywa found that:

55%

OF FEMALE URBAN RESIDENTS

did not work outside the home, almost double that of male residents.

SOURCE: Asia Foundation (2019) Insight into Urban Well-Being in Myanmar

trends reshape living contexts, and household and social arrangements.[367] The ASEAN population aged 60 years and older is projected to increase from about 81 million in 2022 to almost 110 million in 2030. By 2050, more than 22 per cent of the ASEAN region's population is projected to be older than 60 years.[368] In 2020, Viet Nam was the only ASEAN Member State with an increasing fertility rate,[369] while only Lao PDR and the Philippines maintained a fertility rate at or above the global average of 2.4 births per woman.[370]

Urban design and spatial planning are important tools in fostering age-friendly cities. Cities can respond to these shifting demographics through the provision of safe and accessible public spaces and services that enable healthy activities, such as walking in later life, while also accommodating the changing needs and requirements of elderly populations. In line with the commitment to "promote age-friendly communities/cities in the region" enshrined in the 2015 Kuala Lumpur Declaration on Ageing: Empowering Older Persons in ASEAN, cities across the region have an increasing role to play in ensuring that ageing societies and their transitions are well-planned and inclusive. This, of course, requires due consideration of the physical dimensions of age-friendly urbanism, such as appropriate layouts in housing

developments, but also the "soft" requirements for social participation and interaction. In ASEAN, as elsewhere, isolation among older people is a growing problem that can exact a heavy toll on health and well-being. Countries such as Brunei Darussalam, however, confronted with a growing older population and the accompanying burden of health care this has created, have invested significant resources in promoting age-friendly urban infrastructure and amenities. The government has developed several senior citizen centres to promote activities and hobbies, such as sewing and exercise classes, providing a space for older citizens to socialise and interact with other generations.[371]

BOX 15

BANJARMASIN'S DISABILITY-INCLUSIVE CITY PROFILE: USING DATA TO GUIDE BETTER URBAN POLICIES

The UN Educational, Scientific and Cultural Organization (UNESCO) has been partnering with local governments across Indonesia through the Network of Mayors for Inclusive Cities to promote greater accessibility for persons with disabilities in urban areas. As part of this initiative, UNESCO partnered with the NGO Kota Kita, a local civil society organisation Kaki Kota Banjarmasin and the municipal government to pilot a detailed profile of the city through surveys of almost 4,000 persons with disabilities resident there. The findings highlighted the acute gaps in education and employment, with almost three quarters (73 per cent) of working-age persons with disabilities having no occupation. On the basis of this research, the study recommended a series of improvements in schools, public spaces and other areas to guide the city in its efforts to improve accessibility. For example, the discovery that less than a third of eligible persons with disabilities were registered to vote in the run-up to the 2019 elections led to a concerted drive by the city's electoral commission to ensure that everyone was registered before voting took place.[372]

A key issue with the limited availability of disaggregated data in Indonesia at a local level is that national repositories are not yet effectively linked to municipal databases, meaning that city authorities cannot draw on these resources to inform their own policies. Furthermore, what data are available is often outdated or lacking local context. As a result, during the early phase of the COVID-19 pandemic, the provision of basic assistance and services to persons with disabilities was distributed very unevenly across the country. The initiative in Banjarmasin demonstrates the value of rigorous, participatory data collection as a tool for more disability-inclusive cities. The information garnered from the study helped the local government target assistance more effectively in response to COVID-19 and was used again in January 2021 when authorities needed to tailor an emergency response for vulnerable residents in the wake of flooding.[373]

RECOMMENDATIONS

The following recommendations are intended to support the achievement of a more inclusive urban development. The recommendations directly align with each of the four key “enablers” discussed in the first section of the report, providing insights to ensure the long-term sustainability of a broad range of urban interventions.

DYNAMIC URBAN GOVERNANCE

Ensure that all communities, including women, children, the elderly, migrants, persons with disabilities, vulnerable and marginalised groups, are fully included in every aspect of urban life:

Cities should embrace a rights-based and participatory approach to urban governance that recognises and engages all residents, particularly poor and marginalised communities. This requires a lively civil society and a concerted effort to give visibility to all groups through disaggregated data to identify inequalities, service gaps and other concerns. Local governments can demonstrate their support for social inclusion by example, taking steps to actively encourage a diverse municipal workforce at all levels.

INTEGRATED MASTER PLANNING AND DEVELOPMENT

Promote planning strategies that champion spatial inclusion and the integration of physically segregated communities:

Economic and social inequalities are reinforced by the isolation of poor communities in marginal locations, and even physical separation through barriers, walls or privatised spaces. Addressing these divisions through progressive planning interventions that strengthen cohesion and promote safe, accessible shared public spaces for all is key. This process spans a range of scales, from connecting fragmented urban peripheries at a territorial level to ensuring that neighbourhoods are not cut off from other areas.

PARTNERSHIP AND FUNDING

Support equitable economic growth by facilitating a range of accessible credit and finance options appropriate for poor urban communities:

From settlement upgrading to training programmes, there are a range of areas where poor urban residents can potentially transform their lives through relatively modest investments in housing, livelihoods or education. For many caught in precarious day work and contending with high living costs, however, this may require loans that are not available to them through formal finance systems. Local governments and NGOs can help drive inclusive development through microfinance, credit cooperatives and such innovative tools as digital payments to ensure that the benefits of economic growth are enjoyed more equitably.

DIGITAL INFRASTRUCTURE AND APPLICATIONS

Strengthen access to online and digital platforms for poor and marginalised communities, particularly in such areas as e-governance, education and employment:

The shift of many everyday functions, including work, government administration and schooling online, has brought even greater urgency for cities to address the digital divide separating less privileged residents from accessing the Internet and other essential technologies. Local governments must therefore ensure that not only are all residents able to access the necessary infrastructure and equipment to connect digitally, but also that they have the necessary skills and knowledge to do so through strengthened multistakeholder partnerships.

PERSONAL SAFETY AND SECURITY

Ensuring the protection of all citizens is an essential requirement for any city aspiring to be sustainable and inclusive. When cities fail to guarantee security, the basic right of urban residents to move freely is also threatened, as parks, public transport and other shared spaces are perceived to be off limits. This in turn can undermine their ability to work, study and socialise safely in their city, especially for women and girls, migrants, persons with disabilities and other groups that are at disproportionate risk of violence, crime and human trafficking. Other hazards, such as natural disasters and road accidents, can also reinforce inequalities by have more severe impacts on poor and marginalised populations. However, as more and more aspects of everyday life move online – a process accelerated by the COVID-19 pandemic – the potential risk of cyberattacks has also increased. Addressing these issues requires a multidimensional approach that extends beyond a narrow focus on securitisation to encompass the social drivers of crime and vulnerability. From community-based initiatives to gender-sensitive design, it is critical that urban residents themselves are able to actively shape policies to support greater inclusion and personal safety. With the right approach, digital technologies can also play a significant role in enhancing security – provided they support, rather than supplant, these efforts.

While crime and violence are key drivers of urban insecurity, in ASEAN and elsewhere, the region also hosts a variety of other threats to personal safety including natural disasters, traffic accidents and pollution

Urban safety therefore needs to be understood in broad terms spanning a range of different areas, as reflected in the annual Safe Cities Index.[374] This ranking of 60 major cities incorporates five different dimensions of security – digital, health, infrastructure, personal and environmental – to determine their relative safety. Strikingly, there is enormous divergence among those ASEAN cities featured in the global assessment, with Singapore coming near the top of the ranking (3), followed at some distance by Kuala Lumpur (32), Bangkok (43), Ho Chi Minh City (45), Jakarta (46), Manila (51) and Yangon (60).

Digital technologies can strengthen urban security, but only if they engage meaningfully with communities and their needs

Across the ASEAN region, cities are investing in ambitious programmes to manage threats and insecurity through monitoring, surveillance and integration of data on everything from crime and road accidents to flooding and the spread of disease. However, while these tools can deliver significant impacts if appropriately implemented, they need to accompany other established methods to enhance security, including physical improvements, such as street lighting, paved walkways and shared spaces that provide public visibility.

The security situation in cities is further complicated by the emergence of such new risks as cybercrime

Increasing online activity has occurred alongside limited awareness of the risks and hazards of online activity, a process accelerated by the pandemic as rapid digitalisation has created new opportunities for criminal organisations to exploit. A 2021 assessment by the International Criminal Police Organization (INTERPOL) highlighted the exponential rise in cybercrime across ASEAN, spanning phishing, ransomware and "cryptojacking."[375] The social and economic costs could be considerable if these threats are not properly addressed; one projection by the private consultancy firm Kearne predicts that without effective action, as much as USD750 billion could be wiped from the capitalisation value of the top 1,000 companies in the ASEAN region. The susceptibility of secondary cities could be especially acute, given the limited security infrastructure they will have at their disposal.

CREATING SAFER STREETS

A participatory approach to public space and urban design

The cost of insecurity to cities and their residents extends far beyond the immediate physical and psychological impacts, undermining the ability of many urban dwellers to enjoy their fundamental rights. Fear and perceptions of insecurity can deepen existing inequalities, meaning that already marginalised populations face even greater barriers to participate freely in education, employment and leisure. This is especially the case for female residents navigating the potential threat of harassment and sexual assault. A survey of adolescent girls in Hanoi by Plan International, for instance, found that just 13 per cent reported feeling safe in all of the city's public spaces.[376]

Top-down or exclusionary responses to these challenges, such as heavy-handed policing or the construction of gated communities, are not sustainable and often serve only to exacerbate the underlying problems. Improving security for all urban dwellers instead requires a holistic range of measures to address the social dimensions of urban insecurity. Some of the most innovative and successful interventions in ASEAN cities are focused on the "co-production" of urban safety by ensuring that public spaces are secure, accessible and inclusive for all groups, including women, children, older persons, minorities and persons with disabilities. These strategies often depend primarily on the role that other residents can play in promoting safe and inclusive environments. For example, one scoping study of urban safety in a number of Indonesian cities explored both how informal street vendors could serve as "street wardens" and the ways that bystanders could be empowered to take action when "incidents" occur.[377]

Allowing marginalised groups to input on data collection, programme budgeting and project implementation can enable the development of more responsive, inclusive decision-making that tackles the risks and concerns that they face in their everyday lives. Underreporting, discrimination and distrust of law enforcement agencies can all contribute to the invisibility of insecurity in its various forms, be they criminal activities, natural hazards or road accidents. Ultimately then, the ability of cities to ensure the safety of all their residents depends on the degree to which all groups are properly represented in decision-making structures. Naga City in the Philippines is a good role model in this regard. Having struggled with high crime levels through much of the 1980s, city authorities took steps to strengthen governance through an "empowerment ordinance" to allow citizens to participate more fully in policy discussions. As a result, a series of measures were subsequently passed to ensure that women were able to engage equitably in these processes. Following these reforms, security in the city improved significantly.[378]

A survey by Plan International found that:

13% **OF GIRLS IN HANOI**

reported **feeling safe** in all of the city's public spaces.

SOURCE: Plan International (2020) "It's Not Really Safe For Us Girls"

Although there is increasing emphasis on investments in such technologies as CCTV and the use of smart data to identify potential crime hotspots and disaster-prone areas, the physical fabric of cities is still a major factor in determining safety and inclusion. Street lighting, well-integrated street networks and wheelchair-accessible pedestrian areas are all necessary components of an urban landscape that protects residents from personal

The physical fabric of cities, in parallel to smart technologies, is still a major factor in determining safety and inclusion.

Some of the **necessary components of safe urban landscapes** may include:

STREET LIGHTING

INTEGRATED STREET NETWORK

WHEELCHAIR ACCESSIBILITY

attacks, intimidation and road accidents. Similarly, the maintenance of greenbelts and floodplains to protect cities from inundation is often a far more effective means of ensuring resilience than investment in such hard infrastructure as dams. The situation becomes more precarious, however, when disaster-prone areas and peripheries are subjected to inappropriate levels of development. Although much of this activity may be driven by private developers to meet demand for middle- and high-income households, it is also the case that many informal settlements are built in at-risk areas due to the lack of available land elsewhere. For these poorer communities, the implications of a potential disaster may be far more acute than for more affluent households living nearby.

Some of the most innovative and successful interventions in ASEAN cities focus on the "co-production" of urban safety by ensuring public spaces are secure, accessible and inclusive for all groups, including women, children, older persons, minorities and persons with disabilities.

BOX 16

THE SAFE CITIES AND SAFE PUBLIC SPACES PROGRAMME: SUPPORTING THE PROMOTION OF INCLUSIVE URBANISATION IN THE PHILIPPINES

UN Women's flagship programme, "Safe Cities and Safe Public Spaces," is a global initiative focused on the promotion of accessible, inclusive urban spaces where women and girls can work, travel and socialise free of the fear of sexual harassment and violence. The dozens of cities enrolled in the programme commit to four key principles in order to participate:

1. **Generate evidence, build partnerships for change:** This is an essential first step for cities, in partnership with women's organisations and other stakeholders, to gather data on urban safety, gender inequality and the threat of sexual harassment and then formulate a collective set of context-specific recommendations.

2. **Develop and implement comprehensive laws and policies:** This should include the mobilisation of a broad cross-section of civil society groups and grass-roots partners to advocate for appropriate regulations to protect and empower women and girls, as well as ensure the implementation of those regulations in practice.

3. **Invest in the safety and economic viability of public spaces:** Gender analysis should be incorporated into every area of urban planning and infrastructure development, including water, sanitation, public lighting, markets and public transport, to ensure that the needs of women and girls are taken into account.

4. **Transform social norms:** To tackle the root causes of sexual harassment, the normalisation of negative behaviours and attitudes needs to be addressed through education and awareness-raising in schools and other settings.[379]

Among the first participating cities was Quezon City in the Philippines, which initiated a partnership with UN Women on the programme to improve security for female residents. The project began with a baseline study to assess the extent to which women and girls were exposed to harassment, intimidation and other abuses in their daily lives, drawing on grass-roots organisations and local partners to undertake the research. Shockingly, according to the findings 3 out of 5 women had experienced harassment at least once in their lives, a figure that rose to almost 9 out of 10 women aged 18 to 24 years old. In response, local legislation was amended to increase fines for inappropriate behaviour in public spaces, aided by capacity development and training among women's groups, municipal officials and police to support implementation on the ground. This pioneering law was accompanied by an extensive awareness-raising campaign in the press, on social media and outdoor posters to highlight the severity of the problem and challenge the normalisation of sexual misconduct.[380]

The success of the initiative subsequently encouraged other municipalities to follow suit by incorporating similar provisions into their 2015 legislation. For example, in preparation for the passage of a new ordinance to tackle sexual harassment, Manila initiated a process of extensive consultations with local stakeholders and brokered strategic partnerships at the national level with judicial and law enforcement agencies. Barangay officials were also engaged to communicate about the reality of sexual harassment in their neighbourhoods and the need to take action. Civil society groups and women's organisations were also provided with additional support to engage communities directly, backed up with a multipronged messaging campaign that included youth theatre, billboards and media. This ultimately culminated in the endorsement of the new ordinance in June 2018. Inspired by Quezon City, it identifies a broad range of acts that constitute sexual harassment, including verbal abuse, and recognises them as criminally punishable offences. Importantly, given that legislation on sexual harassment is often hamstrung by implementation failure and limited institutional buy-in, the ordinance also specifies mandatory training for police and outlines clear complaints mechanisms that victims can readily access.[381]

ADOPTING SMART APPROACHES TO URBAN SAFETY

From crowdmapping crime to early warning systems

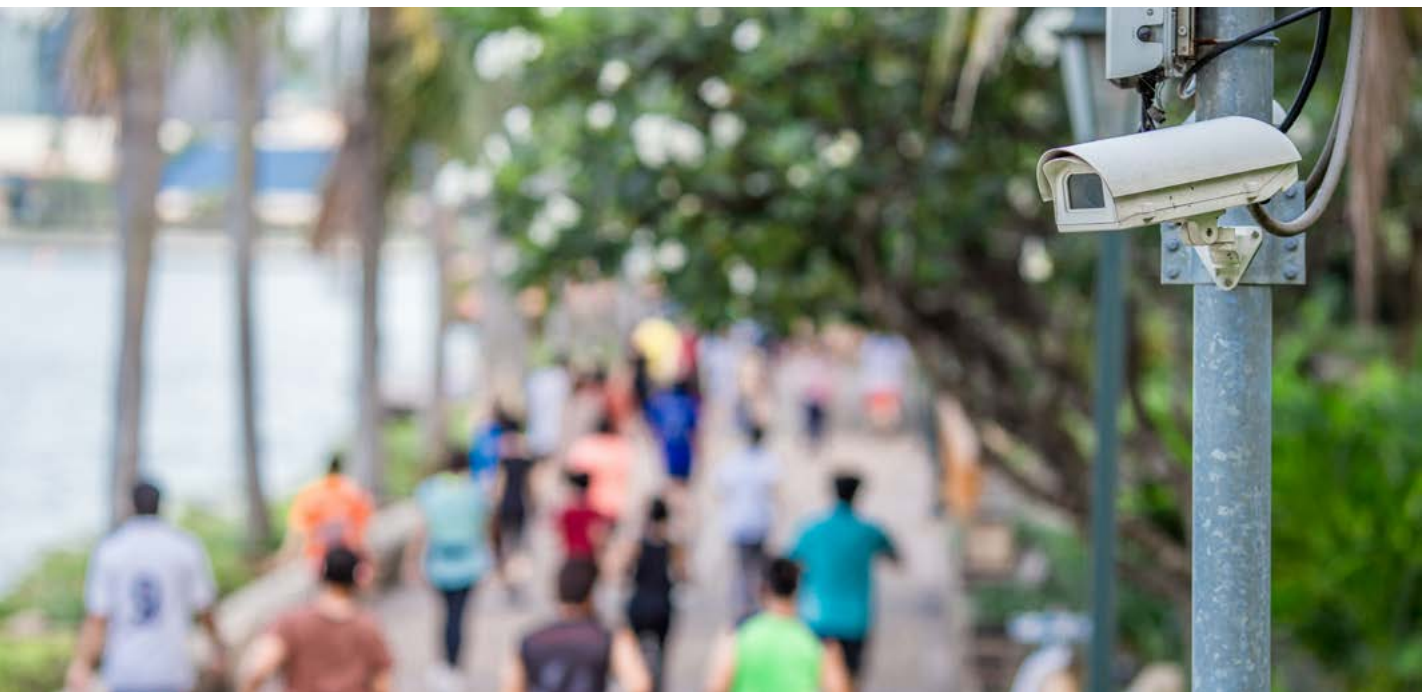
A major barrier to effective, evidence-based urban governance and planning is the failure of different agencies and departments to share data. Smart tools have the potential to support much better integration of complex, cross-disciplinary information in a single accessible database that can then help guide programmes across a range of areas. For example, since the inception of its Smart and Safe City programme, the Malaysian city of Shah Alam has rolled out the Safe City Monitoring System (SCMS) – a GIS, web-based application that allows seamless crime data-sharing between relevant authorities, as well as monitoring of crime prevention measures taken by the police, the Shah Alam City Council, the Ministry of Home Affairs, the Ministry of Housing and Local Government and other related agencies. SCMS is integrated with the police reporting system and enables crime index data to be geo-coded accurately according to the time when police reports are lodged. It is an effective tool to identify suitable locations for patrolling and crime prevention measures. The system has improved the management and deployment of police officers, optimising their limited resources. It has also enabled efficient planning of safety and security infrastructure.

In addition, citizen-led reporting offers the possibility of improving safety through bottom-up data collection. This can offer a crucial means of collecting information and perspectives from groups that are overlooked or misrepresented in official data-collection effects, such as slum dwellers. In particular, the growing importance of social media, particularly among urban populations, has meant that the campaign for safer streets is increasingly being waged online through platforms that allow victims to document incidents of violence or intimidation. Some of the most effective tools in this regard are those that engage residents and communities as users themselves, including crowdmapping apps. These have been deployed in cities across the world to enable women and other at-risk populations to report negative incidents that can then be compiled to develop a nuanced picture of safety and security issues in a particular neighbourhood. One example is #VAWFreePh, a mobile phone app jointly developed by the Philippine Commission on Women and the Technological Institute of the Philippines – Quezon City. This affords users with a degree of protection in the event of an attack through an array of features, including an automated alarm and an emergency button, as well as information on nearby hospitals and police stations.[382]

Digital tools can also complement holistic safety interventions if appropriately implemented. In this regard, UN-Habitat's emphasis on "people-centred" smart cities[383] serves to illustrate how technological innovation can be combined with social engagement to deliver positive outcomes for urban safety, among other areas. In Sihanoukville, Cambodia, for instance, a recent smart city programme there has been implemented with a broad "human security" framework that works to address such conventional safety concerns as crime alongside other key areas, such as food security, health care, climate change and access to justice. A digital platform enabling citizens to report crime online and a GIS management tool to collate such data alongside other interventions, including youth planning workshops and e-governance websites, will together help support the creation of safer and more inclusive cities for women, children and other groups.[384]

Another pressing security challenge for many cities across the ASEAN region, especially those situated in coastal or low-lying areas, is the risk of flooding and other environmental hazards. Smart systems have come to play an increasingly significant role in monitoring and assessing risk, given their ability to effectively collate an array of complex data, such as water levels and satellite imagery. Other tools, however, have worked to strengthen existing community-based approaches to disaster preparedness, combining the latest digital technologies with local knowledge and engagement. One such initiative is the Humanitarian OpenStreetMap Team (known by its acronym HOT), a global not-for-profit organisation that is active across the region and works with students and other stakeholders to undertake extensive "mapathons" of their neighbourhoods. In Indonesia, for instance, the country team worked with residents in several cities to gather geospatial data using mobile phone-based applications that were then processed through an online platform, InAWARE, to provide communities with detailed maps of their areas to guide their own disaster management efforts.[385]

Digital solutions, as with all strategies to combat insecurity, should also recognise the broader social realities surrounding these issues and the role of inequality as a key driver of criminal activity, with the poorest groups most likely to be the victims of theft, assault and other criminal acts. Smart safety interventions must therefore not be treated as a substitute for traditional approaches that engage good design and social inclusion, but work alongside them.



Smart safety interventions must not be treated as a substitute to traditional approaches that engage good design and social inclusion, but work alongside them.

PREVENTING ONLINE THREATS

The growing problem of cyber-crime

Much of the responsibility for countering cybercrime rests with national governments, which have the capacity and resources to identify emerging dangers and ensure that the necessary safeguards are in place. Yet, as local authorities continue to develop, it is vital that they ensure that their online security keeps pace with the growth of these smart systems. The large-scale push across the ASEAN region for a transition to smarter cities, while presenting many beneficial opportunities, also heightens their exposure to malware and hacking. As everything from traffic management to taxation becomes more fully digitalised, the potential severity and reach of a targeted online attack also increase exponentially. The COVID-19 pandemic has further accelerated this process, as urban governance functions, work and education have moved online to accommodate social distancing and other restrictions.[386]

Currently, legislation on cybercrime remains piecemeal and varies considerably between different countries, potentially undermining the harmonised approach necessary to deal with what is increasingly a transnational threat. Nevertheless, cities have the opportunity to invest decisively now in security to lay the foundation for the continued expansion of their digital infrastructure in the years to come. Engaging wider city and country networks across ASEAN – exemplified by the ASEAN Smart Cities Network – offers the possibility for knowledge-sharing and capacity development to enable secondary cities to absorb best practices piloted elsewhere. However, this will require sustained building of trust and a commitment to shared transparency across the region.

With the increasing emphasis on online education, there is also an opportunity to raise greater awareness about online security among residents, especially those relatively unfamiliar with many new technologies. The human dimension of cybersecurity – the ability of users to navigate the Internet and other tools safely, with a clear understanding of the potential pitfalls that criminals can exploit – is in many ways as important as the technological architecture developed to prevent attacks. Given that a significant proportion of the population in smaller cities and rural areas are still not regular Internet users, developing local capacity in this area is key. For children and young adults, too, public education should focus on inculcating a strong awareness around security threats, data ethics, privacy and other concerns to provide them with a measure of digital resilience from an early age.[387] This is all the more important as ASEAN ups the pace of its digital transformation; the promise of smart cities is unlikely to be realised until residents can navigate their infrastructure safely.

Given that a significant proportion of the population in smaller cities are still not regular internet users, developing local capacity in this area is key. For children and young adults, education should focus on inculcating a strong awareness around security threats, data ethics, privacy and other concerns.

RECOMMENDATIONS

The following recommendations are intended to support the improvement of urban personal safety and security. The recommendations directly align with each of the four key “enablers” discussed in the first section of the report, providing insights to ensure the long-term sustainability of a broad range of urban interventions.

DYNAMIC URBAN GOVERNANCE

Embrace participatory, multistakeholder approaches to public safety that engage community members, including women, migrants, persons with disabilities and other groups:

Notwithstanding the important role that a transparent and accountable police force can play in preventing crime, the most successful urban interventions are built on collaboration, trust-building and bottom-up participation from residents themselves. Allowing a diverse range of constituencies to feed in their concerns and priorities will lead to more responsive public safety strategies and stronger public ownership.

INTEGRATED MASTER PLANNING AND DEVELOPMENT

Focus on planning as a central tool for supporting the safety of urban residents through the provision of gender-inclusive and accessible shared spaces:

There is now increasing emphasis on how better physical design in parks, workplaces, public transport and other areas can promote more secure and accessible cities. By contrast, poorly lit or deserted streets can discourage urban residents from using these spaces, in the process making them more unsafe. Paved walkways, street lighting and other measures that promote active, well-used public spaces, such as the presence of street vendors during the evening, can reverse this trend by promoting greater use by a range of different groups.

PARTNERSHIP AND FUNDING

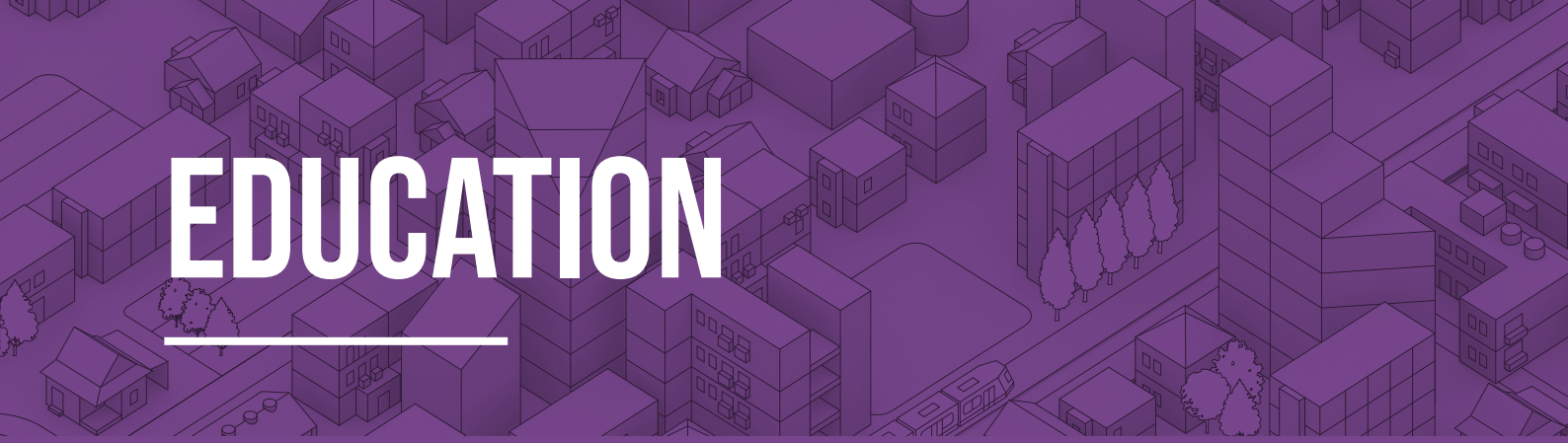
Ensure that adequate funding is allocated to support communities with high crime rates, with a particular focus on addressing socioeconomic challenges and vulnerabilities:

It is important that adequate assistance is channelled towards those areas with the most significant security challenges. However, rather than pursuing a narrowly securitised approach to addressing crime in insecure areas, resources should be invested in engaging communities and responding to their needs.

DIGITAL INFRASTRUCTURE AND APPLICATIONS

Combine technological solutions to security with human capacity development and digital rights:

While CCTV and other technologies are being increasingly deployed as surveillance tools, it is important that ASEAN cities also focus on balancing the digital dimensions with community engagement and the protection of such key rights as privacy, both in public spaces and online. In this regard, the use of readily accessible, citizen-led tools, such as apps to report incidents to police and the identification of crime hotspots, should not be overlooked. As for cybersecurity, while maintaining user safety online will depend to a significant degree on national governments and their ability to minimise potential threats online, providing citizens with education and raising awareness about how to avoid possible hazards is also key.



EDUCATION

Education is widely recognised as a cornerstone of innovation and productivity; any investments in a city's technology and infrastructure need to be accompanied by investments in the knowledge and capabilities of its residents too. However, while it has long been acknowledged as a key priority within ASEAN, educational outcomes in many countries are still falling far behind, with far-reaching social and economic implications. The fact that high-quality education is still not accessible for many across the ASEAN region, even in such middle-income countries as Indonesia, Malaysia and Thailand, has led in turn to significant shortfalls in human capital. This situation has been exacerbated by outward migration of skilled labour across the region.[388] Consequently, education and training are urgent priorities not only for school-age children and graduate students about to enter employment for the first time, but also for many established workers whose existing livelihoods are under threat. The ability of cities to provide high-quality education, training and reskilling to all age groups is therefore critical to supporting the growth of innovation.

Despite improvements, educational attainment across the region is still mixed, with many learners having lagged behind even before the start of the pandemic

While ASEAN has made significant progress in recent years and net enrolment in primary education ranged between 90 and 100 per cent in the region as of 2018,[389] these figures are far lower at the secondary level. These also conceal striking inequalities not only between countries, but also between larger and smaller cities and even within them. An added challenge is the popularity of private schooling among richer urban households in the region; this has effectively meant that education for the children of more affluent families is segregated from the often underfunded, overstretched public education used by the urban poor.

Despite the potential of online platforms and other tools to strengthen educational access across the ASEAN region, these could reinforce inequalities if access among poor and marginalised communities does not improve

While ICTs have helped facilitate online learning, access to laptops, tablets and other equipment is still far more uneven than the high levels of Internet access across ASEAN might suggest; for many households, a smartphone may be the only means of going online, posing significant challenges for effective distance learning.[390] The implications of the steady digitalisation of education and employment in cities for those left behind could be an even deeper form of exclusion.

Technological development, migration and shifting job markets are placing growing pressure on urban populations to adapt to changing labour needs through reskilling, training and education

While thriving job markets are central to attracting new residents and driving economic growth, urban areas are having to adapt to the rapid reconfiguration of labour markets and economies, accelerated further by the disruptions caused by the COVID-19 pandemic. In the coming years millions of jobs across the region are likely to be displaced by these technologies. ASEAN as a region is especially vulnerable to these changes. Consequently, there is even more pressure on cities to drive innovation and growth in emerging sectors. Ensuring that these opportunities are in place in urban areas, particularly smaller cities that may be at risk of being left behind, is key to driving innovation in the region.

FOSTERING LIFELONG LEARNING

Schooling, adult education and vocational programmes

While education is widely seen as key to the ASEAN region's development and prosperity, the quality of schooling varies enormously across the region, with access still sharply divided between countries, genders and income groups.[391] Previous assessments of educational standards across the region, while emphasising steady improvements, have also acknowledged the need to move away from "teacher-centred modes of information dissemination that encourage rote learning" to approaches that foster autonomous learning, problem solving and creativity.[392] There is also significant variance across the region, with some countries particularly struggling; for example, while 3 per cent of children in Viet Nam suffer from "learning poverty" – being unable to read or write a simple text by the age of 10 – this figure rises to 51 per cent in Cambodia.[393]

As these figures pre-date the start of the COVID-19 pandemic, the situation now could be significantly worse, given the impact of prolonged school closures and heightened financial pressures. Reported satisfaction levels across Southeast Asia have declined sharply since the beginning of the pandemic, particularly in Indonesia and the Philippines, where protracted lockdowns shut down schools for extended periods.[394] One World Bank study estimated that the closures could lead to a total loss of 0.9 to 1.2 years of learning-adjusted schooling due in large part to the challenges of distance learning. Even with as many as 93 per cent of school-age children in Indonesia continuing to participate in remote learning, the quality and depth of engagement varied considerably.[395] In reality, it is likely that the pandemic will deepen pre-existing inequalities in educational outcomes. This has been particularly evident among children with disabilities, with more than half of countries in the region failing to adopt measures to ensure their continued participation in education during lockdowns.[396]

Furthermore, while digital technologies have played a crucial role in supporting the transition to online learning, access to these benefits is markedly unequal; for example, the proportion of the population using the Internet is just 26 per cent in the Lao PDR compared with 95 per cent in Brunei Darussalam.[397] Although digital access in the region is generally higher in cities, many of the urban poor may still lack access to devices needed to gain access and have limited knowledge of how to use these technologies.[398] The implications of the shift online, in the immediate term, was always going to pose problems for those already marginalised from the education system, including migrant families, children with disabilities and the extremely poor. In this context, the drive towards digitalisation – accelerated by the pandemic – could exacerbate existing inequalities if insufficient efforts are made to improve access for excluded groups.

Even in the context of decentralisation across the region, much of the governance and funding of formal education systems falls under the purview of national

Access to digital technologies for online learning remains markedly unequal across countries in the ASEAN region.

Proportion of population using the internet in **LAO PDR**	Proportion of population using the internet in **BRUNEI DARUSSALAM**
26%	**95%**

Many of the urban poor may also still lack access to devices and have limited knowledge of how to use these technologies.

SOURCE: UNICEF (2020) Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Southeast Asia, Bangkok, p.59

governments. Nevertheless, cities also have a crucial role to play in bridging the learning gap. In terms of primary and secondary education, local governments have a responsibility to ensure that schooling is delivered equitably across the municipality. Careful monitoring of and targeted support for underperforming schools is key to minimising unequal outcomes within cities, as these can otherwise entrench long-term inequalities. In terms of addressing digital disparities in education, local governments can play an important role in driving change. Shah Alam in Malaysia, for instance, invested

There is significant variance across the region when it comes to educational gaps, with some countries particularly struggling: for example, Cambodia suffers from "Learning Poverty" – being unable to read or write a simple text by the age of 10 – much higher than in Viet Nam.

VIET NAM	**CAMBODIA**
3%	**51%**

SOURCE: UNICEF (2020) Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Southeast Asia, Bangkok, p.59

in a citywide digitalisation agenda to improve access to educational resources and remote learning during the pandemic. Beyond this, however, cities can also actively promote a culture of lifelong learning: for example, by using such informal spaces as libraries, museums and parks to provide evening classes, adult literacy programmes and vocational educational and training.[399] One popular model deployed across Indonesia, Thailand and Viet Nam is the system of "community learning centres." Typically overseen by local residents and supported by a range of stakeholders, including civil society groups, private sector organisations and municipal officials, these support the development of literacy, income generation and life skills. Through these diverse local partnerships, marginalised urban populations can potentially access previously unavailable opportunities for learning to significantly improve their prospects.

The emphasis on a spectrum of learning options, including non-formal and adult education, is crucial because – notwithstanding the increasing levels of educational attainment in ASEAN cities – there remains a significant backlog of adult residents who as children were not able to access a formal education and as a result may struggle with the effects, including illiteracy, for the rest of their lives. Older persons, migrants, women, persons with disabilities and other marginalised groups are especially at risk of being left behind. Furthermore, as urban populations continue to be swelled by migration from the countryside, the educational deficits evident in rural areas are subsequently passed on to cities. As a result, significant literacy gaps among adult residents

can remain, particularly in smaller urban areas. In Cambodia, for instance, while adult literacy in 2019/20 was 95 per cent for men and 91.1 per cent for women in Phnom Penh, in other urban areas the proportion was 91per cent and 82.7 per cent respectively – significantly better than levels in rural areas (83.4 per cent and 70.8 per cent), but nevertheless far lower than in the capital.[400]

The benefits of promoting lifelong learning are wide ranging, not only contributing to social inclusion but also enabling cities to design and implement local responses to the challenges they face.[401] Besides the clear direct benefits that education brings in raising lifelong social and economic outcomes, an active climate of learning can support a range of sustainability objectives, from environmental awareness and social cohesion to cultural expression and political engagement.[402]

BOX 17

CELEBRATING EDUCATIONAL EXCELLENCE IN CITIES: THE UNESCO GLOBAL NETWORK OF LEARNING CITIES

The UNESCO Global Network of Learning Cities is an international platform that facilitates knowledge-sharing and dialogue between different cities to support a culture of learning. Its members include nine ASEAN cities located in Indonesia, Malaysia, the Philippines, Thailand and Viet Nam. From employee upskilling programmes to creative workshops, digital trainings and environmental volunteering activities, the members of this network undertake a range of innovative activities to promote lifelong learning and inclusive educational opportunities.

Every two years, a selection of the most successful cities receive the UNESCO Learning City award; so far, three ASEAN cities have been recognised for their work, namely Balanga in the Philippines (2015), Surabaya in Indonesia (2017) and Petaling Jaya in Malaysia (2019). Each was celebrated for approaches that were designed specifically with local needs and strengths in mind:

- **Balanga**, though surrounded by other cities where heavy industry is a large part of the urban economy, chose to exploit its own unique assets by cultivating its knowledge-based sector. Despite its relatively small size, financial constraints and limited control over the formal education system, the city has driven the delivery of high-quality education in both formal and informal settings through a range of initiatives, often undertaken in collaboration with industry, academia and other local stakeholders. In addition to scholarships and parenting programmes to engage families in their children's education, the city has also developed a public-private partnership called Project Duke to target the city's out-of-school youth. Other initiatives include "barangay learning week," where the municipal government teams up with barangay officials to engage local communities in an array of different learning and training opportunities.[403]

- **Surabaya** also works closely with universities, civil society and the private sector to promote a culture of lifelong learning in the city, from languages and computing to cooking and sewing. Besides investing in physical infrastructure like libraries, the authorities have supported the development of inclusive social platforms such as community-based learning groups to support those who have been unable to continue formal education. Furthermore, it has helped facilitate more equitable access to the Internet through the expansion of Wi-Fi coverage and digital literacy classes at its Broadband Learning Center. It also implemented a range of online education portals and an electronic health information system.[404]

- **Petaling Jaya,** meanwhile, won the award in recognition of its efforts to increase the accessibility of its learning spaces. Measures included the provision of four free bus routes across the city, with digital screens onboard to provide passengers with information while they travel.[405]

Although these three cities have all followed distinct paths, what they have in common is a commitment to inclusion and the provision of accessible, affordable opportunities that will benefit a wide range of different groups, whether those opportunities are the need for youth employment programmes or adult literacy classes. The potential benefits of the "learning city" model include civic empowerment, social cohesion and a richer cultural landscape.[406]

ADAPTING TO ECONOMIC CHANGE

Reskilling, innovation and the evolving needs of the urban labour market

ASEAN is in many ways well positioned to respond to emerging opportunities, such as the digital economy, with evidence suggesting widespread adoption in its major cities of such new technologies as ride-sharing platforms and online shopping. These have the potential to transform urban economies, but it is crucial that the gaps between countries, cities and communities within the ASEAN region are urgently addressed – in particular, the widening "digital divide" between those with and without access to information and communications technologies. While about half of the ASEAN region's population is now online, the other half face uncertain prospects in a context of disruptive change. Given the importance of connectivity in the region, an integrated approach to address these inequalities is in everyone's interest.[407] This includes the significant economic opportunities that could be developed through the digitalisation of rural areas and the expansion of e-commerce linking them with small and intermediate cities. For this to happen, governments will need to ensure that adequate investment and support are allocated to small and intermediate cities to promote ICT systems and "soft infrastructure," such as training of small and medium-sized enterprises. Otherwise, digital inequalities will deepen, excluding many cities from the opportunity to transition to the digital economy.[408]

ASEAN cities therefore have to manage the complex task of providing their populations with the necessary skills to adapt to new and emerging employment opportunities in the region. This includes older workers who may themselves not have benefited from the significant gains in educational coverage in recent years. Adult training programmes, such as "boot camps" to boost basic digital literacy among those with little or no experience of working online, are therefore pivotal in supporting this transition. The acceleration of digitalisation in employment, education and governance since the beginning of the pandemic has made this reskilling more urgent than ever. Currently, many local governments and academic institutions in the region lack the capacity to effectively refocus education and training efforts to accommodate these changing needs.[409] However, some cities are actively exploiting the potential of digital tools and online platforms to connect students with employment opportunities. In Kaysone in the Lao PDR, where the Savan-Seno Special Economic Zone is located, the city has established a smart educational platform to provide graduates with e-learning opportunities to give them the appropriate skills to participate in the labour market. The aim of the initiative is to effectively connect job seekers and employers.[410]

Governments will need to ensure that adequate investment and support are allocated to small and intermediate cities to promote ICT systems and "soft infrastructure" such as training of small and medium sized enterprises (SMEs).

In addition, while technological change is poised to create new opportunities – for example, Thailand's Digital Economy Promotion Agency's road map, announced in 2020, outlines an ambitious strategy to create 500,000 new "digital manpower" positions and some 30 million "digital citizens"[411] – it is also likely to threaten many existing jobs across the region, predominantly in sectors where the majority of those employed are poor. An ILO survey of five ASEAN countries (Cambodia, Indonesia, the Philippines, Thailand and Viet Nam) found that as much as 56 per cent of all employment is at a high risk of automation in the future.[412] Among the most vulnerable sectors are garment manufacturing, construction, services and retail – all crucial areas of urban employment in the ASEAN region. A further challenge is COVID-19 and the need to reorient many workers to align with the needs of the post-pandemic labour market.[413] Nevertheless, governments have an opportunity to support the transfer of workers displaced from these industries into other areas where demand is growing, such as medical supplies and logistics.

Moving beyond short-term and reactive measures, however, requires a sustained commitment to identify new and emerging opportunities for urban workers and provide the necessary training to enable them to transfer their skills accordingly. Municipalities are often best placed to guide this process, given that labour needs can be highly localised and specific to the individual city context. If national and local governments respond effectively to the challenges that this shift presents, facilitating the necessary reskilling of redundant workers into alternative sectors, then the transition could ultimately benefit millions of people across the ASEAN region. However, this will happen only if those affected are able to strengthen their capacity in the use of ICTs, professional collaboration and lifelong learning.[414]

THE BENEFITS AND LIMITATIONS OF ECONOMIC ZONES

BOX 18

One significant feature of the ASEAN region's urban productivity is its multitude of designated "economic zones." A 2015 study estimated that there were more than 1,000 such zones across the region, including 893 industrial parks, 84 special economic zones (SEZs), 2 eco-industrial parks, 25 technology parks and 1 "innovation district"[415] – numbers that have likely increased substantially in the years since. Although there have been some successful examples, including economic corridors that have strengthened connectivity across the region, the increasing proliferation of SEZs has raised concerns about their long-term sustainability: "countries risk a race to the bottom by relying only on comparative advantages such as low labour costs, or on incentives such as tax-breaks, to attract new companies."[416]

Alongside criticisms that many have been rolled out as "one-size-fits-all" developments without adequate consideration of the specific local context, human rights groups have highlighted their considerable social and environmental costs in the ASEAN region, including land grabbing and displacement.[417] In the Philippines, where SEZs have been widely adopted as a means to attract investment and generate employment, critics have also pointed to the "war against urban informality" that these developments represent and the accompanying evictions of slum dwellers, indigenous peoples and peasant farmers from their land.[418] It is therefore important that appropriate assessments and safeguards precede these developments. For small and intermediary cities, often operating under very different conditions to their larger counterparts, simply replicating a previously successful form of SEZ is no guarantee that it will achieve the same impact. Indeed, in the wrong conditions SEZs can overwhelm smaller cities and dominate their economies at the expense of more diverse, small-scale local businesses.

The development of these economic zones has frequently been driven by the desire of Member States to promote greater investment outside their capitals and megacities.[419] Targeted economic investment outside the region's capitals can help address the phenomenon of "primate" cities where the bulk of the country's urban population and assets are concentrated in a single place. However, it is also the case that many SEZs and similar developments in the ASEAN region are funded by foreign investors and oriented heavily towards global supply chains. Their connections with local economies on the other hand tend to be limited, and small- and medium-sized businesses may not benefit to the same degree as larger firms.[420]

A different approach that seeks to leverage the competitive advantages of smaller cities along transportation routes and their potential to benefit from transnational trade is the promotion of "economic corridors," such as those currently being developed across the Greater Mekong Subregion to connect a network of secondary urban areas in Cambodia, the Lao PDR and Viet Nam. The government of Thailand has also sought to promote development beyond Bangkok through various economic corridors and is now preparing a strategy to promote innovative regional development, based on the specific strengths and capability of different provinces.[421] Crucially, though, companies and local governments need to work together to ensure that local skills and training align with employer demands, particularly in urban economies dominated by a specific industry.

The challenge for intermediate cities is to move beyond export-oriented production and focus on creating more endogenous growth, developing strong economic clusters with surrounding rural areas and other urban centres to foster localised value chains. In this regard, targeted support for SMEs – a crucial part of the ASEAN region's economy, amounting to between 97 and 99 per cent of business establishments in most Member States[422] – could deliver significant benefits to smaller urban areas, especially if designed to include informal sector enterprises. In addition to better financial access and improved digital outreach, local and national governments can also support small- and medium-sized enterprises through policies that promote knowledge exchange and partnerships with larger companies and investors.[423]

RECOMMENDATIONS

The following recommendations are intended to promote a resilient and skilled workforce, education and upskilling. The recommendations directly align with each of the four key "enablers" discussed in the first section of the report, providing insights to ensure the long-term sustainability of a broad range of urban interventions.

DYNAMIC URBAN GOVERNANCE

Focus on developing new skills and greater capacity through education and training:

Cities must urgently provide residents with the tools and knowledge to adapt to the changing needs of urban labour markets, including the trends towards increasing digitalisation. Smart and innovative policies can be realised only if communities themselves have the necessary capacity to participate. This means ensuring that all groups, including women, children, the elderly, migrants and persons with disabilities, are able to access these opportunities.

INTEGRATED MASTER PLANNING AND DEVELOPMENT

Leverage public areas and underused amenities to promote lifelong learning in cities:

Just as ensuring that schools are physically accessible and within a reasonable distance from students' homes is a crucial component in ensuring equitable educational outcomes, cities need to take steps to ensure that reskilling, training and adult learning are readily available to city residents. This can be achieved by integrating these services into existing spaces, such as libraries, museums, parks and even public transport, to promote inclusive, convenient spaces for learning, vocational education and professional development. These interventions should be situated not only in central and well-resourced neighbourhoods, but also actively target low-income districts and informal settlements.

PARTNERSHIP AND FUNDING

Invest in training, reskilling and lifelong learning in partnership with a broad range of urban stakeholders:

Targeted funding and other forms of assistance to small and medium-sized enterprises, community organisations and academic institutions can help promote better educational outcomes for child students and adult learners. A collaborative approach, bringing together diverse groups, such as universities, NGOs and businesses, can also help link education more effectively with local employment needs and opportunities.

DIGITAL INFRASTRUCTURE AND APPLICATIONS

Support digital inclusion and address ongoing inequalities in access to equipment, information and education in secondary cities, poor communities and rural areas:

The widening digital divide between urban areas and rural areas, as well as between large and affluent urban centres and smaller cities and towns, could create further barriers to social equality and regional integration in the future if left unaddressed. Supporting technological innovation in intermediate cities and their regions could unlock significant economic potential through more efficient logistical networks, e-commerce and smart agriculture.

TOWARDS ASEAN 2025

CONCLUSION: A TRANSFORMATIVE APPROACH TO ACHIEVING URBAN SUSTAINABILITY

From climate change adaptation to unaffordable housing, and inequitable access to essential services to insecurity, cities across the ASEAN region face acute challenges. These pressures are being felt not only in the region's megacities, but also in smaller urban areas and even at the urban-rural periphery. Yet, for all its challenges, urbanisation is also driving innovation, knowledge exchange and positive social and economic change. Since the publication of the ASUS in 2018, momentum in the search for urban sustainability solutions has accelerated. This has been driven in part by the proliferation of associations and networks to support dialogue and collaboration between cities not only within countries but also across the region. These demonstrate the tangible benefits of a collective vision for sustainable urbanisation across ASEAN and the opportunity for cities, even with very different local contexts, to benefit from lessons and successes elsewhere in the region.

ASEAN has already established several productive regional platforms for this purpose, with significant involvement from secondary cities, where the majority of the region's urban growth is now taking place. Although policy and research in ASEAN, as elsewhere, have in the past concentrated predominantly on larger cities and capitals at the expense of secondary urban areas, this dynamic has changed as new programmes and partnerships emerging from smaller cities demonstrate their extraordinary potential for learning and innovation – and the lessons that larger cities can also glean from them. This report has set out to showcase some of the most inspiring examples from across the region, illustrating how cities are actively realising their aspirations for sustainability.

Although the ASUS was published before the outbreak of COVID-19, its findings have become only more relevant in its wake. Notwithstanding the acute social and economic pressures wrought by the pandemic, cities need to ensure that their strategies to emerge from the crisis are not simply reactive and focused solely on immediate priorities at the expense of long-term needs. Importantly, the challenges and ways forward identified in the ASUS offer a meaningful blueprint for a positive post-pandemic recovery, given the need for stronger forms of social protection and more resilient health systems to face future pandemics. The path to sustainable urbanisation, encompassing political participation, equitable public services and a cleaner environment, is central to this.

The ASEAN region's increasing focus on sustainable urbanisation has coincided with the approval of a number of landmark global commitments, including the NUA and the SDGs. The synergies between these various initiatives offer an opportunity to harmonise development efforts, aligning local programmes with global frameworks through a shared set of aims, indicators and pathways within which different stakeholders can work.

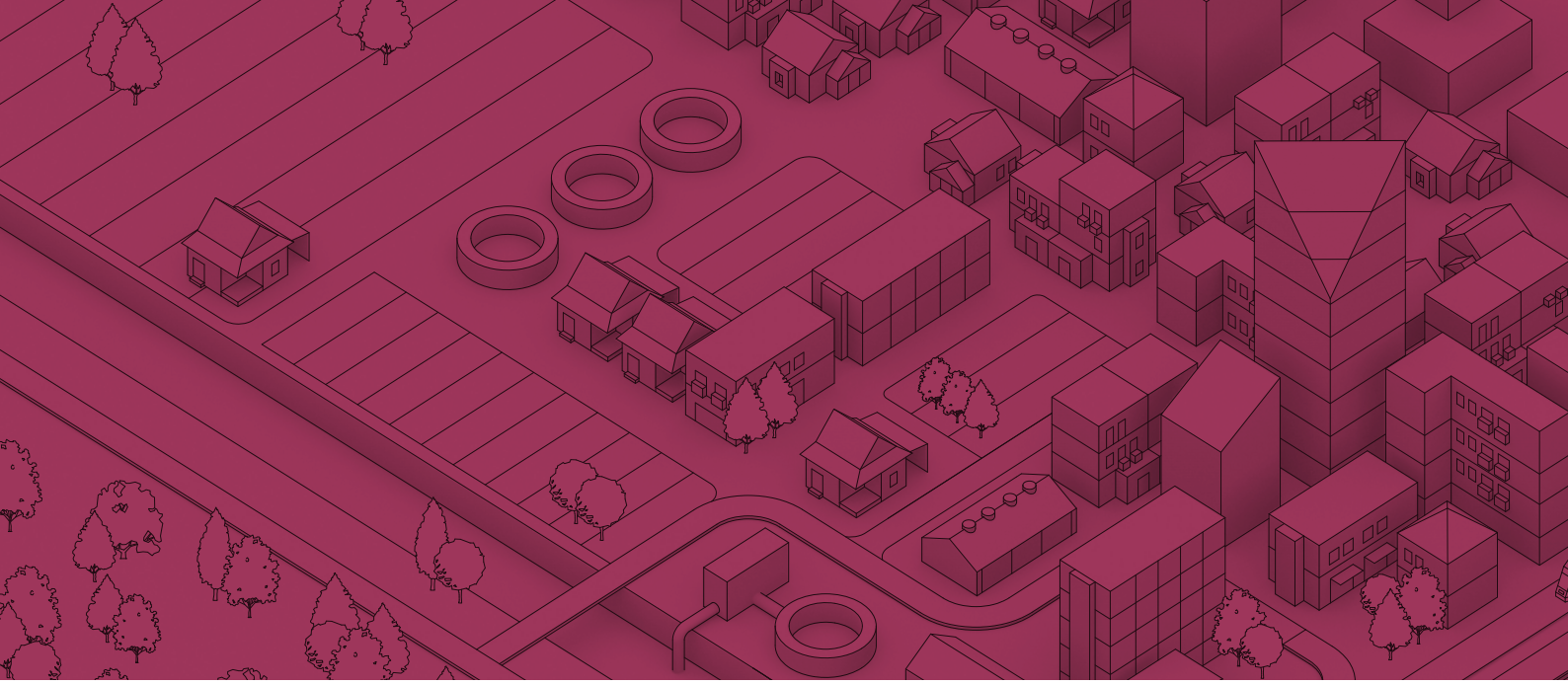
This report builds on the key components of the ASUS to provide a comprehensive analysis and series of recommendations to identify and implement actionable transformations across priority areas for ASEAN cities. Through four key "enablers" relating to governance, planning, finance and digitalisation, it outlines key challenges and ways forward to support the creation of an enabling environment for greater urban sustainability.

First, local governments need to embrace a more integrated and inclusive approach to decision-making, creating stronger linkages not only between different agencies and departments but also, importantly, with a diverse range of other constituencies, including the informal sector. However, by embracing multistakeholder partnerships, cities can leverage the diverse skills and knowledge of different groups to achieve more effective and efficient solutions. Furthermore, while decentralisation has delivered many benefits, providing municipalities with the opportunity to steer their own decision-making, local governments also need to work across jurisdictions to ensure that their own actions are harmonised with those of neighbouring districts, provinces and even countries. This requires the creation of appropriate governance frameworks to promote dialogue and resource sharing between and within cities.

Planning, whether at a territorial scale between cities, provinces and rural areas or at the level of the local neighbourhood, is also critical to the success of urban sustainability in the future. Many ASEAN cities still struggle with the impacts of top-down planning interventions on communities and their physical surroundings. However, the potential of locally informed, holistic interventions in the built environment, such as designated cycle paths and well-lit public spaces, can offer affordable solutions to improve such areas as mobility and public safety while also enhancing liveability. In particular, as described in this report, there have been many examples across the region of collaboration between architects and local residents to develop allotments, walkways, parks and other spaces that have resulted in an array of social and economic benefits. These achievements are an essential component in the health and well-being of cities.

Finance is key to ensuring that cities are able to invest in the infrastructure and services that their citizens need. This means not only enhancing self-sufficiency through improved revenue generation, but also increasing access to credit and loans. Traditionally, local governments have had limited ability to source financial assistance directly from international donors and institutions, leaving them dependent on agreements brokered with central governments. This is beginning to change, however, with various innovative credit schemes that are aimed at increasing direct funding to cities to support locally led urban development. Crucially, these initiatives combine budgetary support with technical capacity-building so that local governments are better positioned to design "bankable" and economically feasible projects. At the same time, there is also an increasing emphasis on community-based funding and green finance to channel resources directly into poverty reduction and environmental sustainability efforts.

Finally, as exemplified with the activities of the ASEAN Smart Cities Network, cities across ASEAN are capitalising upon the potential of digital applications to support the roll-out of smart solutions to a range of challenges,



from more efficient traffic management to safer streets. Although often associated with high-tech and large-scale interventions, many of the most successful smart solutions now being deployed are those that engage citizens themselves in the process as active participants, such as the use of readily available, low-cost tools such as mobile phone apps to undertake community-based disaster management. However, as highlighted repeatedly in this report, the potential opportunities could be compromised if cities do not do more to address the growing digital divide that is emerging, particularly among the poor. There are also rising concerns around privacy rights and surveillance with the steady digitalisation of personal and public life.

Together, these enablers can work to guide the rollout of more integrated, locally appropriate solutions to the different challenges facing cities, including the seven “priority sub-areas" identified in the ASUS through a process of extended stakeholder engagement and revisited in this publication: urban resilience; housing and home; water, waste and sanitation; mobility; inclusive and equitable growth; personal safety and security; and education. These remain as relevant as ever, though each city has its specific needs and contexts to respond to. In addition to the case studies and analysis featured here, the toolkits in ASUS – specifically tailored to provide concrete solutions and ways forward to these issues – also offer a valuable resource for local governments and other urban stakeholders seeking to improve outcomes in these areas.

Given the many challenges that cities face in achieving sustainability, the need for a shared response founded on diverse and inclusive urban partnerships is more urgent than ever. The pressures facing cities across ASEAN today cannot be ignored: decisive and sustained action is necessary to ensure that the aspiration of urban sustainability is translated into reality. However, as highlighted through these pages, these are challenges that do not need to be faced alone. ASEAN, its Member States and cities have already shown what can be achieved by working together. Continued and improved implementation of frameworks such as ASUS, strengthened international partnerships, regional networks and city-to-city exchanges, and increased efforts to localise and support the SDGs and the NUA represent key actions to achieve the shared benefits of urban sustainability. Looking towards 2025 and beyond, these efforts exemplify the connectivity and cohesion that ASEAN is committed to achieving – one founded on cooperation, inclusion and innovation.

ENDNOTES

1 Jones, G.W. (2019). "Some conceptual and methodological issues in studying urbanisation in Southeast Asia," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, pp. 90-100.

2 Rimmer, P.J. and Dick, H. (2019). "Gateways, corridors and peripheries," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, pp. 9-30.

3 Nguyen, H.M. and Nguyen, L.D. (2018). "The relationship between urbanization and economic growth: an empirical study on ASEAN countries," International Journal of Social Economics, 45(2):316-339.

4 Castillo-Carandang, N.T., Buenaventura, R.D., Chia, Y.C., Do Van, D., Lee, C., Duong, N.L., Ng, C.H., Robles, Y.R., Santoso, A., Sigua, H. S., Sukonthasarn, A., Tan, R., Viora, E., Zakaria, H., Brizuela, G. E., Ratnasingham, P., Thomas, M. and Majumdar, A. (2020). "Moving towards optimized non-communicable disease management in the ASEAN region: recommendations from a review and multidisciplinary expert panel," Risk Management and Healthcare Policy, 13:803–819; and Angkurawaranon, C., Jiraporncharoen, W., Chenthanakij, B., Doyle, P. and Nitsch, D. (2014). "Urbanization and non-communicable disease in Southeast Asia: a review of current evidence," Public Health, 128(10):886-895.

5 ASEAN (2016). Master Plan on ASEAN Connectivity 2025, Jakarta, p. 30.

6 UCLG-ASPAC (2016). Asian Innovations in Financing Sustainable Urban Development, Jakarta, p. 31.

7 UN-Habitat (1996). The Management of Secondary Cities in Southeast Asia, Nairobi, cited in B. Roberts (2014). Managing Systems of Secondary Cities: Policy Responses in International Development, Cities Alliance, Brussels, p. 20.

8 Roberts, B. (2019). Connecting Systems of Secondary Cities: How Soft and Hard Infrastructure Can Foster Equitable Economic Growth among Secondary Cities, Cities Alliance, Brussels, pp. 17-20.

9 Ibid., p. 33.

10 Daniere, A.G., Garschagen, M. and Thinphanga, P. (2019). "Why focusing on urban climate change resilience in Southeast Asia is relevant and urgent," in A.G. Daniere and M. Garschagen (eds.) Urban Climate Resilience in Southeast Asia, Springer Nature Switzerland, Cham, Switzerland, p. 3.

11 Cohen, M. and Cook, M. (2021). "Recalibrating cities, reconsidering urban strategy," in B. Roberts and J. Drake (eds.) Secondary Cities Post COVID-19, Cities Alliance, p. 28.

12 Thailand, National Statistical Office (2022). Expenditure budget of Fiscal Year 2022 (in Baht), approved by the National Expenditure Budget Act of B.E. 2565 (2022).

13 World Bank (2012). Well Begun, Not Yet Done: Vietnam's Remarkable Progress on Poverty Reduction and the Emerging Challenges, Hanoi, pp. 80-81. See also World Bank (2022). From the Last Mile to the Next Mile: 2022 Vietnam Poverty and Equity Assessment, Washington, D.C., p. 88: "Poverty rates are higher in smaller urban areas." A similar picture emerges in Thailand, where a previous study exploring the "metropolitan bias" of urban policy and research found that the majority of the urban poor were located in towns of fewer than 100,000 people. See Ferre, C., Ferreira, F. and Lanjouw, P. (2012). "Is there a metropolitan bias? The relationship between poverty and city size in a selection of developing countries," World Bank Economic Review, 26(3):351-382.

14 ICLEI SEAS (2021). "Leading climate action in cities: how are Balikpapan City and Bogor City doing it?" 30 March, available at https://urban-leds.org/wp-content/uploads/2021/08/Final-Urban-LEDS-II-CAPs-Case-Study-for-project-website.pdf.

15 Suri, S.N. and Bonaglia, F. (2021). "Why local? Why now? Strengthening intermediary cities to achieve the SDGs,", UN-Habitat, 6 July, available at https://unhabitat.org/why-local-why-now-strengthening-intermediary-cities-to-achieve-the-sdgs.

16 Cities Development Initiative for Asia (CDIA) (2020). "Why CDIA works with secondary cities," 30 July, available at https://cdia.asia/2020/07/30/why-cdia-works-with-secondary-cities/

17 Organisation for Economic Co-operation and Development (OECD) (2019). "A new growth path: unlocking the potential of regions," in OECD Development Pathways, Multi-dimensional Review of Thailand (Volume 2): In-depth Analysis and Recommendations, available at https://www.oecd-ilibrary.org/sites/9789264307674-5-en/index.html?itemId=/content/component/9789264307674-5-en.

18 Cohen, M. and Cook, M. (2021). "Recalibrating cities, reconsidering urban strategy," in B. Roberts and J. Drake (eds.), Secondary Cities Post COVID-19, Cities Alliance, p. 28; Cities Development Initiative for Asia (CDIA) (2020). "Why CDIA works with secondary cities," 30 July, available at https://cdia.asia/2020/07/30/why-cdia-works-with-secondary-cities/; and Singru, R.N. (2015). Regional Balanced Urbanization for Inclusive Cities Development: Urban-Rural Poverty Linkages in Secondary Cities Development in Southeast Asia, Asian Development Bank.

19 Ibid.

20 Anders, M. (2016). "Will second cities play second fiddle in the New Urban Agenda?" Devex, 12 September, available at https://www.devex.com/news/will-second-cities-play-second-fiddle-in-the-new-urban-agenda-88735.

21 Birkmann, J., Welle, T., Solecki, W., Lwasa, S. and Garschagen, M. (2016). "Boost resilience of small and mid-sized cities," Nature, 537, p. 608.

22 UN (2020). "The impact of COVID-19 on South-East Asia," July, available at https://unsdg.un.org/sites/default/files/2020-07/SG-Policy-brief-COVID-on-South-East-Asia.pdf.

23 International Federation of Red Cross and Red Crescent Societies (IFRC) (2021). "COVID-19: Southeast Asia battles world's highest deaths," 18 August, available at https://media.ifrc.org/ifrc/press-release/covid-19-southeast-asia-battles-worlds-highest-deaths/?utm_source=rss&utm_medium=rss&utm_campaign=covid-19-southeast-asia-battles-worlds-highest-deaths.

24 For example, in Chiang Mai, Thailand, tourism has long been a major economic sector that has provided thousands of residents with employment and income through transport, hospitality and sales. While attracting millions of visitors before the outbreak of COVID-19, these numbers fell dramatically during the pandemic. It has been estimated that Chiang Mai Province lost some USD1.8 billion in revenue in the first half of 2021 alone. For further information, see Emmons, R. (2021). "Chiang Mai, Thailand's gateway to the north, struggles in absence of international tourists," CNN, 16 September, available at https://edition.cnn.com/travel/article/chiang-mai-thailand-pandemic-tourism-cmd/index.html.

25 International Labour Organization (2021). "COVID-19 and the ASEAN labour market: Impact and policy response," August, available at https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/briefingnote/wcms_816432.pdf.

26 Asian Development Bank (2022). Strengthening Domestic Resource Mobilization in Southeast Asia, Manila.

27 ASEAN (2020). ASEAN Rapid Assessment: The Impact of COVID-19 on Livelihoods Across ASEAN, Jakarta, p. 22.

28 Reuters (2021). "Thailand's December tourist arrivals down 99.8% y/y to 6,500," 25 January, available at https://www.reuters.com/article/thailand-economy-tourism-idUSL4N2K02E7.

29 Cities Alliance (2021). Secondary Cities Post COVID-19, Brussels, pp. 16-17.

30 For example, as stated in Garrett, G. (2020). "The post-COVID-19 world will be less global and less urban" (Knowledge@Wharton, 13 May), "Urbanization is likely to be the other major casualty of the coronavirus.... Crowded spaces are the lifeblood of cities. But now crowds are seen as major health risks. People who have the ability to exit the city will increasingly be tempted to do so." The full article is available at https://knowledge.wharton.upenn.edu/article/post-covid-19-world-will-less-global-less-urban/.

31 UN-Habitat (2021). Cities and Pandemics: Towards a More Just, Green and Healthy Future, Nairobi.

32 World Health Organization (2011). Addressing Health of the Urban Poor in South-East Asia Region: Challenges and Opportunities, New Delhi, p. x.

33 ESCAP (2020). The Future of Asian and Pacific Cities: Transformative Pathways towards Sustainable Urban Development in the Post COVID-19 Era, Bangkok.

34 UN-Habitat (2021). Cities and Pandemics: Towards a More Just, Green and Healthy Future, Nairobi

35 Ibid.

36 Rajah, R. (2021). "Southeast Asia's post-pandemic recovery outlook," 15 March, Brookings.

37 Asian Development Bank (2021). Asian Development Outlook 2021: Financing a Green and Inclusive Recovery, Manila.

38 Cohen, M. and Cook, M. (2021). "Recalibrating cities, reconsidering urban strategy," in B. Roberts and J. Drake (eds.), Secondary Cities Post COVID-19, Cities Alliance, p. 28.

39 Miller, M.A. (2020). "Urban resilience in a time of COVID-19 and climate change in Southeast Asia," LSE Blog, 29 December, available at https://blogs.lse.ac.uk/seac/2020/12/29/urban-resilience-in-a-time-of-covid-19-and-climate-change-in-southeast-asia/.

40 ESCAP (2021). The Future of Asian and Pacific Cities: Transformative Pathways towards Sustainable Urban Development in the Post COVID-19 Era, Bangkok.

41 UN-Habitat (2021). Cities and Pandemics: Towards a More Just, Green and Healthy Future, Nairobi.

42 ASEAN (2016). Master Plan on ASEAN Connectivity 2025, p. 48.

43 Ibid., p. 30.

44 Extracted from item 4 of the ASEAN Smart Cities Framework, available at https://asean.org/wp-content/uploads/2019/02/ASCN-ASEAN-Smart-Cities-Framework.pdf.

45 Taken from the Secretary-General's remarks to the High-level Political Forum on Sustainable Development, which were made in New York on 24 September 2019; they are available at https://www.un.org/sg/en/content/sg/speeches/2019-09-24/remarks-high-level-political-sustainable-development-forum

46 ASEAN (2017). Financing the Sustainable Development Goals in ASEAN: Strengthening Integrated National Financial Frameworks to Deliver the 2030 Agenda, Jakarta, p. 20.

47 ESCAP (2021). Asia and the Pacific: SDG Progress Report 2021, Bangkok, pp.17-18. The 2022 update on SDG progress in Southeast Asia presented a similar picture, highlighting "concerns about regression" for SDG 11 as well as other development targets relating to clean water and sanitation (Goal 6), responsible consumption and production (Goal 12), climate action (Goal 13) and life below water (Goal 14). In particular, "sustainable cities and communities (Goal 11) was greatly affected by road traffic deaths and human and economic loss from disasters." See ESCAP (2022). Asia and the Pacific SDG Progress Report 2022: Widening Disparities amid COVID-19, Bangkok, pp. 21-22.

48 *See ASEAN SDGs Cities Programme (undated), available at https://www.aseansdgscities.org/about.*

49 *A useful resource that explores similar areas as the enablers in ASUS is the 2019 report produced by ESCAP and others entitled, The Future of Asian and Pacific Cities: Transformative Pathways towards Sustainable Urban Development. Focused on the entire Asian and Pacific region, it establishes four key "transformative pathways" to guide urban sustainability efforts: urban and territorial planning; urban resilience; smart and inclusive cities; and urban finance. Many of the report's findings may also be relevant to cities in the ASEAN region. The publication is available at https://www.unescap.org/sites/default/d8files/knowledge-products/Future%20of%20AP%20Cities%20Report%202019.pdf.*

50 *ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 16.*

51 *UN (2016). New Urban Agenda, para. 90.*

52 *ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 41.*

53 *UN (2016). New Urban Agenda, para. 88.*

54 *ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 42.*

55 *UN (2016). New Urban Agenda, para. 87.*

56 *ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 20.*

57 *UN (2016). New Urban Agenda, para. 92.*

58 *ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 40.*

59 *UN (2016). New Urban Agenda, para. 89.*

60 *Teoh, S. and Kwan, A. (2017). "How cities in South-East Asia are acting on the SDGs ahead of their national governments," Our World, 3 October, available at https://ourworld.unu.edu/en/how-cities-in-southeast-asia-are-acting-on-the-sdgs-ahead-of-their-national-governments.*

61 *UN-Habitat and UN Development Programme (UNDP) (2014). "The impact of decentralization and urban governance on building inclusive and resilient cities," Asia-Pacific Urbanization and Climate Change Issue Brief, Series 2.*

62 *Rea Uy, Epistola, Landesman, T. and Adriázola, P. (2020). Local Climate Action Planning in the Philippines: The Case of Ormoc City, Berlin: adelphi, p. 7.*

63 *The Thai People Map Analytic Platform is available at https://www.tpmap.in.th/.*

64 *Roberts, B. (2019). Connecting Systems of Secondary Cities: How Soft and Hard Infrastructure Can Foster Equitable Economic Growth among Secondary Cities, Cities Alliance, Brussels, pp. 87-88.*

65 *Philippines, Department of the Interior and Local Government (2019). "DILG kicks off Safe Phl project thru MOA signing with 5 LGUs in Metro Manila," 22 November, available at https://dilg.gov.ph/news/DILG-kicks-off-Safe-Phl-project-thru-MOA-signing-with-5-LGUs-in-Metro-Manila/NC-2019-1287.*

66 *ASEAN SDGs Frontrunner Cities (undated), available at https://www.aseansdgscities.org/.*

67 *Teoh, S. and Kwan, A. (2017). "How cities in South-East Asia are acting on the SDGs ahead of their national governments," Our World, 3 October, available at https://ourworld.unu.edu/en/how-cities-in-southeast-asia-are-acting-on-the-sdgs-ahead-of-their-national-governments.*

68 *ASEAN (2020). ASEAN Comprehensive Recovery Framework, Jakarta, pp. 46-48.*

69 *Roberts, B. and Addison, M. (2015). "Application of collaborative urban governance as a tool to improve the management and development of Asian and Pacific cities," guidance paper commissioned by ESCAP, p. 1.*

70 *Kota Kita (undated). "Data Kota Banjarmasin,"*

71 *Carampatana, T. and Tuazon, R.A. (2020). "Community-led COVID-19 response: the work of the Philippines Homeless People's Federation," IIED, 9 June, available at https://www.iied.org/community-led-covid-19-response-work-philippines-homeless-pesoples-federation.*

72 *Jambeck, J.R., Geyer, R., Wilcox, C., Siegler, T.R., Perryman, M., Andrady, A., Narayan, R. and Law, K.L. (2015). "Plastic waste inputs from land into the ocean," 13 February, Science 347(6233):768-771.*

73 *UN-Habitat (2021). "From plastic to profit: communities explore opportunities in recycling plastic waste," 17 November, available at https://unhabitat.org.ph/stories/from-plastic-to-profit-communities-explore-opportunities-in-recycling-plastic-waste/#_ftn2.*

74 *Indonesia, Ministry of National Development Planning (2021). Indonesia's Voluntary National Review (VNR) 2021: Sustainable and Resilient Recovery from the COVID-19 Pandemic for the Achievement of the 2030 Agenda, pp. 38-39, 44, 156 and 189.*

75 *Samir, N, (2021). "When the pandemic struck Indonesia, urban gig workers were hit the hardest," LSE Blog, 28 October, available at https://blogs.lse.ac.uk/businessreview/2020/10/28/when-the-pandemic-struck-indonesia-urban-gig-workers-were-hit-the-hardest/.*

76 *Ocavia, J. (2020). "Building back better: COVID-19 and informal workers in Indonesia," LSE Blog, 15 December, available at https://blogs.lse.ac.uk/seac/2020/12/15/building-back-better-covid-19-and-informal-workers-in-indonesia/.*

77 Teoh, S. and Kwan, A. (2017). "How cities in South-East Asia are acting on the SDGs ahead of their national governments," Our World, 3 October, available at https://ourworld.unu.edu/en/how-cities-in-southeast-asia-are-acting-on-the-sdgs-ahead-of-their-national-governments.

78 Lao PDR, Ministry of Public Work and Transport (2021). National Progress Report on the Implementation of the New Urban Agenda, Vientiane; and Indonesia, Ministry of Public Works and Housing (2021). Voluntary National Review for Implementation of New Urban Agenda, Jakarta.

79 United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP) (2020). Asia-Pacific Regional Guidelines on Voluntary Local Reviews, Bangkok, p. 52.

80 Malaysia, Economic Planning Unit, Prime Minister's Department (2021). Voluntary National Review (VNR) of Malaysia, Kuala Lumpur, p. 36.

81 ESCAP (undated). "Localizing the 2030 Agenda in Asian and Pacific cities," available at https://www.unescap.org/projects/da11/cities.

82 ESCAP (2020). Asia-Pacific Regional Guidelines on Voluntary Local Reviews, Bangkok, pp. 13-14.

83 Malaysia SDG Cities and Urbanice Malaysia (2020), Malaysia SDG Cities, Kuala Lumpur.

84 Urbanice Malaysia and Majlis Bandaraya Shah Alam (2021). Shah Alam Voluntary Local Review 2021: Implementing the 2030 Agenda in the City of Shah Alam, Shah Alam.

85 Malaysia, Economic Planning Unit, Prime Minister's Department (2021). Voluntary National Review (VNR) of Malaysia, Kuala Lumpur, p. 36.

86 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 42.

87 UN (2016). New Urban Agenda, para. 95.

88 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, pp. 56-57.

89 UN (2016). New Urban Agenda, para. 77.

90 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, pp. 41-42.

91 UN (2016). New Urban Agenda, para. 89.

92 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 22.

93 UN (2016). New Urban Agenda, para. 100.

94 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 21.

95 UN (2016). New Urban Agenda, para. 98.

96 UN (2016). New Urban Agenda, para. 89.

97 Philippines, Housing and Land Use Regulatory Board (2017). National Urban Development and Housing Framework 2017-2022, Diliman; and Philippines, Climate Change Commission (2018). "CCC: New urban development framework will enhance community resilience to climate change," 21 March, available at https://climate.gov.ph/news/54.

98 Sudhipongpracha, T. and Dahiya, B. (2019). "City profile: Khon Kaen, Thailand," Environment and Urbanization ASIA, 10(2):271-289.

99 Millington, A. (2017). "Inside Myanmar's ghost town capital city, which is 4 times the size of London with a fraction of the population", Insider, 22 June, available at https://www.businessinsider.com/myanmars-empty-capital-city-is-4-times-the-size-of-london-2017-6?r=US&IR=T

100 United Nations Environment Programme (UNEP) (2018). Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 46.

101 Sheng, Y.K. (2019). "Peri-urban transformation in Southeast Asia," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, pp. 31-42.

102 Harman, O. (2021). "Intermediate cities and climate action: driving change through urban land use and governance," OECD Development Matters, 9 September, available at https://oecd-development-matters.org/2021/09/09/intermediate-cities-and-climate-action-driving-change-through-urban-land-use-and-governance/.

103 UNEP (2018). Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 47; and Bren d'Amour, C., Reitsma, F., Baiocchi, G., Barthel, S., Güneralp, B., Erb, K., Haberl, H., Creutzig, F. and Seto, K. (2017). "Future urban land expansion and implications for global croplands," Proceedings of the National Academy of Sciences of the United States of America, 114 (34):8939-8944.

104 Harman, O. (2021). "Intermediate cities and climate action: driving change through urban land use and governance," OECD Development Matters Blog, 9 September, available at https://oecd-development-matters.org/2021/09/09/intermediate-cities-and-climate-action-driving-change-through-urban-land-use-and-governance/

105 Jambeck, J.R., Geyer, R., Wilcox, C., Siegler, T.R., Perryman, M., Andrady, A., Narayan, R. and Law, K.L. (2015). "Plastic waste inputs from land into the ocean," Science 347(6223):768-771.

106 Cambodia, Ministry of Planning (2020). Report of Cambodia Socio-Economic Survey 2019/20, Phnom Penh, p. 112.

107 UN-Habitat (undated). "Urban-rural linkages," available at https://unhabitat.org/topic/urban-rural-linkages.

108 McKinsey Global Institute (2014). Southeast Asia at the Crossroads: Three Paths to Prosperity, November, p. 77.

109 UN-Habitat (2021). Cities and Pandemics: Towards a More Just, Green and Healthy Future, Nairobi, pp. 9-10.

110 Southeast Asia Development Solutions Knowledge and Innovation Platform (2020). "Future-proofing against pandemics," 5 October, available at https://seads.adb.org/solutions/future-proofing-against-pandemics.

111 Harman, O. (2021). "Intermediate cities and climate action: driving change through urban land use and governance," OECD Development Matters, 9 September, available at https://oecd-development-matters.org/2021/09/09/intermediate-cities-and-climate-action-driving-change-through-urban-land-use-and-governance/.

112 Singru, R.N. (2015). Regional Balanced Urbanization for Inclusive Cities Development: Urban-Rural Poverty Linkages in Secondary Cities Development in Southeast Asia, Asian Development Bank, p. 9.

113 Quezon City (undated). "Grow QC: open spaces as food source," available at https://quezoncity.gov.ph/program/grow-qc-open-spaces-as-food-source/.

114 UN-Habitat (undated). "Building climate resiliency through urban plans and design," Project Brief, available at https://reliefweb.int/sites/reliefweb.int/files/resources/Project-Brief-BCRUPD-20171012.pdf.

115 Andal, A.G. (2021). "Situating children's lives in coastal cities: prospects and challenges in urban planning in five Southeast Asian cities," Regional Science Policy and Practice, pp. 1–14.

116 Beatley, T. (2014). Blue Urbanism: Exploring Connections between Cities and Oceans, Island Press, Washington, D.C., pp. 112-113.

117 Southeast Asia Development Solutions Knowledge and Innovation Platform (2020). "Makassar uses big data to fight COVID-19," 30 September, available at https://seads.adb.org/news/makassar-uses-big-data-fight-covid-19; and Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN Growth Area (BIMP-EAGA) (2021). "Makassar paves the way for smart and pandemic-proof city planning in Indonesia," 22 June, available at https://bimp-eaga.asia/article/makassar-paves-way-smart-and-pandemic-proof-city-planning-indonesia.

118 ASEAN Australia Smart Cities Trust Fund (2021). Leveraging Spatial Data for Pandemic Resilient Cities, Asian Development Bank and others, Manila.

119 Ng, M., Shabrina, Z. and Buyuklieva, B. (2020). "Characterising land cover change in Brunei Darussalam's Capital District," unpublished.

120 Gilbert, M. (2019). "Alleyway neighbourhoods in Ho Chi Minh City," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, pp. 420-432.

121 Nilubon, P., Veerbeek, W. and Zevenbergen, C. (2016). "Amphibious architecture and design: a catalyst of opportunistic adaptation? case study Bangkok," Procedia—Social and Behavioral Sciences, 216, pp. 470-480.

122 Cities Development Initiative for Asia (CDIA) (2020). "CDIA holds liveability and resilience seminar for partner cities in Lao PDR," 30 October, available at https://cdia.asia/2020/10/30/cdia-holds-livability-and-resilience-seminar-for-partner-cities-in-lao-pdr/; and CDIA (undated). "Lao PDR liveable cities," available at https://cdia.asia/project/lao-pdr-livable-cities/.

123 UNEP (2018). Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 45.

124 Ibid., p. 59.

125 Reuters (2021). "Singapore plans to improve worker dormitories after virus outbreak," 17 September, available at https://www.reuters.com/world/asia-pacific/singapore-plans-improve-worker-dormitories-after-virus-outbreak-2021-09-17/.

126 Castillo-Carandang, N.T., Buenaventura, R.D., Chia, Y.C., Do Van, D., Lee, C., Duong, N.L., Ng, C.H., Robles, Y.R., Santoso, A., Sigua, H.S., Sukonthasarn, A., Tan, R., Viora, E., Zakaria, H., Brizuela, G.E., Ratnasingham, P., Thomas, M. and Majumdar, A. (2020). "Moving towards optimized non-communicable disease management in the ASEAN region: recommendations from a review and multidisciplinary expert panel," Risk Management and Healthcare Policy, 13, 803–819.

127 World Health Organization (undated). "Noncommunicable diseases," available at https://www.who.int/data/gho/data/themes/noncommunicable-diseases.

128 World Health Organization (undated). "Noncommunicable diseases are the No. 1 killers in the WHO SEA Region," available at https://www.who.int/southeastasia/activities/noncommunicable-diseases-are-the-no.-1-killers-in-the-who-sear.

129 The ASEAN Post (2020). "Obesity on the rise in ASEAN," 4 May, available at https://theaseanpost.com/article/obesity-rise-asean; and World Health Organization (undated). Obesity and overweight in Southeast Asia, available at https://www.who.int/southeastasia/health-topics/obesity.

130 Hasnan, L. (2019). "ASEAN's green spaces disappearing fast," The ASEAN Post, 23 June, available at https://theaseanpost.com/article/aseans-green-spaces-disappearing-fast.

131 Dang, T.N., Van, D.Q., Kusaka, H., Seposo, X.T. and Honda, Y. (2018). "Green space and deaths attributable to the urban heat island effect in Ho Chi Minh City," American Journal of Public Health 108 (S137-S143).

132 Boonmahathanakorn, S. (2020). "Rubbish dump turned lush urban farm," IIED Blog, 3 December, available at https://www.iied.org/rubbish-dump-turned-lush-urban-farm.

133 ESCAP and UN-Habitat (2019). The Future of Asian and Pacific Cities: Transformative Pathways towards Sustainable Urban Development, Bangkok, p. 131.

134 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 100.

135 UN (2016). New Urban Agenda, para. 134.

136 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 41.

137 UN (2016). New Urban Agenda, para. 131.

138 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 41.

139 UN (2016). New Urban Agenda, para. 132

140 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 20.

141 UN (2016). New Urban Agenda, para. 133.

142 Ibid., para. 136.

143 Cities Development Initiative for Asia (CDIA) (2020). "Why CDIA works with secondary cities," 30 July, available at https://cdia.asia/2020/07/30/why-cdia-works-with-secondary-cities/.

144 Organisation for Economic Co-operation and Development (OECD) (2014). Towards Green Growth in Southeast Asia, OECD Green Growth Studies, OECD Publishing, p. 36.

145 Asian Development Bank and German Agency for International Cooperation (2015). Introduction to Congestion Charging: A Guide for Practitioners in Developing Cities, Bonn, Germany, and Manila.

146 ESCAP and UN-Habitat (2019). The Future of Asian and Pacific Cities: Transformative Pathways towards Sustainable Urban Development, Bangkok, p. 53.

147 Asian Development Bank (2018). PCDIP: Philippine City Disaster Insurance Pool, Manila, p. 2.

148 Sudhipongpracha, T. and Dahiya, B. (2019). "City profile: Khon Kaen, Thailand," Environment and Urbanization ASIA, 10(2):271-289.

149 Cities Development Initiative for Asia (CDIA) (undated). "Climate vulnerability and adaptation assessment," available at https://cdia.asia/project/climate-vulnerability-and-adaptation-assessment/.

150 UCLG-ASPAC (2016). Asian Innovations in Financing Sustainable Urban Development, Jakarta, p. 13. More information is available at https://kartamantul.jogjaprov.go.id/.

151 Cities Development Initiative for Asia (CDIA) (2010). CDIA PPP Guide for Municipalities.

152 Dahiya, B. and Gentry, B. (2020). "Public-private partnerships to improve urban environmental services," in S. Cheema (ed.) Governance for Urban Services: Access, Participation, Accountability, and Transparency, Advances in 21st Century Human Settlements, Springer, Singapore.

153 UNEP (2018). Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 128.

154 BusinessWorld (2018). "Waste-to-energy projects at LGUs seen as 'next wave' by PPP center," 28 November, available at https://www.bworldonline.com/waste-to-energy-projects-at-lgus-seen-as-next-wave-by-ppp-center/.

155 Isdijoso, B. (2021). "PPPs in Indonesia are gaining momentum—these 5 steps were key," World Bank Blogs, 14 April, available at https://blogs.worldbank.org/ppps/ppps-indonesia-are-gaining-momentum-these-5-steps-were-key.

156 UNEP (2018) Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 128.

157 UN Sustainable Development Group (2014). "Integrating urbanization into the CCA and UNDAF: a guide for UN Country Teams," Bangkok, p. 34.

158 Asian Development Bank (2019). "ASEAN Infrastructure Development Fund: financing infrastructure for growth and development," January, available at https://www.adb.org/publications/asean-infrastructure-fund-brochure.

159 Asian Development Bank (2021). Accelerating Sustainable Development after COVID-19: The Role of SDG Bonds, Manila, July, pp. 22-23.

160 Ibid., p. 3.

161 Jackson, D. (2016). "The new urban imperative for secondary cities," UN Capital Development Fund, 16 November, available at https://www.uncdf.org/article/1673/the-new-urban-imperative-for-secondary-cities-by-david-jackson-director-local-developm-migration.

162 Climate Policy Initiative (2021). Accelerating Renewable Energy Finance in Indonesia: The Potential of Municipal Bonds, available at https://www.climatepolicyinitiative.org/wp-content/uploads/2021/07/The-potential-of-municipal-green-bonds.pdf.

163 Asian Infrastructure Investment Bank (AIIB) (2018). Sustainable Cities Strategy: Financing Solutions for Developing Sustainable Cities in Asia, available at https://www.aiib.org/en/policies-strategies/operational-policies/sustainable-cities/.content/_download/sustainable-cities-strategy.pdf.

164 ASEAN (2022). "ASEAN, AIIB, MCDF, foster partnership in infrastructure," 29 April, available at https://asean.org/asean-aiib-mcdf-foster-partnership-in-infrastructure/.

165 Asian Infrastructure Investment Bank (AIIB) (2018). Sustainable Cities Strategy: Financing Solutions for Developing Sustainable Cities in Asia, p. 4.

166 UNEP (2018). Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 13.

167 Asian Development Bank (2021). 100 Climate Actions from Cities in Asia and the Pacific, Manila, p.12.

168 Asian Development Bank (2020). Green Infrastructure Investment Opportunities: Philippines 2020 Report, Manila, p.15.

169 Asian Development Bank (2021). Accelerating Sustainable Development After COVID-19: The Role of SDG Bonds, Manila, p. 11.

170 Mitlin, D. (2019). "Community led processes for inclusive development," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, p. 365.

171 Feruglio, F. and Rifai, A. (2017). "Participatory budgeting in Indonesia: past, present and future," January, Practice Paper, KolaKita and Institute for Development Studies, available at https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/12733/KOTA_KITA_PP_Online_FINAL.pdf;jsessionid=25196B2660E4FB22DC14B8C7731CB61C?sequence=1.

172 Lao PDR, Ministry of Public Work and Transport (2021). National Progress Report on the Implementation of the New Urban Agenda, Vientiane, p. 13.

173 Asian Development Bank (2017). Accelerating Financial Inclusion in South-East Asia through Digital Finance, Manila.

174 Boonyabancha, S. and Kerr, T. (2018). "Making people the subject: community-managed finance systems in five Asian countries," Environment and Urbanization, 30(1):15-34.

175 Boonyabancha, S. and Kerr, T. (2018). "Making people the subject: community-managed finance systems in five Asian countries," Environment and Urbanization, 30(1):15-34.

176 Community Organizations Development Institute (undated). "Citywide housing for all, planned and built by people, figures for January 2003 - March 2018," available at https://en.codi.or.th/baan-mankong-housing/baan-mankong-rural/.

177 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, pp. 24-25.

178 UN (2016). New Urban Agenda, para. 156.

179 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p.168.

180 UN (2016). New Urban Agenda, para. 66.

181 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 58.

182 UN (2016). New Urban Agenda, para. 156.

183 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 58.

184 UN (2016). New Urban Agenda, para. 160.

185 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p.160.

186 UN (2016). New Urban Agenda, para. 157.

187 Asian Development Bank (undated). "ASEAN Australia Smart Cities Trust Fund," available at https://www.adb.org/what-we-do/funds/asean-australia-smart-cities-fund.

188 Asian Development Bank (2021). PHI: Baguio City Smart Flood Warning, Information and Mitigation System, Manila.

189 Grant, C. and Fonseca,, A. (2021). "Incorporating gender transformative approaches in flood early warning systems", Ramboll, 30 June, available at https://ramboll.com/media/rgr/incorporating-gendert-transformative-approaches-in-flood-early-warning-systems

190 Lago, C. (2020). "Top 10 smart cities in ASEAN," InsiderPro, 25 February, available at https://www.idginsiderpro.com/article/3315258/top-10-smart-cities-in-asean.html; and Dachlan, D. (2016). "Monitoring app Qlue helps Jakarta improve services, efficiency," The Jakarta Post, 30 May, available at https://www.thejakartapost.com/life/2016/05/30/monitoring-app-qlue-helps-jakarta-improve-services-efficiency.html.

191 Tay, K-C. (2019). "A region's first – digitally twinned smart cities in ASEAN," PR Newswire, 11 March, available at https://www.prnewswire.com/news-releases/a-regions-first---digitally-twinned-smart-cities-in-asean-300809801.html.

192 Hinrichsen, S. (2021). "Impactful innovation: insights from evaluating Qlue," GMSA, 2 September, available at https://www.gsma.com/mobilefordevelopment/blog/impactful-innovation-insights-from-evaluating-qlue/.

193 ASEAN Smart Cities Network (2018). ASEAN Smart Cities Framework, para. 4.

194 UN, Economic Commission for Europe (2020). People-Smart Sustainable Cities, Geneva, p. x.

195 Jiang, H., Geertman, S. and Witte, P. (2020). "Smart urban governance: an alternative to technocratic 'smartness,'" GeoJournal, 9 November, available at https://doi.org/10.1007/s10708-020-10326-w.

196 World Bank (2021). "Individuals using the Internet (% of population) – Cambodia," available at https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=KH.

197 Asian Development Bank (2020). Smart City Pathways for Developing Asia: An Analytical Framework and Guidance, Manila, p. 26.

198 ASEAN Sustainable Urbanisation Forum (2021). "Inclusive and equitable growth – digital payment solutions to enhance financial inclusion," ASUS Thematic Dialogue, 6 October.

199 Roberts, B. (2019). Connecting Systems of Secondary Cities: How Soft and Hard Infrastructure Can Foster Equitable Economic Growth among Secondary Cities, Cities Alliance, Brussels, p. 35.

200 Plaza, A.B. (2016). "Getting Asia's secondary cities into the 'smart' cities race", Asian Development Blog, 28 October, available at https://blogs.adb.org/blog/getting-asias-secondary-cities-smart-cities-race.

201 Lago, C. (2019). "How CIOs can help drive smart city networks in ASEAN," CIO, 22 November, available at https://www.cio.com/article/215764/how-cios-can-help-drive-smart-city-networks-in-asean.html; and Supangkat, S.H., Arman, A.A., Nugraha, R.A. and Fatimah, Y.A. (2018). "The implementation of Garuda Smart City framework for smart city readiness mapping in Indonesia," Journal of Asia-Pacific Studies, 32(4):169-176.

202 ASEAN Smart Cities Network (2018). ASEAN Smart Cities Framework, para. 1.

203 Lago, C. (2020). "Top 10 smart cities in ASEAN," InsiderPro, 25 February, available at https://www.idginsiderpro.com/article/3315258/top-10-smart-cities-in-asean.html.

204 UN DESA (2020). E-Government Survey 2020: Digital Government in the Decade of Action for Sustainable Development, New York, pp. 262-264; and The Economist (2017). "Smart expectations: planning smart cities in Asia," 26 January, available at https://startupmycity.economist.com/smart-expectations-planning-smart-cities-asia/.

205 Singapore, Prime Minister's Office (2020). Digital Government Blueprint, December, available at https://www.tech.gov.sg/digital-government-blueprint/.

206 Santiso, C. (2021). "Digitalisation as an anti-corruption strategy: what are the integrity dividends of going digital?" OECD Development Matters, 4 August, available at https://oecd-development-matters.org/2021/08/04/digitalisation-as-an-anti-corruption-strategy-what-are-the-integrity-dividends-of-going-digital/; and Adam, I. and Fazekas, M. (2021). "Are emerging technologies helping win the fight against corruption? A review of the state of evidence," Information Economics and Policy, 57(100950).

207 Feruglio, F. and Rifai, A. (2017). "Participatory budgeting in Indonesia: past, present and future," January, Making All Voices Count Practice Paper, Brighton, United Kingdom, Institute for Development Studies, pp. 12 and 15, available at https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/12733/KOTA_KITA_PP_Online_FINAL.pdf;jsessionid=25196B2660E4FB22DC14B8C7731CB61C?sequence=1.

208 Bischoff, P. (2022). Internet censorship 2022: a global map of Internet restrictions, available at https://www.comparitech.com/blog/vpn-privacy/internet-censorship-map/.

209 Brown, D. and Toh, A. (2021). "Technology is enabling surveillance, inequality during the pandemic," Human Rights Watch, 4 March, available at https://www.hrw.org/news/2021/03/04/technology-enabling-surveillance-inequality-during-pandemic.

210 France24 (2021). "Singapore admits police can access contact-tracing data," 5 January, available at https://www.france24.com/en/live-news/20210105-singapore-admits-police-can-access-contact-tracing-data.

211 ASEAN Sustainable Urbanisation Forum (2021). "Enhancing urban safety and security" (under 7 October link), ASUS Thematic Dialogue, available at https://connectivity.asean.org/asuf/programme/.

212 UN (2020). Report of the Secretary-General: Roadmap for Digital Cooperation, p. 2.

213 Poon, Y.X. and Shiyuan, F. (2019). "How this agricultural town became the Philippines' first "smart city," GovInsider, 24 October, available at https://govinsider.asia/digital-gov/how-this-agricultural-town-became-the-philippines-first-smart-city/; ICLEI SEAS (2021)."Cauayan City, PH demonstrates energy efficiency and conservation experience," 30 July, available at https://icleiseas.org/index.php/2021/07/30/cauayan-city-ph-demonstrates-energy-efficiency-and-conservation-experience/; and Caliguiran, V. (2019). "Cauayan City to launch Digital Farmers Program with Smart City Project," ATI in Caguyuan Valley, 30 September, available at https://ati.da.gov.ph/ati-2/news/09302019-0907/cauayan-city-launch-digital-farmers-program-smart-city-project.

214 Marks, D. (2019). "The political ecology of uneven development and vulnerability to disasters," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, p. 345.

215 Kim, K. and Bui, L. (2019). "An assessment of disaster risk and resilience in rapidly urbanising ASEAN cities," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, p. 328.

216 Overland, I., Sagbakken, H.F., Chan, H-Y., Merdekawati, M., Suryadi, B., Utama, N.A. and Vakulchuk, R. (2021). "The ASEAN climate and energy paradox," Energy and Climate Change, 2.

217 International Energy Agency (2019). Southeast Asia Energy Outlook, Paris, pp.12 and 15.

218 Carrasco, S., Dangol, N. and Recio, R. (2020). "Rebuilding from disaster: it doesn't end when housing aid projects finish," The Conversation, May 14, https://theconversation.com/rebuilding-from-disaster-it-doesnt-end-when-housing-aid-projects-finish-134030.

219 Sahmakum Teang Tnaut (2015). Phnom Penh's Lakes: Where Are They Now? Phnom Penh.

220 Yamada, T.S. (2019). "Phnom Penh's Diamond Island: city of spectacle," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, p. 315.

221 Aryapratama, A. (2016). "Biopore: a cheap way to help mitigating floods," 19 January, available at https://rioaryablog.wordpress.com/2016/01/19/biopore-a-cheap-way-to-help-mitigating-floods/.

222 Marks, D. (2019). "The political ecology of uneven development and vulnerability to disasters," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, p. 348.

223 Kavi, K. (2020). "ASEAN loses a third of mangroves in last 40 years," The Phnom Penh Post, 28 July, available at https://www.phnompenhpost.com/national/asean-loses-third-mangroves-last-40-years.

224 Holtz, M. (2013). "Saved by the mangroves? A Philippine town dodges Haiyan's storm surge," The World, 29 November, available at https://www.pri.org/stories/2013-11-29/saved-mangroves-philippine-town-dodges-haiyans-storm-surge.

225 Ibid.

226 Asian Development Bank (2021). 100 Climate Actions from Cities in Asia and the Pacific, Manila, p. 128.

227 The ASEAN (2020) Climate Change: The Time to Act Is Now, 5, September, p. 31.

228 Clarkson, K. (2021) "Heatwaves, the other silent killer", Bangkok Post, 3 June, available at https://www.bangkokpost.com/opinion/opinion/2126035/heatwaves-the-other-silent-killer.

229 Asian Development Bank (2019). "Nature-based solutions for cities in Viet Nam: water sensitive urban design," brochure, Manila.

230 Asian Development Bank (2017). "ADB to support development of green, resilient urban infrastructure in Viet Nam's secondary cities," 2 November, available at https://www.adb.org/news/adb-support-development-green-resilient-urban-infrastructure-viet-nams-secondary-cities.

231 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., pp. 40-41.

232 Miller, M.A. (2020). "Urban resilience in a time of COVID-19 and climate change in Southeast Asia," LSE Blog, 29 December, available at https://blogs.lse.ac.uk/seac/2020/12/29/urban-resilience-in-a-time-of-covid-19-and-climate-change-in-southeast-asia/.

233 For example, see International Institute for Environment and Development (2016). Climate Change Vulnerability Assessments in Indonesia: Where Are the Women's Perspectives? London.

234 Daniere, A.G., Garschagen, M. and Thinphanga, P. (2019). "Why focusing on urban climate change resilience in Southeast Asia is relevant and urgent," in A.G. Daniere and M. Garschagen (eds.) Urban Climate Resilience in Southeast Asia, Springer Nature Switzerland, Cham, Switzerland, p. 9.

235 de Jesus-Bretschneider A. (2019) "Migrating towards vulnerabilities: the impacts of structural violence on Myanmar migrants in Phuket, Thailand," in A. Daniere and M. Garschagen (eds.) Urban Climate Resilience in Southeast Asia, Springer Nature Switzerland, Cham, Switzerland, p. 63.

236 Chandran, R. (2020). "Landless Thais get homes in mangrove forest in conservation push," Thomson Reuters Foundation, 16 November, available at https://news.trust.org/item/20201116060104-m46xj.

237 Greenpeace (2021). The Projected Economic Impact of Extreme Sea-Level Rise in Seven Asian Cities in 2030, Hong Kong, China, p. 8.

238 Birkmann, J., Welle, T., Solecki, W., Lwasa, S. and Garshagen, M. (2016). "Boost resilience of small and mid-sized cities," Nature 537, 605–608.

239 Harman, O. (2021). "Intermediate cities: a missing piece in the climate change puzzle," OECD Development Matters, 8 September, available at https://oecd-development-matters.org/2021/09/08/intermediate-cities-a-missing-piece-in-the-climate-change-puzzle/.

240 Institute for Social and Environmental Transition-International (2015). Building Urban Climate Resilience: The Economics of Alternative Development Pathways, Boulder, Colorado, p. 59.

241 Buklod Tao (undated). "Community-managed climate and disaster risk community-managed climate and disaster risk reduction," available at https://www.buklodtao-inc.org/community-managed-disaster-risk-reductio.

242 Organisation for Economic Co-operation and Development (OECD) (2018). Building Resilient Cities: An Assessment of Disaster Risk Management Policies in Southeast Asia, OECD Green Growth Studies, Paris, pp. 111-122.

243 JICA, 2018. Building Disaster and Climate Resilient Cities in ASEAN: Final Report. Available from: https://openjicareport.jica.go.jp/pdf/12321154_01.pdf.

244 Kim, K. and Bui, L. (2019). "An assessment of disaster risk and resilience in rapidly urbanising ASEAN cities," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, p. 334.

245 Asian Development Bank (2021.) "Six ways Southeast Asia strengthened disaster risk management," 4 May, available at https://www.adb.org/news/features/six-ways-southeast-asia-strengthened-disaster-risk-management.

246 Birkmann, J., Welle, T., Solecki, W., Lwasa, S. and Garschagen, M. (2016). "Boost resilience of small and mid-sized cities," Nature 537: 605–608.

247 RICS (2019). International Models for Delivery of Affordable Housing in Asia, London, p. 6.

248 Helble, M., Ok Lee, K. and Gia Arbo, M.A. (2021). "How (un)affordable is housing in developing Asia?" International Journal of Urban Sciences, 25(sup. 1):80-110; and Helble, M. and Ok Lee, K. (2021). Tackling housing unaffordability in post-COVID-19 Asia, East Asia Forum, 23 April, available at https://www.eastasiaforum.org/2021/04/23/tackling-housing-unaffordability-in-post-covid-19-asia/.

249 ASEAN (2021). Asian Development Outlook: Inclusive and Sustainable Development, Jakarta, p. 71.

250 World Bank (undated). "Inclusive cities," available at https://www.worldbank.org/en/topic/inclusive-cities#2.

251 Carrasco, B., and Shah, A. (2018). "How to address the lack of affordable housing in Asia," Asian Development Blog, 5 February, available at https://blogs.adb.org/blog/how-address-lack-affordable-housing-asia.

252 Liu, J. and Ong, H.Y. (2021). "Can Malaysia's National Affordable Housing Policy guarantee housing affordability of low-income households?" Sustainability 13(8841):2; and Central Bank of Malaysia (2017). Annual Report 2016, Kuala Lumpur, p. 95.

253 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., p. 13.

254 Jha, A. (2018). "But what about Singapore? Lessons from the best public housing program in the world," World Bank Blog, 31 January, available at https://blogs.worldbank.org/sustainablecities/what-about-singapore-lessons-best-public-housing-program-world.

255 Kouri, M.K., Sakuma, S., Ortiz, C., Astolfo, G. and Rhoads, E. (2021)." Trajectories of spatial violence in Southeast Asian cities," DPU Working Paper, No. 207, London, p. 30.

256 Pérez-Ludeña, M. (2009). Towards a new model of PPPs: can public private partnerships deliver basic services to the poor? UN ESCAP Working Paper, No. WP/09/01, Bangkok.

257 RICS (2019). International Models for Delivery of Affordable Housing in Asia, London.

258 UN-Habitat (2011). Affordable Land and Housing in Asia, Nairobi, p. viii.

259 Helble, M. (2019). "The housing unaffordability crisis in Asia," Asian Development Blog, 2 December, available at https://blogs.adb.org/blog/housing-unaffordability-crisis-asia.

260 Liu, J. and Ong, H.Y. (2021). "Can Malaysia's National Affordable Housing Policy guarantee housing affordability of low-income households?" Sustainability, 13:8841.

261 Cambodia, Ministry of Planning (2020). Report of Cambodia Socio-Economic Survey 2019/20, Phnom Penh, p. 29.

262 World Health Organization (WHO) (2018). WHO Housing and Health Guidelines, Geneva, p. xv.

263 BBC (2020). "COVID-19 Singapore: a 'pandemic of inequality' exposed," 18 September, available at https://www.bbc.co.uk/news/world-asia-54082861; and Wongsamuth, N. (2021). "Migrant workers face tough quarantine in Thailand as COVID-19 cases surge," Reuters, 28 May, available at https://www.reuters.com/article/us-health-coronavirus-thailand-migrants-idUSKCN2D9217.

264 Septanti, D. (2016). "The empowerment of community by C-KIP to improve the slums," Journal of Architecture and Environment, 15(1):53-62.

265 Hwang, Y.H. and Feng, Y. (2020). "12 years after: lessons from incremental changes in open spaces in a slum-upgrading project," Landscape Research, 45(4):412-427.

266 Community Architects Network (CAN) (undated). "Cost effective resilient housing: a community-based approach in Svay Chek," available at http://communityarchitectsnetwork.info/actions-detail.php?ic=1&is=5&id=24; and CAN (undated). "Pole by pole: the Matina crossing communities and bamboo footbridge story," available at http://communityarchitectsnetwork.info/actions-detail.php?ic=1&is=1&id=20.

267 Housing and Development Board (HDB) of Singapore (undated). HDB Smart Enabled Home, available at https://www.hdb.gov.sg/cs/infoweb/about-us/our-role/smart-and-sustainable-living/smart-hdb-town-page/hdb-smart-home-exhibition.

268 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., pp. 59-60.

269 Singru, R.N. (2015). Regional Balanced Urbanization for Inclusive Cities Development: Urban-Rural Poverty Linkages in Secondary Cities Development in Southeast Asia, Asian Development Bank, p. 5.

270 Knaus, C. (2020). "One million Cambodians under threat from development of vital wetlands – report," The Guardian, 27 July, available at https://www.theguardian.com/world/2020/jul/27/one-million-cambodians-under-threat-from-development-of-vital-wetlands-report.

271 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., p. 60.

272 Payne, G., Piaskowy, T. and Kuritz, L. (2014). "Land tenure in urban environments," LandLinks, 23 March, available at https://land-links.org/issue-brief/land-tenure-in-urban-environments/.

273 Kouri, M.K., Sakuma, S., Ortiz, C., Astolfo, G. and Rhoads, E. (2021). "Trajectories of spatial violence in Southeast Asian cities," DPU Working Paper, No. 207, Development Planning Unit (DPU), London.

274 Cambodia, Ministry of Planning (2020). Report of Cambodia Socio-Economic Survey 2019/20, Phnom Penh, p. 30.

275 Mosello, B. and O'Leary, D. (2017). How to Reduce Inequalities in Access to WASH: Urban Sanitation in Cambodia, Overseas Development Institute (ODI), London, p. 17.

276 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 4.

277 UN-Habitat (2012). Sustainable Urbanization in Asia: A Sourcebook for Local Governments, Nairobi.

278 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., pp. 11-12.

279 UNEP (2017). Waste Management in ASEAN Countries: Summary Report, Bangkok, p. 10.

280 ESCAP (2021). Pilot cities: Battambang, Cambodia, available at https://www.unescap.org/projects/da11/pilotcities/battambang.

281 Cambodia, Ministry of Planning (2019). Cambodia's Voluntary National Review, Phnom Penh, pp. 71-72; and ESCAP and UN-Habitat (2019). Strategic planning workshop on ocalizing the 2030 Agenda through sustainable urban resource management, Battambang, 24-25 June, Workshop report, available at https://www.unescap.org/sites/default/d8files/Battambang_Strategic%20Planning%20Workshop%20Report.pdf.

282 mWater (undated). USAID IUWWASH PLUS, available at https://www.mwater.co/projects/iuwash; and USAID (undated), "mWater application makes the selection of GEBRAK PAKUMIS beneficiaries easier," available at https://www.iuwashplus.or.id/arsip/3347?lang=en.

283 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., p. 68.

284 Ibid., p. 64.

285 Ibid., pp. 64-65.

286 Marks D. (2019). "Water access and resilience to climate-induced droughts in the Thai secondary city of Khon Kaen: unequal and unjust vulnerability," in A. Daniere and M. Garschagen (eds.) Urban Climate Resilience in Southeast Asia, Springer Nature Switzerland, Cham, Switzerland, p. 57.

287 Asian Development Bank (2016). Financing Mechanisms for Wastewater and Sanitation, Manila, pp. 30-32.

288 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., pp. 64-65, 68.

289 Stockholm Environment Institute (SEI) (2019). "Towards inclusive urban waste systems: integrating informal waste workers for a circular economy," available at https://www.sei.org/projects-and-tools/projects/circular-economy-urban-waste-system-thailand/; The Nature of Cities (TNOC) Festival Micro-Talks (2021). "Archer – Inclusive Urban Waste," available at https://vimeo.com/510061337?embedded=true&source=video_title&owner=105899897

290 Archer, D. and Adelina, C. (2021). Labour, Waste and the Circular Economy in Bangkok, Stockholm Environment Institute (SEI), Bangkok.

291 Casanova-Dorotan, F. (2010). Informal economy budget analysis in Philippines and Quezon City, WIEGO Working Paper, No. 12, Women in Informal Employment: Globalizing and Organizing (WIEGO), Manchester, United Kingdom, pp. 23-24.

292 Asian Development Bank (2021). RISE Reports: Water-Sensitive Informal Settlement Upgrading, Manila.

293 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 18.

294 Teoh, S. and Kwan, A. (2017). "How cities in South-East Asia are acting on the SDGs ahead of their national governments," Our World, 3 October, available at https://ourworld.unu.edu/en/how-cities-in-southeast-asia-are-acting-on-the-sdgs-ahead-of-their-national-governments.

295 McIntyre, A. (2017). "Waste management in Asia: 1 goal, 5 cities, 5 lessons," Asian Development Blog, 23 June, https://blogs.adb.org/blog/waste-management-asia-1-goal-5-cities-5-lessons.

296 World Bank Group (2014) Results-based Financing for Municipal Solid Waste, Washington, D.C., pp. 31-32, 37.

297 More information about the KOTAKU programme is available on the website: http://kotaku.pu.go.id/.

298 UN-Habitat (2021). "City in Philippines is first to complete Waste Wise Cities Tool assessment with remote support," April, available at https://unhabitat.org/city-in-philippines-is-first-to-complete-waste-wise-cities-tool-assessment-with-remote-support.

299 UN-Habitat (2021). Waste Wise Cities Tool: Step by Step Guide to Assess a City's Solid Waste Management Performance through SDG Indicator 11.6.1 Monitoring, Nairobi.

300 Dahiya, B. (2015). "Shifting focus to mobility of people", Comment on cover page story – 'Bumper to Bumper', China Daily – Asia Weekly, 6-12 February, p. 9.

301 TomTom (2020). "Traffic Index 2019," available at https://www.tomtom.com/en_gb/traffic-index/ranking/.

302 Roberts, M., Sander, F.G. and Tiwari, S. (eds.) (2019). Time to ACT: Realizing Indonesia's Urban Potential, World Bank, Washington, D.C., p. 10.

303 Philippines, Environmental Management Bureau (2018). Annual Report Calendar Year (CY) 2018, p. 12.

304 Greenpeace Southeast Asia (2021). "PM2.5 air pollution behind an estimated 160,000 deaths in world's 5 biggest cities in 2020," 18 February, available at https://www.greenpeace.org/southeastasia/press/44319/pm2-5-air-pollution-behind-an-estimated-160000-deaths-in-world-5-biggest-cities-in-2020/.

305 World Health Organization (2011). The silent epidemic of road traffic injury in the South-East Asia region, available at https://www.who.int/docs/default-source/searo/timor-leste/home-fact-sheet-silent-epideic-of-road-traffic-injury.pdf?sfvrsn=bb131e30_2.

306 World Health Organization (2018). Global Status Report on Road Safety 2018, Geneva.

307 McKinsey Global Institute (2018). Smart Cities in Southeast Asia, Singapore, p. 20, available at https://www.mckinsey.com/~/media/mckinsey/industries/capital%20projects%20and%20infrastructure/our%20insights/smart%20cities%20in%20southeast%20asia/mgi-smart-cities-in-southeast-asia.pdf.

308 Asian Development Bank (2019). Asian Development Outlook 2019 Update, Manila, p. 86.

309 As stated in NUA, "sustainable, safe and accessible urban mobility for all and resource-efficient transport systems." See UN (2016). New Urban Agenda, para. 13(f).

310 UNEP (2018) Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 64.

311 UNEP (2018). Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 13.

312 UNEP (2021). "Paving the way for electric mobility in South-East Asia," 4 February, available at https://www.unep.org/es/node/28859.

313 Poushter, J. (2015). "Car, bike or motorcycle? Depends on where you live," Pew Research Center, 16 April, available at https://www.pewresearch.org/fact-tank/2015/04/16/car-bike-or-motorcycle-depends-on-where-you-live/

314 For example, see Khmer Times (2020). "Aid for Sihanoukville 'smart city' strategy," 10 August, available at https://www.khmertimeskh.com/50753209/aid-for-sihanoukville-smart-city-strategy/.

315 For example, see Khmer Times (2020). "Aid for Sihanoukville 'smart city' strategy," 10 August, available at https://www.khmertimeskh.com/50753209/aid-for-sihanoukville-smart-city-strategy/

316 "For example, this issue is discussed in UN-Habitat (2022). Integration is Key: The Role of Electric Mobility for Low-carbon and Sustainable Cities, Nairobi, p. 5."

317 Chalermpong, S. (2019). "Transportation development and urbanisation in the Bangkok Metropolitan Region," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, pp. 294-297.

318 Ibid., pp. 301-304.

319 Ibid., pp. 299-300.

320 Ibid., p. 304.

321 Chuwiruch, P. (2021). "One of the world's most congested cities has big public transportation plans," Bloomberg City Lab, 17 June, available at https://www.bloomberg.com/news/features/2021-06-17/bangkok-thailand-has-big-plans-for-new-railway-hub-bang-sue-grand-central.

322 UNEP (2018). Sustainable Urban Infrastructure Transitions in the ASEAN Region: A Resource Perspective, Nairobi, p. 52.

323 For example, see Transportation for America (2020). The Congestion Con: How More Lanes and More Money Equals More Traffic, Washington, D.C., available at https://t4america.org/wp-content/uploads/2020/03/Congestion-Report-2020-FINAL.pdf.

324 Dunn, S. (2020). "Going the extra kilometre: moving Southeast Asia's cities forward," AECOM, available at https://infrastructure.aecom.com/2020/going-the-extra-kilometre-moving-southeast-asias-cities-forward.

325 Raveshia, C. (2021). "Active mobility can help cities bounce back," Urban Solutions, 18, January, Center for Liveable Cities, pp. 26-29, available at https://www.clc.gov.sg/docs/default-source/urban-solutions/urban-solutions-18-adapting-to-a-disrupted-world.pdf.

326 Ibid.; and Raveshia, C. (undated). "Steps towards a more walkable Singapore: What else can we do so that people walk more in the 'Little Red Dot'?" ARUP, available at https://www.arup.com/perspectives/steps-towards-a-more-walkable-singapore.

327 The ASEAN Post (2019). "Placemaking: creating better cities for all," 8 November, available at https://theaseanpost.com/article/placemaking-creating-better-cities-all; and Placemaker Awards ASEAN 2021 website, available at http://placemakerawards.com/index.php#aboutpaa2020.

328 South China Morning Post (2020). "More people take up cycling because of the coronavirus pandemic, and bicycle sales go through the roof," 6 July, available at https://www.scmp.com/lifestyle/health-wellness/article/3091944/two-wheels-good-world-gets-its-bike-amid-coronavirus.

329 Greenpeace (2021). Satellite Data Reveal Global Air Pollution Rebound One Year After, available at https://www.greenpeace.org/static/planet4-southeastasia-stateless/2021/06/377a9664-reboundreport.pdf.

330 UN-Habitat (2021). Cities and Pandemics: Towards a More Just, Green and Healthy Future, Nairobi, p. 31.

331 Philippine News Agency (2021). "Pasig barangay installs first free bike repair station in Ortigas," 16 March, available at https://www.pna.gov.ph/articles/1133832.

332 Raveshia, C. (2021). "Active mobility can help cities bounce back," Urban Solutions, 18, January, Center for Liveable Cities, pp. 26-29, available at https://www.clc.gov.sg/docs/default-source/urban-solutions/urban-solutions-18-adapting-to-a-disrupted-world.pdf.

333 Cinderby, S., Archer, A. and Nixon, F. (2020). "Measuring health and wellbeing in rapidly-developing cities," Stockholm Environment Institute, 5 November.

334 Adelina, C. and Archer, A. (2021). "People make a city," Stockholm Environment Institute, 15 March.

335 Singru, R.N. (2015). Regional Balanced Urbanization for Inclusive Cities Development: Urban-Rural Poverty Linkages in Secondary Cities Development in Southeast Asia, Asian Development Bank, p. 9.

336 Singru, R.N. (2015). Regional Balanced Urbanization for Inclusive Cities Development: Urban-Rural Poverty Linkages in Secondary Cities Development in Southeast Asia, Asian Development Bank, p. 7.

337 Dahiya, B. (2014). "Southeast Asia and sustainable urbanization," Global Asia, 9(3).

338 The ASEAN (2020) Before Disaster Strikes: Building Resilience, Issue 6, p. 47.

339 Sivutha, N. (2021). "Planning ministry revises poverty line figures," The Phnom Penh Post, 18 November, available at https://www.phnompenhpost.com/national/planning-ministry-revises-poverty-line-figures.

340 ASEAN Briefing (2021). "Minimum wages in ASEAN for 2021," 4 May, available at https://www.aseanbriefing.com/news/minimum-wages-in-asean-for-2021/.

341 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., pp. 33-34.

342 International Labour Organization (2021). "COVID-19 and the ASEAN labour market: impact and policy response," August, available at https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/briefingnote/wcms_816432.pdf.

343 Marks D. (2019). "Water access and resilience to climate-induced droughts in the Thai secondary city of Khon Kaen: unequal and unjust vulnerability," in A. Daniere and M. Garschagen (eds.), Urban Climate Resilience in Southeast Asia, Springer Nature Switzerland, Cham, Switzerland, p. 57.

344 Natawidjaja, R., Rahayu, E.S. and Sutrisno, J. (2015). "Inclusive governance of informal markets: the street vendors of Surakarta," IIED briefing, June, available at https://www.researchgate.net/publication/280494692_Inclusive_governance_of_informal_markets_the_street_vendors_of_Surakarta.

345 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., pp. 15-16.

346 Dreyer, M. and Nygaard, K. (2020). "The Philippines provides support to workers in the informal economy," Yale School of Management, Program on Financial Stability,13 May, available at https://som.yale.edu/blog/the-philippines-provides-support-to-workers-in-the-informal-economy.

347 Lih Yi, B. (2021). "Asia's informal workers risk losing out in green economy push, officials warn," Reuters, 2 December, available at https://www.reuters.com/business/cop/asias-informal-workers-risk-losing-out-green-economy-push-officials-warn-2021-12-02/.

348 Marks, D. (2019). "The political ecology of uneven development and vulnerability to disasters," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, p. 346.

349 ESCAP and UN-Habitat (2014). Pro-Poor Urban Climate Resilience in Asia and the Pacific, Nairobi and Bangkok, p. 31.

350 Hoang, T. and Pulliat, G. (2019). "Green for whom? Exploring ecotourism as a climate-adaptation strategy in Trang An, Vietnam," in A. Daniere and M. Garschagen (eds.), Urban Climate Resilience in Southeast Asia, Springer Nature Switzerland, Cham, Switzerland, pp. 178-199.

351 International Labour Organization (2020). Temporary wage subsidies: country examples, May, available at https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_745667.pdf.

352 Lee, C.C. (2020). "The coronavirus crisis Is laying bare Southeast Asia's inequality problem," The Diplomat, 8 April, available at https://thediplomat.com/2020/04/the-coronavirus-crisis-is-laying-bare-southeast-asias-inequality-problem/.

353 Singru, R.N. (2015). Regional Balanced Urbanization for Inclusive Cities Development: Urban-Rural Poverty Linkages in Secondary Cities Development in Southeast Asia, Asian Development Bank, p. 6.

354 Indonesia, Ministry of National Development Planning/National Development Planning Agency (2021). Indonesia's Voluntary National Review (VNR) 2021: On the Implementation of the 2030 SDGS in the Impacts of COVID-19 Pandemic in Indonesia – the inclusion of youth and adolescents, Jakarta, p. 83.

355 Ducanes, G., Dutta, P. and Nixon, N. (2020). "Displaced, stranded, unprotected: ASEAN's migrant workers," The Diplomat, 23 December, available at https://thediplomat.com/2020/12/displaced-stranded-unprotected-aseans-migrant-workers/.

356 De Luca, J. (2017). "Vietnam's left-behind urban migrants," The Diplomat, 8 April, available at https://thediplomat.com/2017/04/vietnams-left-behind-urban-migrants/.

357 Bakers, J. and Gadgil, G. (eds.) (2017). East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor, World Bank, Washington, D.C., p. 6.

358 Ducanes, G., Dutta, P. and Nixon, N. (2020). "Displaced, stranded, unprotected: ASEAN's migrant workers," The Diplomat, 23 December, available at https://thediplomat.com/2020/12/displaced-stranded-unprotected-aseans-migrant-workers/.

359 Dabla-Norris, E. and Rhee, C. (2020). "A 'new deal' for informal workers in Asia," IMF Blog, 30 April, available at https://blogs.imf.org/2020/04/30/a-new-deal-for-informal-workers-in-asia/.

360 UN-Habitat (2021). Cities and Pandemics: Towards a More Just, Green and Healthy Future, Nairobi, p. 81.

361 World Economic Forum (2021). Global Gender Gap Report 2021, Geneva, p. 30.

362 Asia Foundation (2019). Insight into Urban Well-Being in Myanmar: The 2018 City Life Survey, Yangon, p. 33.

363 Kathiravelu, L. and Wong, G. (2019). "Marginalised migrants and urbanization in Southeast Asia," in R. Padawangi (ed.), Routledge Handbook of Urbanization in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York: pp. 146-156.

364 Illmer, A. (2020). "Covid-19: Singapore migrant workers infections were three times higher," BBC, 16 December, available at https://www.bbc.co.uk/news/world-asia-55314862.

365 de Jesus-Bretschneider A. (2019). "Migrating towards vulnerabilities: the impacts of structural violence on Myanmar migrants in Phuket, Thailand," in A. Daniere and M. Garschagen (eds.) Urban Climate Resilience in Southeast Asia, Springer Nature Switzerland, Cham, Switzerland, p. 74.

366 International Foundation for Electoral Systems (2017). "Advancing disability rights in Southeast Asia through regional network of advocates," 12 December, available at https://www.ifes.org/news/advancing-disability-rights-southeast-asia-through-regional-network-advocates.

367 United Nations, Department of Economic and Social Affairs (2020). World Population Ageing 2020 Highlights: Living Arrangements of Older Persons, available at https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesa_pd-2020_world_population_ageing_highlights.pdf.

368 United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP) (2022). South-East Asia: demographic indicators. Available at https://www.population-trends-asiapacific.org/data/sea.

369 ASEAN Stats (2022). Population and demography, available at .https://data.aseanstats.org/dashboards/figures/population.

370 World Bank (2020) Fertility rate, total (births per woman), available at https://data.worldbank.org/indicator/SP.DYN.TFRT.IN.

371 Othman, A. (2020). "Building an inclusive society for the elderly," Borneo Bulletin, 2 October, available at https://borneobulletin.com.bn/building-an-inclusive-society-for-the-elderly/; and Wasil, W. (2019). "Brunei's fourth senior citizens centre launched in Temburong," The Scoop, 1 February, available at https://thescoop.co/2019/02/01/temburong-launches-senior-citizens-centre/.

372 UNESCO (2019). Banjarmasin City: A Disability-Inclusive City Profile, Jakarta.

373 Asterina, N. and Manuturi, V. (2021). "Participatory data collection: from crisis response to inclusive citizenship," UNESCO Inclusive Policy Lab, 20 May, available at: https://en.unesco.org/inclusivepolicylab/analytics/participatory-data-collection-crisis-response-inclusive-citizenship.

374 The Economist Intelligence Unit (2021). Safe Cities Index 2021, London, p. 12.

375 INTERPOL (2021). ASEAN Cyberthreat Assessment 2021, Singapore.

376 Plan International (2020). "It's not really safe for us girls," available at https://plan-international.org/solomon-islands/publications/its-not-really-safe-for-us-girls/#:~:text=It's%20Not%20Really%20Safer%20for,Cities%20for%20Girls%20Honiara%20programme.

377 Pulse Lab Jakarta and UN Women (2019). After Dark: Encouraging Safe Transit for Women Travelling at Night, Jakarta.

378 UN-Habitat (2012). Gender Issue Guide: Urban Planning and Design, Nairobi, p. 28.

379 UN Women (2017). Safe Cities and Safe Public Spaces: Global Result Report, New York, p. 3.

380 UN Women (2016). "UN Women and QC Government's Safe Cities Programme in Manila launches new data and city law on sexual harassment in public spaces," 8 March, available at https://asiapacific.unwomen.org/en/news-and-events/stories/2016/03/un-women-and-qc-government-safe-cities-progamme; UN Women (2017). Safe Cities and Safe Public Spaces: Global Results Report, New York, p. 10.

381 UN Women (2019). Safe Cities and Safe Public Spaces for Women and Girls Global Flagship Initiative: International Compendium of Practices, New York, pp. 12-13.

382 Philippines Commission on Women (2017). VAWfreePh, online video, available at https://www.youtube.com/watch?v=F6NtwDY--C0.

383 UN-Habitat (undated). "People-centred smart cities," available at https://unhabitat.org/programme/people-centered-smart-cities.

384 Office of the UN High Commissioner for Human Rights and UN-Habitat (2021). Sihanoukville for All: Promoting Smart, Sustainable and Inclusive City, Phnom Penh.

385 Machmud, H.M. (2020). "City-wide mapping for disaster management," Urbanet, 13 August, available at https://www.urbanet.info/city-wide-mapping-for-disaster-management/.

386 Itesh, K. (2021). "Smarter and safer cities with effective cybersecurity measures," The Business Times, 26 May, available at https://www.businesstimes.com.sg/opinion/smarter-and-safer-cities-with-effective-cybersecurity-measures.

387 ASEAN Sustainable Urbanisation Forum (2021). "Enhancing urban safety and security" (under 7 October link), ASUS Thematic Dialogue, available at https://connectivity.asean.org/asuf/programme/.

388 Organisation for Economic Co-operation and Development (2021). Promoting the Productivity of SMEs in ASEAN Countries: Strengthening Capabilities, Enabling Business Dynamics, Paris, p. 53.

389 World Bank (2018). "School enrolment, primary (% net)," available at https://data.worldbank.org/indicator/SE.PRM.NENR.

390 Crabtree, S. and Saransomrurtai, C. (2021). "Southeast Asia sees sharp decline in education satisfaction," Gallup, 4 October, available at https://news.gallup.com/poll/355337/southeast-asia-sees-sharp-decline-education-satisfaction.aspx.

391 Hutt, D. (2019). "Confronting Southeast Asia's big education challenge," The Diplomat, 10 October, available at https://thediplomat.com/2019/10/confronting-southeast-asias-big-education-challenge/.

392 ASEAN (2013). ASEAN State of Education Report 2013, Jakarta, p. 22.

393 United Nations Children's Fund (UNICEF) (2020). Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Southeast Asia, Bangkok, p. 15; and EduAnalytics (2019). "Cambodia: Learning poverty brief," October, available at https://thedocs.worldbank.org/en/doc/800771571223443681-0090022019/original/EAPEACMMKHMLPBRIEF.pdf.

394 Crabtree, S. and Saransomrurtai, C. (2021). "Southeast Asia sees sharp decline in education satisfaction," Gallup, 4 October, available at https://news.gallup.com/poll/355337/southeast-asia-sees-sharp-decline-education-satisfaction.aspx.

395 Afkar, R. and Yarrow, N. (2021). Rewrite the Future: How Indonesia's Education System Can Overcome the Losses from the COVID-19 Pandemic and Raise Learning Outcomes for All, World Bank, Jakarta, pp. 4 and 7.

396 UNICEF (2020). Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Southeast Asia, Bangkok, p. 18.

397 UNICEF (2020). Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Southeast Asia, Bangkok, p. 59.

398 Ibid., p. 58.

399 UNESCO (2020). "How cities are utilizing the power of non-formal and informal learning to respond to the COVID-19 crisis," Education Sector Issue Note, No. 6.2, August, p. 3, available at https://unesdoc.unesco.org/ark:/48223/pf0000374148.

400 Cambodia, Ministry of Planning (2020). Report of Cambodia Socio-Economic Survey 2019/20, Phnom Penh, p. 58.

401 UNESCO Institute for Lifelong Learning (2015). Unlocking the Potential of Urban Communities: Case Studies of 12 Learning Cities, Seoul, p. 6.

402 UNESCO (undated). "Education for sustainable cities," available at https://en.unesco.org/unesco-for-sustainable-cities/education-for-sustainable-cities.

403 UNESCO Institute for Lifelong Learning and the National Institute for Lifelong Education (2015). Unlocking the Potential of Urban Communities: Case Studies of 12 Learning Cities, Hamburg, Germany, and Seoul, pp. 119-131.

404 UNESCO Institute for Lifelong Learning and the National Institute for Lifelong Education (2017). Unlocking the Potential of Urban Communities, Volume II: Case Studies of 16 Learning Cities, Hamburg, Germany, and Seoul, pp. 102-111.

405 UNESCO (2019). Learning Cities Award winners revealed!, 31 January, available at https://uil.unesco.org/lifelong-learning/learning-cities/learning-cities-award-winners-revealed.

406 UNESCO Institute for Lifelong Learning (2015). Unlocking the Potential of Urban Communities: Case Studies of 12 Learning Cities, Seoul, p. 5.

407 Digital Development Partnership (2019). The Digital Economy in Southeast Asia: Strengthening the Foundations for Future Growth, World Bank, Washington, D.C., pp. 15-19.

408 Roberts, B. (2019). Connecting Systems of Secondary Cities: How Soft and Hard Infrastructure Can Foster Equitable Economic Growth among Secondary Cities, Cities Alliance, Brussels, p. 35.

409 ASEAN (2018). ASEAN Sustainable Urbanisation Strategy, Jakarta, p. 58.

410 Asian Development Bank (2021). "Digital tools help students reach the labor market in Lao PDR," 28 June, available at https://www.adb.org/news/videos/digital-tools-help-students-reach-labor-market-lao-pdr.

411 Tortermvasana, K. (2020). "Depa unveils digital roadmap," Bangkok Post, 1 December, available at https://www.bangkokpost.com/business/2027963/depa-unveils-digital-roadmap.

412 Chang, J.H. and Huynh, P. (2016) ASEAN In Transformation: The Future of Jobs at Risk of Automation, International Labour Organization, Geneva, p. 12.

413 The ASEAN (2021). The ASEAN: ASEAN Youth – Powering the Future of with Innovation, February–March, p. 11, available at https://asean.org/wp-content/uploads/2021/04/The-ASEAN-February-March-2021_fv.pdf.

414 Menon, N. (2018). "ASEAN's reskilling challenge: here's how we prepare for the future of work," World Economic Forum, 12 September, available at https://www.weforum.org/agenda/2018/09/aseans-reskilling-challenge-how-do-we-prepare-for-the-future-of-work/.

415 UN Industrial Development Organization (2015). Economic Zones in the ASEAN: Industrial Parks, Special Economic Zones, Eco Industrial Parks, Innovation Districts as Strategies for Industrial Competitiveness, Hanoi, p. 2.

416 Ibid., p. 102.

417 Kuaycharoen, P., Longcharoen, L., Chotiwan, P. and Sukin, K., Lao independent researchers (2020). Special Economic Zones and Land Dispossession in the Mekong Region, Land Watch Thai, Bangkok.

418 Ortega, A.A. (2019) "Mega-regionalisation of a nation: Philippines mega-regions and the impulse to globalise," in R. Padawangi (ed.), Routledge Handbook of Urbanisation in Southeast Asia, Routledge, Abingdon, United Kingdom, and New York, pp. 207-220.

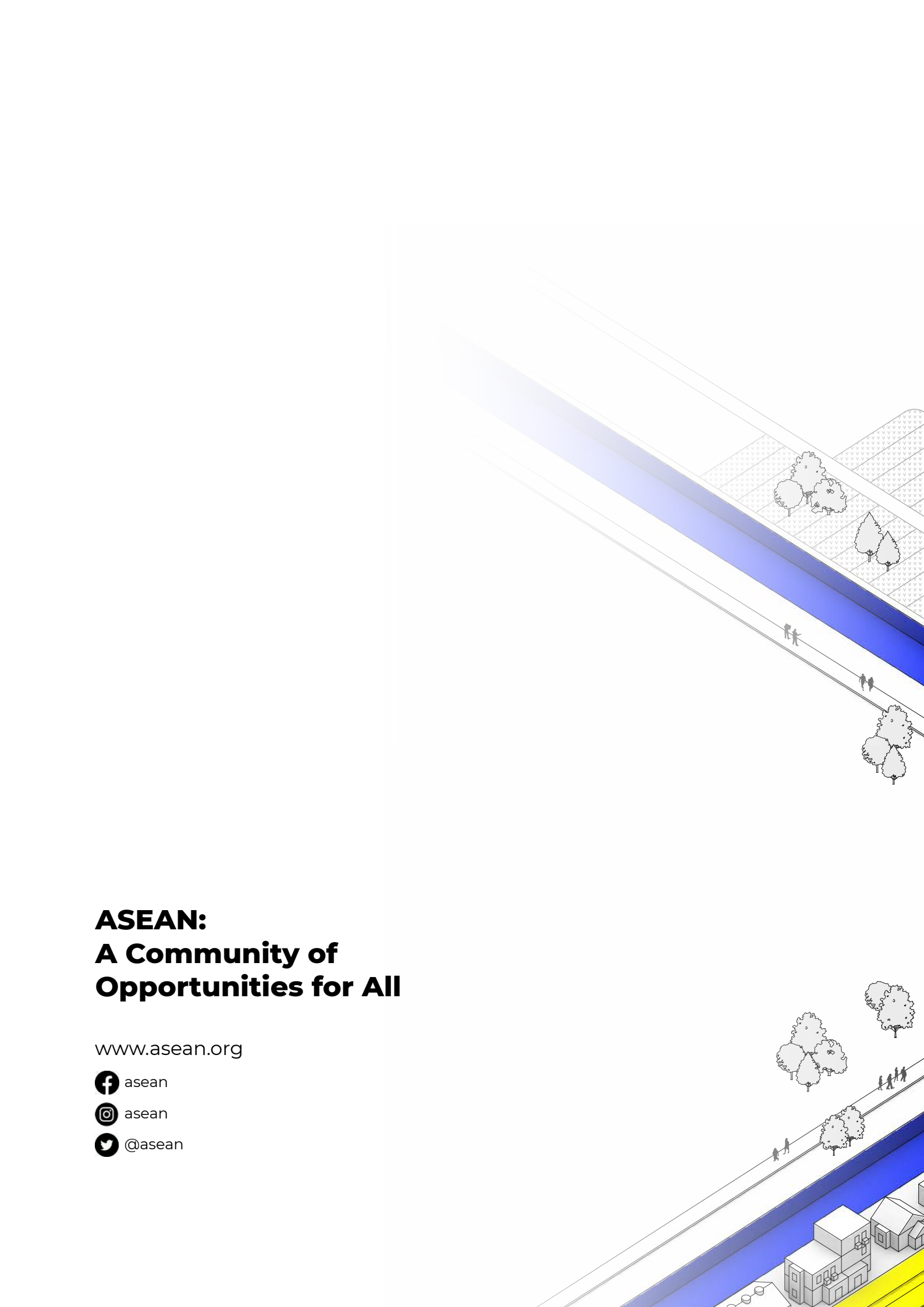
419 HSBC (2019) "ASEAN's next-wave cities on the rise," 25 November, available at https://www.business.hsbc.com/asean/asean-next-wave-cities-on-the-rise.

420 Organisation for Economic Co-operation and Development (2021). Integrating Southeast Asian SMEs in Global Value Chains: Trade, Investment and Regulatory Policy Synthesis Report, Paris, pp. 1 and 5.

421 Organisation for Economic Co-operation and Development (2019). "A new growth path: unlocking the potential of regions," in OECD Development Pathways, Multi-dimensional Review of Thailand (Volume 2), available at https://www.oecd-ilibrary.org/sites/9789264307674-5-en/index.html?itemId=/content/component/9789264307674-5-en.

422 Organisation for Economic Co-operation and Development (2021). Promoting the Productivity of SMEs in ASEAN Countries: Strengthening Capabilities, Enabling Business Dynamics, Paris, p. 30.

423 Ibid., pp. 9-10.



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