

The New Urban Agenda



UN HABITAT
FOR A BETTER URBAN FUTURE



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Foreword



A handwritten signature in black ink, appearing to read 'Maimunah'.

H.E. Maimunah Mohd Sharif
Executive Director
United Nations Human Settlements Programme, UN-Habitat

The New Urban Agenda gives clear guidance on how well-planned and well-managed urbanization can be a transformative force to accelerate towards the Sustainable Development Goals.

It has inspired new solutions that make cities key players in addressing the climate emergency, managing migration flows, fighting pandemics and other global challenges. We are however not on track to achieving the Sustainable Development Goals, including Goal 11 on “Making cities and human settlements inclusive, safe, resilient and sustainable”.

The ‘New Urban Agenda Illustrated’ handbook offers clear definitions and practical applications to make the global framework more accessible and user-friendly for policymakers and urban practitioners, both within government, across the broad range of urban stakeholders and within the UN. We need a more hands-on approach to scale and accelerate our actions.

The illustrated handbook complements the existing text of the New Urban Agenda. It explains the core dimensions, messages and “transformative commitments” and unpacks the text of the New

“ The ‘New Urban Agenda Illustrated’ handbook offers clear definitions and practical applications to make the global framework more accessible and user-friendly for policymakers and urban practitioners, both within government, across the broad range of urban stakeholders and within the UN. We need a more hands-on approach to scale and accelerate our actions.

Urban Agenda, with examples, case studies, infographics and illustrative actions (strategies, policies, and initiatives).

It can be used to inform policymaking and action, and to transfer the knowledge as wide as possible, strengthening capacities at all levels and across all urban stakeholders, reaching out across territories.

The Handbook will complement the newly created online ‘Urban Agenda Platform’, a global knowledge portal for sharing and inspiring positive change, through voluntary national reports, best practices, actions, data, training, and resources on the implementation of the New Urban Agenda and urban-related SDGs. This will inform the UN

Secretary-General’s Quadrennial Reports on the progress on implementation of the New Urban Agenda.

UN-Habitat stands ready to support national, sub-national and local governments and other stakeholders to put the Handbook to use. UN-Habitat’s Catalogue of Services provides an overview of how we can help.

I sincerely hope that the Handbook will facilitate and inspire action across the globe. The Secretary-General has made it clear, launching the Decade of Action, we need to mobilize everyone everywhere. I look forward to hearing from you on how you take this work forward.

Introduction

What is the New Urban Agenda?

The New Urban Agenda was adopted at Habitat III in Quito, Ecuador, on 20 October 2016. It follows the previous Habitat Agenda, which was adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat II) in 1996 and defined “lines of action on various levels regarding the range of housing and human settlements issues”. The New Urban Agenda was endorsed by the United Nations General Assembly at its sixty-eighth plenary meeting of the seventy-first session on 23 December 2016 and therefore represents a shared vision for a better and more sustainable future.

The New Urban Agenda is intended as a resource for different actors in different levels of government, ranging from central to local, and for civil society organizations, the private sector and all who reside in urban spaces of the world. The New Urban Agenda highlights linkages between sustainable urbanization and job creation, livelihood opportunities and improved quality of life, and it insists on incorporation of all these sectors in every urban development or renewal policy and strategy.

The New Urban Agenda was developed with the involvement of participating Member States; intergovernmental organizations; UN-Habitat and other United Nations agencies, funds and programmes; policy unit experts; subnational and local governments and all major networks of

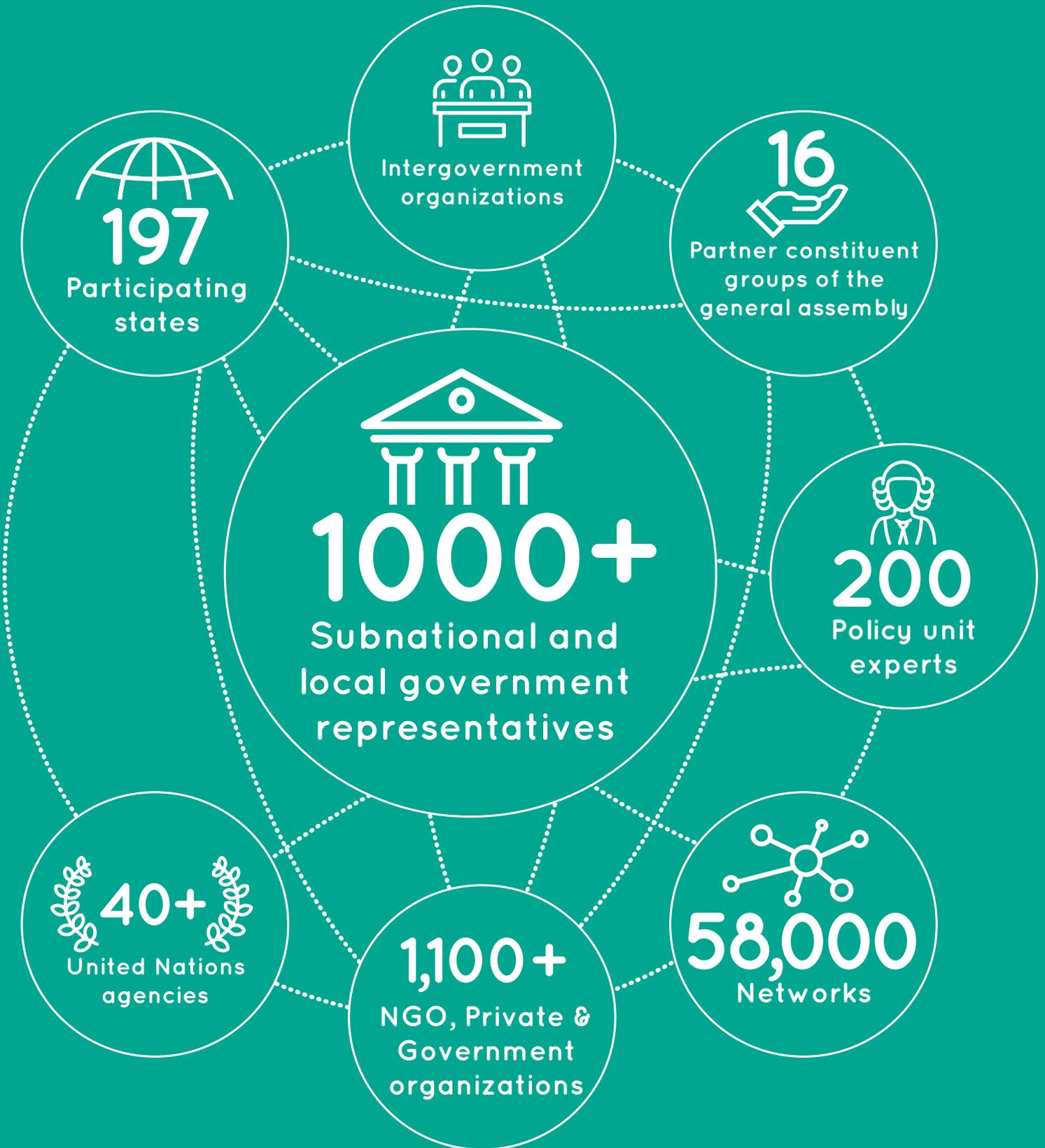
local and regional governments, as well as other relevant NGOs and governmental and private organizations (Figure 1). Input from these expert groups and stakeholders formed the foundation of the New Urban Agenda draft document, which was further refined through feedback and discussion with Member States during hearings with local governments and stakeholders, before being finalized and adopted at the Habitat III conference.

The New Urban Agenda presents a paradigm shift based on the science of cities and lays out standards and principles for the planning, construction, development, management and improvement of urban areas along its five main pillars of implementation: national urban policies, urban legislation and regulations, urban planning and design, local economy and municipal finance, and local implementation.

The New Urban Agenda works as an accelerator of the Sustainable Development Goals (SDGs), particularly **SDG 11 – Make cities and human settlements inclusive, safe, resilient and sustainable** – to provide a comprehensive framework to guide and track urbanization around the globe. Cognizant of the fact that 95 per cent of the urban growth will be in the developing world, Sustainable Development Goal 11 sets targets and defines indicators to measure progress and growth.

The New Urban Agenda is intended as a resource for different actors in different levels of government, ranging from central to local, and for civil society organizations, the private sector and all who reside in urban spaces of the world.

Figure 1: Stakeholders involved in the development of the New Urban Agenda.



Introduction

Global trends in urbanization

Urbanization has been one of the most significant trends shaping the built environment in the twentieth and twenty-first centuries. The shift towards an increasingly urbanized world is a transformative force that can and should be harnessed to ensure sustainable development of people and places in all countries. Cities are the arena for addressing many of the global challenges of today, ranging from extreme poverty and unemployment to environmental degradation and climate change. In cities, addressing development challenges with effective interventions can have wide-ranging cumulative impacts.

Urbanization provides a tremendous opportunity and is one of the most important tools to guide the sustainable development agenda forward; however, if unplanned and poorly managed, urbanization also has the potential to exacerbate many of the problems that it claims to solve. Poorly planned or unplanned urbanization has resulted in economic disorder, civil unrest, congestion and environmental degradation, as well as increases in slums and sprawl (UN-Habitat 2016).

New data (UN-Habitat 2020) reveals there are nearly 2,000 metropolitan areas globally where a third of the world's population now live. UN-Habitat predicts that by 2035, the majority of the world's population will live in metropolitan areas – which are generally understood as being urban agglomerations made up of a main city linked to other nearby cities or surrounding urban or suburban areas such as the Tokyo–Yokohama Metropolitan Area, Greater London, Metropolitan Area of Bucaramanga in Colombia or Nelson Mandela Bay in South Africa.

UN-Habitat data shows there are currently 1,934 metropolitan areas, also known as metropolises, with more than 300,000 inhabitants. These are home to around 60 percent of the world's urban population and a third of the global population. The majority (1,038) are in the Asia Pacific region with 444 in China and 191 in India compared to

55 in Nigeria, 61 in Brazil, 144 in the USA and 67 in Russia.

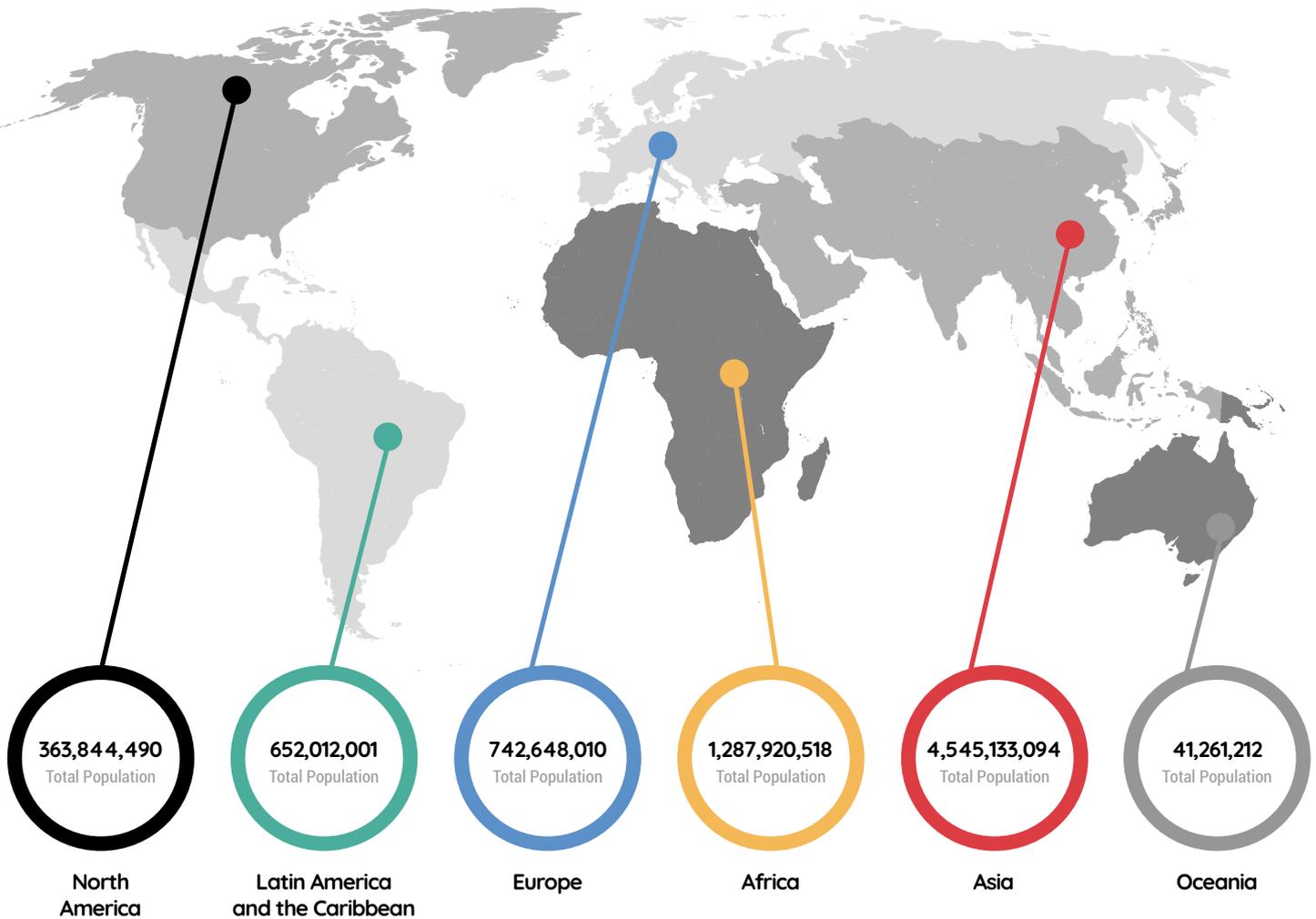
It is projected that almost 1 billion people will become metropolitan inhabitants in the next fifteen years and there will be 429 new metropolises by 2035.

The New Urban Agenda therefore comes at a very critical and opportune juncture in global history. While the challenges that cities, towns and villages face in different countries are varied, the New Urban Agenda is designed to be universally applicable. It presents a long-term vision and sets out priorities and actions, in addition to providing tools that can be applied at the regional, national, subnational and local levels, allowing governments and other relevant stakeholders to meet context specific urban needs and challenges. While the whole world is urbanizing, the nature and characteristics of urbanization in each region is different.

In East Asia, urban expansion spanned more than 28,000 square kilometers and grew by 200 million people from 2000 to 2010, with a large part of this growth occurring in China (World Bank Group 2015). Though East Asian urbanization is associated with images of Beijing, Hong Kong, Seoul, Manila and other megacities, the large part of urban growth occurred in smaller and medium-sized cities (World Bank Group 2015). Growth in these areas is fragmented over metropolitan borders and often overtakes administrative boundaries, requiring strong multi-jurisdictional and regional planning. As urbanization follows rural to urban land conversions, governments will also need to address environmental consequences from rapid urbanization, in addition to better integrating and providing public services to rural populations in urbanizing areas. South Asia's urban population is poised to grow significantly as well; it is expected to reach 250 million people by 2030, having already grown significantly in the past decade. Around 130 million of South Asia's urbanized population live in slums.

The New Urban Agenda presents a long-term vision and sets out priorities and actions.

Figure 2: A global snapshot of urbanization

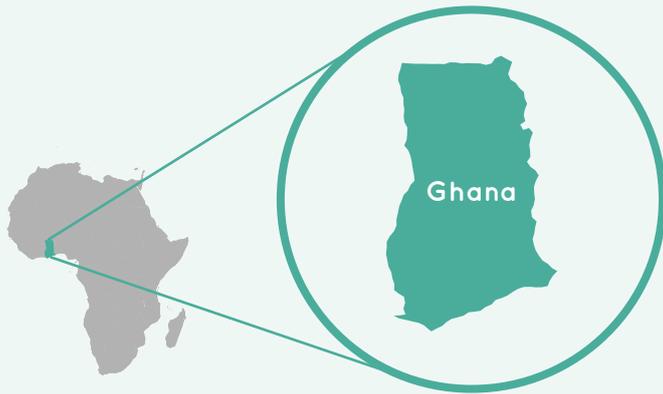


Source: United Nations population division "World Urbanization Prospects 2018"

Informal settlements are frequently characterized by unplanned public services, and populations go uncounted by official censuses. Issues of environmental pollution and congestion persist, while a lack of formal tenure impedes development. Finally, 80 per cent of major South Asian cities face flood risk, and the population that will be exposed to hazards grows 3.5 per cent annually (Ellis and Roberts 2016). On the other side of the planet, Africa's urbanization has also been rapid, at a pace that will continue. The urban population is set to double in the next 20 years, with 450 million new urban residents added in the next three decades. Both existing and new cities will be necessary to host this growing population. As with South Asia, informality is a defining characteristic of African urbanization, where 70 per cent of the urban population lives in informal areas. Figure 2 depicts urbanization in the world.

While Latin America is already relatively urbanized, the region's cities will face similar challenges related to congestion, informality and equal access to services (Ezquiaga Arquitectura 2015). Latin American cities are particularly dense, owing to their relatively small land areas, and also exhibit extreme income inequality, where the gap between the richest and poorest is very high in many urban areas, producing striking contrasts. Within peri-urban areas, mobility and transportation issues persist, while weak governance allows for unchecked expansion and the persistence of health, environmental and public safety issues in informal settlements (Ezquiaga Arquitectura 2015). Box 1 gives a snapshot of different urbanization patterns around the globe with examples.

Box 1: How are cities expanding in different parts of the world?



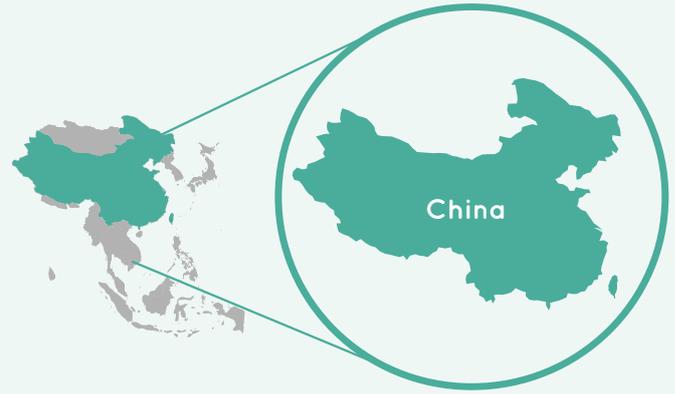
Africa

Ghana | Cape Coast & Accra

Ghana's cities are rapidly expanding; its urban population nearly tripled in the last three decades to a total of 14 million individuals. Smaller cities are seeing large population increases as the country urbanizes.

Challenges Cities are expanding via inefficient sprawl due to inadequate land-use planning and management (World Bank 2015). For example, in the municipality of Cape Coast, the Central Business District is rapidly commercializing at the expense of residential development, leaving little room for mixed development and housing stock. Residential areas and settlements are being pushed farther away from resources and public services. The city's footprint rapidly expanded, tripling in the past two decades, while housing remains inadequate and unaffordable; rents for even the lowest quality dwellings increased 100 per cent in the last five years. Arterials and right of ways are being encroached on by unchecked development, posing problems for the development of public services (Eparque Urban Strategies 2019).

In Accra, the peripheral area of the city is currently 5.5 times the size of the original city in 1990 (Angel 2018). Large sections of the population in outlying areas lack access to basic services. For example, rates of access to water and sanitation services are actually declining as the city grows. Spatially, access to basic services declines from the inner core of cities to outlying areas. Land prices have soared there as well, making it difficult for rural migrants to formally acquire individual plots and parcels. Via survey sampling, the World Bank finds that land prices soared between 560 per cent and 1,300 per cent between 1995 and 2005 (World Bank 2015).



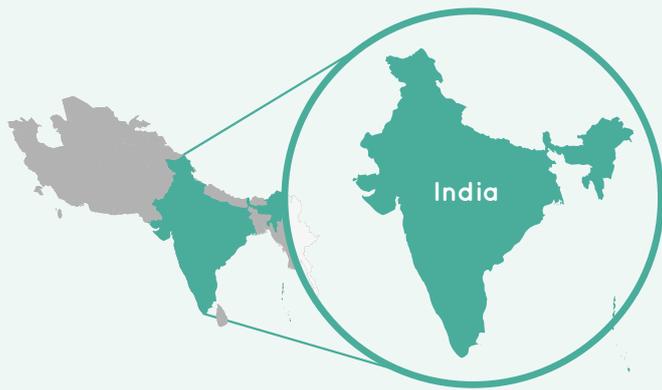
East Asia

China | Nanjing

China's cities have seen rapid urbanization and migration from agricultural areas, where 260 million agricultural workers have transitioned to urban life in the past three decades.

Challenges A large part of urban development has relied on land financing, leading to sprawl and inefficient development as rural land is converted for urban use. Social unrest and tension have also followed in this process. The city of Nanjing is an example. Nanjing serves as a "spoke" on the hub of Shanghai, and it is a manufacturing city that has grown significantly in the last few decades, to a population of 8.5 million individuals. The city recently underwent a master planning process, shifting its layout from one that is centred around a single employment centre (monocentric) to one with multiple nodes (polycentric) (Chen and others 2016). Its rapid expansion also degraded natural features, resulting in new integrated environmental planning processes, which seek to better manage urbanization and its effects on the natural environment of the rivers bordering the city (Vollmer 2009). The city's urban poor are concentrated on the edges of development; as a result, there is a need to better plan for rural-urban transformation and maintain the affordability and housing stock available within the city's core (Chen, Gu and Wu 2004).

Opportunities In Nanjing, the control of sprawl is also key to ensuring that the city and its opportunities are accessible. Currently, due to sprawling development, Nanjing's commute time is higher than in other major cities (World Bank 2014b). Country-wide, the central Government aspires to connect secondary cities to more prosperous coastal cities, while developing the manufacturing sector in the former category, and the service sector in the latter category. Better and clearer enforcement of land rights and clearer ownership models would make expansion more sustainable in all cities and allow for a focus on proper land management, as well as agricultural modernization in addition to urbanization. The central Government also has plans to subsidize the provision of public services to rural entrants into cities to facilitate their entry into urban life. Local governments also need to become more financially and administratively self-sufficient. While a large part of development has relied on standardized master planning, more dynamic approaches may also facilitate the development of urban areas that were once rural or peri-urban.



South Asia

India | New Delhi

In 2019, approximately a third of the total population in India lived in cities. The trend shows an increase of urbanization by almost 4 percent in the last decade, meaning people have moved away from rural areas to find work and make a living in the cities.

Challenges

India faces several challenges in its urbanization. Regulations that do not allow for denser development push urban dwellers into the peripheries of urban cores and neighbouring suburbs. Those who are priced out but require access to the core for employment opportunities are forced to live beyond the municipal boundary, in informal settlements. Costs of infrastructure provision to these places are high, and infrastructure is provided at a lower rate in these peripheries than in the urban core. The district of Delhi grew 1.9 per cent annually between 2001 and 2011. Population growth in Gautam Budh Nagar, a peripheral area, was 4.1 per cent a year (Angel 2018). The city has also encroached considerably on previously rural or natural areas within its borders, resulting in the loss of nearly half of the city's water body land area. It has also expanded by approximately 66 square miles between 2003 and 2011, and densities are inconsistent and haphazard within the urban fabric (Grover and Singh 2015).

Opportunities

As urbanization moves forward, these cities will require more robust institutions to manage land use and related density regulations to provide public services to existing settlements that lack them.



Latin America

Colombia | Bogotá

In Colombia, 75 per cent of individuals live in cities, with 30 per cent of the nation's entire population within the four largest cities. These cities are particularly dense and rank among some of the densest cities in the world. The capital city of Bogotá has a population of 7.2 million individuals.

Challenges

Despite the density of cities in Colombia, a large share of land goes underutilized or unused, where bureaucratic processes slow necessary development. Housing deficits persist in the peripheries of these cities and disproportionately burden poor households. Congestion is an issue in Bogotá, where inadequate investment in roads has increased commuting times and mass transit has not been fully incentivized. For example, an assessment conducted in 2007 found that 40 per cent of roads were in bad condition; however, only 6 per cent of funds required were allocated for upgrades in the five years following. Poor areas have been socially excluded and alienated from resources and services; only 9 per cent of the estimated cost of service provision had been allocated. Peripheries grew a staggering amount in the city, where the current peripheral area of the city covers 88 per cent of the land area of the city's footprint as captured in 1990 (Angel 2018).

Action

The city has made some progress in public service provision via development of special zoning areas, allowing for the formalization of slum dwellings (Lozano-Gracia and others 2012).

Figure 3: False color image showing the presence of water in the irrigated landscape of the Jordan Valley



Cities and regions around the world are in different stages of urbanization and exhibit different patterns. For example, Figure 3 illustrates the presence of water in the irrigated landscape of Jordan Valley. The populations of North America, Europe, Latin America and the Caribbean are between 72 and 82 per cent urbanized, while sub-Saharan Africa, East Asia and South Asia are respectively 40, 34 and 59 per cent urbanized (UN Population Division 2018). There are key differences between the developed and developing world; while urbanization is occurring in both, the rate is an order of magnitude larger in the latter. According to Angel (2012), urban population in the developed world is set to grow by 170 million in the next four decades, while the population in the developing world is set to grow by 2.6 billion people; as such, lessons from the developed world may not be wholly applicable for the scale at which urbanization will occur elsewhere (Angel 2012).

in the document. While this is simply a preliminary visual representation, it gives a broad overview of priorities highlighted in the New Urban Agenda.

At first glance, a notable observation is that the various scales of intervention (that is “local”, “national” and “subnational”) are prominent in the word cloud and therefore a key consideration in the New Urban Agenda. Surprisingly, these terms are more dominant than the sectors of urban development, such as housing, energy and water, signaling a general perception that improving the governance of urbanization is more pressing than solely improving different urban sectors.

This handbook aims to provide a snapshot of issues and challenges in the urban development sphere as they are laid out in the New Urban Agenda. It aims to address higher level policy decisions for the growth and development of cities around the world. Its structure and material aim to create a comprehensive and systematic approach to urban development issues. Urban development topics are explained in summary, and each can be further investigated and explored. In the bibliography section, a complete list of references is provided for the reader to further research and study.

In order to provide a better understanding of the different concepts and ideas in the New Urban Agenda, this handbook subdivides and maps the New Urban Agenda into the following chapters: 1) Core Dimensions, 2) Means of Implementation and 3) Governance, Follow-up and Review.

Chapter 1

The core dimensions are the overarching, cross-sectoral goals described in the New Urban Agenda, which are necessary to achieve sustainable urban development. This handbook includes “spatial sustainability” as a fourth dimension that is not explicitly proposed in the New Urban Agenda. While a new concept to many, spatial sustainability is an important underlying indicator for efficiently managing urban development, especially in the rapidly urbanizing developing countries. It is important to elaborate on this concept independently as it builds on the other three principles laid out in the New Urban Agenda: leave no one behind, ensure sustainable and inclusive urban economies and ensure environmental sustainability. The content for

these dimensions is spread through the entirety of the New Urban Agenda.

Chapter 2

The means of implementation are divided into four sections, illustrated in Diagram 1. The first section is Intervention Mechanisms. These mechanisms are the tools, techniques and specific actions that cities and city stakeholders can use at national, subnational and local scales to achieve these goals. The intervention mechanisms include methods that cities can use to scope, plan, finance and implement strategies to achieve the New Urban Agenda Dimensions.

The next three sections present functional areas of planning and operations highlighted in the New Urban Agenda that help guide targeted action to achieve priority outcomes in key urban sectors. These include hard measures, soft measures, and technology/innovation.

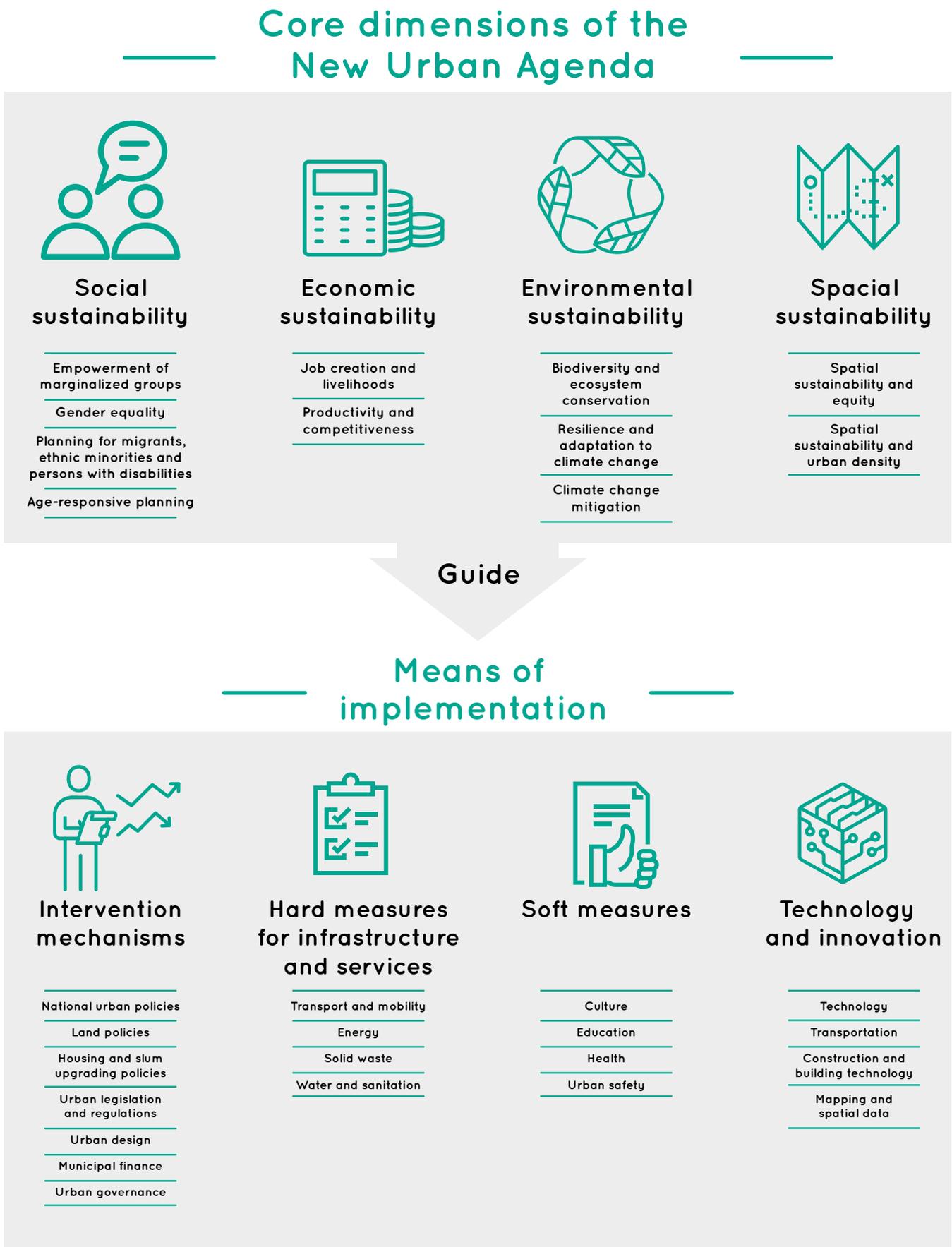
Understanding the linkage between these different means of implementation allows governments and relevant civil society stakeholders to use targeted actions to achieve sustainable urbanization outcomes. This effectively localizes the New Urban Agenda, making it actionable in any country-wide, regional and local context. Additionally, understanding these linkages can help stakeholders implement and operationalize the New Urban Agenda and measure progress and impact thereafter.

Chapter 3

This Chapter describes the global governance mechanisms established for the follow-up and review of the New Urban Agenda to achieve the Sustainable Development Goals. It presents ongoing work at the global level to build comprehensive monitoring and reporting frameworks, facilitated by UN-Habitat. This process will guide Member States and partners in the collection and analysis of urban data, and in the identification of actions and results achieved at all levels of governments and stakeholders. The analysis of quantitative and qualitative data from all over the world, and systematization on the Urban Agenda online Platform, shall feed into the Quadrennial Report on the New Urban Agenda to the Secretary General of the United Nations, and inform global action and recommendations for urban sustainability.

Understanding the linkages between these different means of implementation allows governments and relevant civil society stakeholders to implement targeted actions to achieve sustainable urbanization.

Diagram 1: The contents of the New Urban Agenda







01

The core dimensions of the New Urban Agenda transformative commitments

The New Urban Agenda underscores four key dimensions of sustainability across sectors and scales involved in urban development. These dimensions collectively ensure the sustainability of future urban planning and development across different sectors. They form a sustainable lens through which the whole agenda of urban development and its sectors will be viewed and assessed. They are universal in scope.

1.1 Social sustainability

The New Urban Agenda emphasizes the equal rights of all people to the benefits that cities can offer. The Agenda envisages inclusive cities and human settlements that are “participatory, promote civic engagement, engender a sense of belonging and ownership among their inhabitants..., enhance social and intergenerational interaction, cultural expression and political participation, as appropriate, and foster social cohesion ... and pluralistic societies, where the needs of all inhabitants are met, recognizing the specific needs of those in vulnerable situations” - **NUA 13.b.**

The New Urban Agenda pays specific attention to battling discrimination faced by marginalized groups including “women and girls, children and youth, persons with disabilities, people living with HIV/AIDS, older persons, indigenous peoples and local communities, slum and informal-settlement dwellers, homeless people, workers, smallholder farmers and fishers, refugees, returnees, internally displaced persons and migrants, regardless of their migration status” - **NUA 20.** Planning to meet the needs and provide accessibility to marginalized groups is essential to inclusive governance. To work towards social sustainability and equity goals, national, state and municipal governments should provide services to meet the needs of these groups, in addition to designing social programming and offerings around these needs.

Different dimensions of social sustainability and attention to marginalized groups are mentioned in the New Urban Agenda, including:

- a) providing basic services that are responsive to the needs and rights of children, youth and older persons;
- b) providing youth with access to knowledge, education, skills and opportunities to ensure their meaningful participation;

- c) engaging with age-responsive approaches at all stages of urban and territorial policy and planning process (for example, road safety and planning);
- d) promoting capacity development initiatives to empower women and girls and making information and communication technologies accessible to the public with special attention to children and youth, older persons and persons with disabilities, indigenous peoples and local communities; and
- e) promoting 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. The New Urban Agenda commits to providing equal opportunities in accessing public spaces, housing, basic education, services and health facilities for all marginalized people - **NUA 36.**

“Sustainable urban development for social inclusion and ending poverty”

Figure 5: Aerial shot of a Syrian refugee camp in Kilis, Turkey, 2018. The vast number of refugees requires new thinking on how to integrate them into host communities.



© Sandra Cohen-Rose / Flickr

Similarly, UN Sustainable Development Goal 11 - **SDG 11** demands access to safe, inclusive and green public spaces for women, children and older persons and highlights the importance of safe and affordable transport for all with special attention to marginalized groups, women, children and older persons - **SDG Targets 11.2, 11.7**. **SDG 11** also expresses a commitment to “enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management” - **SDG Target 11.3**. UN Sustainable Development Goal 4 - **SDG 4** – *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all* – also emphasizes the importance of education for marginalized persons.

1.1.1 Empowerment of marginalized groups

There are many groups that are recognized in the New Urban Agenda as marginalized, including children, older persons, women and girls, persons with disabilities, homeless persons or occupants of informal dwellings, ethnic minorities, or migrants¹, refugees and displaced persons. This section on social sustainability first introduces principles and illustrative actions that support inclusion and access for a variety of marginalized groups, generally, and then focuses on some marginalized groups highlighted in the New Urban Agenda, specifically: a) Gender Equality, b) Planning for Migrants, Ethnic Minorities and Persons with Disabilities and c) Age-Responsive Planning. Local, regional and national governments should make an effort to apply these general principles to the unique social dynamics in their context. To illustrate the scale, Figure 5 shows an aerial view of a Syrian refugee camp in Turkey as just one example of such communities around the world.



Principles

Planning for marginalized groups can improve quality of life for all urban residents, beyond the target group. “Planning from the margins” is a principle that allows all residents to benefit when the needs of marginalized populations are centred (Satterthwaite 2017). For example, children are vulnerable members of the population in part because they are more susceptible to diseases. Improving sanitation and water infrastructure and better delivering health care services to a neighbourhood will improve the lives of children, while also improving the lives of the entire community. Older persons and persons with disabilities may have difficulty navigating improperly maintained road, sidewalk and transit infrastructure. Improvements to transit infrastructure benefit all people using them. The fact that planning for marginalized groups benefits all stakeholders means that this is “universal design”.

Planning for marginalized groups should be holistic and multisectoral; planning processes should begin with a vision statement. Policies centred around gender, age, migration or disability equity should have a larger vision statement that fits into other policy goals and plans advanced by the municipality.

Utilize well-known, public resources and community hubs to provide services. Disseminate information and services at existing community institutions that are already well used by the target population(s). Be mindful of the digital divide, where service delivery can leave out individuals who do not have access to communication technologies.

Planning to meet the needs and provide accessibility to marginalized groups is essential to inclusive governance.

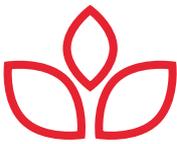
¹ The term migrant is used in the most inclusive manner, including economic migrants, rural-urban migrants, circular or seasonal migrants, refugees, IDPs, asylum seekers and all people moving to a city. This is without prejudice to the fact that some individuals or groups, such as refugees, may have a particular legal or protected status that must be recognized.

Diagram 2: Empowerment of marginalized groups



SOCIAL SUSTAINABILITY EMPOWERMENT OF MARGINALIZED GROUPS

PRINCIPLES



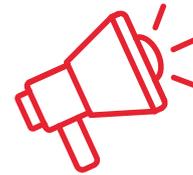
Quality of life

Planning for marginalized groups can improve quality of life for all urban residents, beyond the target group.



Holistic planning

Planning for marginalized groups should be holistic and multi-sectoral; planning processes should begin with a vision statement.



Provide services

Utilize well-known, public resources and community hubs to provide services.

ILLUSTRATIVE ACTIONS



Workplace protections

Establish workplace protections for marginalized groups.



Civic participation

Engage marginalized groups in civic participation and local government.



Advisory committees

Develop advisory committees to create accountability towards marginalized groups.



Cultural competency

Develop cultural competency within city staff to support the sensitive and respectful provision of services to marginalized groups.



Disaggregated indicators

Collect and maintain up-to-date demographic data and develop disaggregated indicators when possible.

 **Illustrative Actions**

Establish workplace protections for marginalized groups. Marginalized persons can experience isolation and be vulnerable to workplace discrimination, violence or exploitation in a variety of economic settings, including in the informal sector. Municipalities should ensure that the labour rights and physical safety of marginalized persons are protected by the law, and that the laws are enforced.

Engage marginalized groups in civic participation and local government. The New Urban Agenda supports governments “in fulfilling their key role in strengthening the interface among all relevant stakeholders, offering opportunities for dialogue, including through age- and gender-responsive approaches, and with particular attention to potential contributions from all segments of society, including men and women, children and youth, older persons and persons with disabilities, indigenous peoples and local communities, refugees, internally displaced persons and migrants” - **NUA 42**. Planning and policymaking processes should be transparent to the public and involve opportunities for public input, participation, and evaluation.

Develop advisory committees to create accountability towards marginalized groups. Government agencies that provide services or develop policy of specific relevance to marginalized groups can create advisory committees made up of members of that group to provide input on needs, quality of service delivery and accessibility of the services. Participating in such advisory councils provides opportunities for civic engagement and leadership development.

Develop cultural competency within city staff to support the sensitive and respectful provision of services to marginalized groups. It is essential that city staff and service providers be given proper training in order to fulfil the service delivery aims of their positions for marginalized groups, including new migrant populations. This includes cultural and disability competency training and dedicating resources to language translation and interpretation services. For example, Munich, Germany, trained city staffers in cultural competency and integrated it into recruiting processes. The city also works with external organizations, such as sports teams and

recreational associations to integrate its participants to avoid social segregation (Gebhardt 2014).

Collect and maintain up-to-date demographic data and develop disaggregated indicators when possible. Collecting data on urban populations is an essential component of providing accessible infrastructure and services. Data are not often current or available disaggregated by gender, age, disability, ethnicity and migration status, among other sociodemographic indicators. Disaggregated indicators assist efforts to understand the specific challenges faced by groups, measure progress and assess the success of policies and programs focused on specific marginalized groups.

1.1.2 Gender equality

The New Urban Agenda calls for preventing all forms of discrimination and violence by

- a) ensuring women’s and girls’ full and effective participation and equal rights with special attention to tenure security for women as a key empowerment method;
- b) ensuring access to basic services that are responsive to the needs and rights of all women and girls;
- c) integrating disaster risk reduction and climate change adaptation and mitigation considerations and measures into age- and gender-responsive urban and territorial development and planning processes;
- d) promoting 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 and
- e) promoting capacity development initiatives to empower women and girls and making information and communication technologies accessible - **NUA 32, 35, 92, 101, 114, 151, 113, 155. SDG 11** demands access to safe, inclusive and green public spaces and safe and affordable transport for marginalized groups including women - **SDG Targets 11.2, 11.7.**

Diagram 3: Gender equality



SOCIAL SUSTAINABILITY
GENDER EQUALITY



Women only account for approximately 15% of land and property ownership globally



Women spend 2.5 times as much time as men on undervalued domestic & care work



Domestic & care work is estimated to account for at least 10% of global GDP

PRINCIPLES



Policy linkages

Policies for resource use and the spatial layout of cities are linked to gender and cultural expectations.



Access

The empowerment of women rests in the ability to access land, title, inheritance and financing.



Migration and informal economy

Women's migration patterns are shaped by cultural norms; women also face unique risks in informal settlements, and when engaging in the informal economy.



Planning for vulnerable women

Although urbanization is a path forward for poverty reduction, women, girls and other vulnerable populations may not necessarily stand to benefit from this process.

ILLUSTRATIVE ACTIONS



Equitable mobility

When planning for mobility, consider locations that women need to access both in urban cores and peri-urban areas.



Local government

Engage women in civic participation and local government.



Land titles

Support and develop programs to provide women access to credit, land title and financing resources.



Indicators

Develop sex-disaggregated indicators when possible.



Networks

Support cooperatives and support groups that allow women to form relationships and networks.



Processes of urbanization are fundamentally linked to the cultural, legal and economic aspects of gender. Gender equality is also the focus of **UN Sustainable Development Goal 5 - SDG 5 – Achieve gender equality and empower all women and girls** – which articulates nine specific gender equality targets. Urban populations have historically become increasingly feminized, with more women and female-led households immigrating to urban areas. For example, Chant (2013) notes that within a span of 20 years, female-headed households increased by a mean of 9.8 per cent in Latin American urbanized areas (UN-Habitat 2013). Because cities are centres for employment and educational opportunities, women often immigrate to cities for economic opportunity and to lift themselves or their families out of rural poverty. Women also migrate to cities to leave adverse situations within rural contexts. As such, urbanization has the potential to empower women and girls and improve quality of life, but it also holds its own gender-specific perils and challenges.

There are more social and economic opportunities for women within urban contexts. Particularly, land and property are acquired through marketplaces, not via inheritance. It should follow that women can make considerable gains in land and property through urbanization. However, as Chant (2013) notes, a study of 16 different urban areas in the developing world finds that only one third of owner-occupiers were female. Similarly, an OECD study of 82 countries outside of OECD and the EU estimates that women only make up approximately 15 per cent of landowners globally. Without proper title, or the ability to leverage title for access to credit and financing, it may be difficult for women to fully participate in the economy. Similarly, while there are far more educational opportunities in urban areas, women living in informal settlements are not necessarily able to access these resources. For example, in the Philippines, 59 per cent of the rural population completed secondary school, while the share is 75 per cent for urban dwellers. However, 21 per cent of women living in urban slums leave school due to pregnancy or early marriage, while the rate is much lower for women

living in urban contexts outside of the slums (13 per cent). The disparity can be found in other regions, countries and cities. For example, in New Delhi, only 43 per cent of slum dwelling urban women have completed a basic education, while the rate is 72 per cent for non-slum urban women (UN-Habitat 2013). Women are also more susceptible to violence. While approximately 60 per cent of urban dwellers in developing nations have experienced crime, women are twice as likely to experience violent crime (UN-Habitat 2019).

Finally, women often occupy precarious positions in the labour market, and their work is often undervalued. Excluding agricultural workers, the share of women employed in informal sectors in the developing world is 7.9 per cent higher than the share of men (UN Women). Domestic and care work is also undervalued in urban areas and elsewhere, where women spend 2.5 times the hours men do on these tasks, which if compensated, would comprise 10–39 per cent of global GDP (Bonet and others 2019). In fact, **SDG Target 5.2** describes the importance of recognizing and valuing unpaid care and domestic work by adequately providing public services, infrastructure and policy for this work, and also emphasizing the importance of shared familial responsibility.

These disparities related to employment, safety, land title, access to credit and education are some of the factors that influence the well-being of women and girls in cities. Gender equity is multifaceted and will require deliberate planning by municipal governments to ensure that urbanization benefits all members of the population (UN-Habitat 2013).



Principles

Policies regarding resource use and the spatial layout of cities are inextricable from gender and cultural expectations. As women bear responsibility for domestic labour, the time and effort to access essential resources are expended by women within households. For example, Vij (2014) reviews the status of women in a peri-urban

While there are far more educational opportunities in urban areas, women living in informal settlements are not necessarily able to access these resources.

community in India and frames the loss of common property resources such as wells and water sources as an additional time and labour burden for women (Vij 2014). When water, sanitation and waste management services are absent or limited, the burden falls on women to seek out these services or perform time-consuming tasks to cover basic household needs. This burden can also lead to heightened risks; women who must travel farther to access infrastructure may have to do so through unsafe areas where they may be more vulnerable to violence (Gill and Wellenstein 2019). Similarly, transit is often designed to cover the needs of male employment routes: transportation systems shuttle residents into central business districts or urban cores during peak hours. Women may have multiple obligations and may need access to decentralized areas for informal work, childcare and necessary household resources (Gill and Wellenstein 2019).

The empowerment of women rests in the ability to access land, title, inheritance and financing; these same abilities influence the migration of women, especially between rural-urban zones. Poverty is associated with landlessness in rural contexts; in many regions, women are not able to access title to land or property that they expend labour in maintaining (Gill and Wellenstein 2019). This issue also persists in cities. Cities should consider how administrative services can be inclusive of women and support programs that allow women to fully participate in the economy.

Women’s migration patterns are shaped by cultural norms; women also face unique risks in informal settlements and when engaging in the informal economy. Women’s employment is often limited. In places where women have less freedom of movement and fewer employment opportunities, the sex ratio for urban migrants is skewed towards men. When women migrate to urban areas, it is often for longer periods of time than men, and within export zones or peri-urban areas farther away. In a review of multiple peri-urban areas around the globe, Mabala and Tacoli (2010) find that men tend to migrate shorter distances on a more temporary basis, while women’s urban migration is often longer term. The particularities of migration are a reflection of power dynamics within households and the economic forces that affect them. For example, Tacoli (2012) notes

that remittances may make migration by young women more culturally permissible. Women may also migrate to seek services or flee persecution; for example, Hughes and Wickeri (2010) document how HIV-positive women migrate to the city in Tanzania. However, migration is context specific within countries and regions, making it difficult to make sweeping generalizations about the state of female migration and urbanization (Chant 2013). Regarding employment, some industries, such as information technology, have provided employment opportunities for women. However, even within industries that commonly employ women, they are often paid less than men, occupying “lower-end” positions (Satterthwaite and Tacoli 2013).

Though urbanization is a path forward for poverty reduction, it presents unique challenges for women and girls. Urbanization presents its own challenges for women, and there are many intersecting issues that may affect quality of life

Figure 6: A group of female students going to school in Goa, India.



A group of female students going to school in Goa, India. © Sandra Cohen-Rose / Flickr

and economic status. Lower fertility rates are associated with higher economic status and education levels. While fertility rates in urbanized areas are generally lower than in rural areas, this may not be the case for urban areas that lack reproductive health services. For example, a study found that in Cairo, fertility rates in peri-urban areas were comparable to rates in rural areas (Chant 2013). A review of sub-Saharan African fertility rates showed that rates were universally higher in urban slums than in urban non-slum areas (Tacoli 2012). Because the benefits of urbanization are not currently being equally shared, it follows that planning around gender should focus on vulnerable women.



Illustrative Actions

When planning for mobility and connectivity, consider the locations that women need to access, in addition to traditional notions of access and design; extend access to education and healthcare to peri-urban areas, in addition to urban cores.

Basic services should be planned with the input of women who expend the time and labour to access them. For example, in a Mumbai informal settlement, women were engaged in planning the location of sanitary facilities. These facilities were also planned so that women and children using wash and toilet felt safer and more at ease (UN-Habitat 2013). Transit routes should be planned with household and domestic needs in mind; instead of simply planning for access to central business districts or employment centres, planning should be conducted to allow women to access household resources, sanitary facilities, potential informal work located elsewhere, schools and facilities for children.

Engage women in civic participation and local government. Female participation in governance and government appears to be on the rise, especially following trends of decentralization; women have become involved in fighting for improvements within their own neighbourhoods.

Chant (2013) describes women in Brazil leading participatory budgeting efforts, and the greater involvement of women in local council government in municipalities in India (Chant 2013). Because women are affected by a number of issues within the built environment and are responsible for maintaining households, the narrative of collective struggle towards neighbourhood improvement and the betterment of governance is appealing. However, local governments are not often well resourced, and volunteer participation by women may be a means for ineffective governments to outsource labour to residents, rather than adequately provide service.

Support and develop programs to provide women access to credit, land title and financing resources.

Without the formal resources to participate in the larger economy, women will not be able to advance their status in urban areas. Programs that emphasize access to title and financing should also be prioritized by municipal governments. Tsai (2000) documents rotating savings and credit agreements in South China, where groups led and managed by women provided community access to microfinance.

Develop sex-disaggregated indicators when possible. Data is not often current or available by gender; therefore, it becomes difficult to support the effective mainstreaming of gender in urban policies and to measure the success of policies and programs for women.

Support cooperatives and support groups that allow women to form relationships and networks; this is especially important for new migrants.

Communal kitchens, community spaces and credit cooperatives can help build social capital for women who may otherwise be isolated. These services are especially critical for new migrants and individuals living in informal housing. For example, Lima, Peru has communal kitchens to support the nutritional needs of women and children, while Mother Centers in Germany opened to assist with social isolation.

Female participation in governance and government appears to be on the rise, especially following trends of decentralization; women have become involved in fighting for improvements within their own neighbourhoods.

1.1.3 Planning for migrants, ethnic minorities and persons with disabilities

The New Urban Agenda pays special attention to marginalized groups. There are many groups within cities that fit a definition of marginalized, on the basis of gender, age, ability, migration status or housing status. This section focuses on planning for migrants, refugees and displaced persons, ethnic minorities and persons with disabilities, while other groups are discussed throughout the handbook.

Migration status is a significant source of vulnerability, as it can severely impact the access to services, housing and livelihood opportunities. The New Urban Agenda commits Governments to “ensuring full respect for the human rights of refugees, internally displaced persons and migrants, regardless of their migration status, and support their host cities in the spirit of international cooperation, taking into account national circumstances and recognizing that, although the movement of large populations into towns and cities poses a variety of challenges, it can also bring significant social, economic and cultural contributions to urban life” - **NUA 28**.

Worldwide, around 71 million individuals are displaced from their homes. In 2019, approximately 26 million individuals were identified as refugees, 41 million had been identified as internally displaced, and 4 million individuals were asylum seekers (UNHCR 2019). City governments and local authorities are often on the frontlines of receiving, supporting and integrating new immigrants and refugees. The integration of migrants, refugees and internally displaced persons is an essential task of municipalities and national Governments, especially as migration due to climate change is expected to increase in the coming decades. Fostering social and economic inclusion while enhancing social cohesion between communities needs multi-level governance cooperation and inclusive multi-sectoral and multi-stakeholder processes (whole-of-government and whole-of-society approach).

Ethnic minorities and indigenous peoples around the world are often subject to exclusion and discrimination. The New Urban Agenda upholds the principle that Governments should seek to fulfil

their roles without discrimination based on ethnicity through measures including strengthening public dialogue and participation and promoting inclusive and accountable institutions for land registration and governance - **NUA 42, 104**.

The New Urban Agenda promotes policies that are responsive to the needs of persons living with disabilities and demands adopting measures that facilitate their access to housing, public transport, health, facilities, education, public information and communication technologies, both in rural and urban areas - **NUA 31, 36, 113, 148, 156**. Furthermore, the New Urban Agenda highlights the importance of capacity building of governments at all levels and the need for cooperation with civil society and academic institutions to integrate persons with disabilities into decision-making processes in urban development - **NUA 42, 48**.

It is estimated that 15 per cent of the world’s population lives with a disability; this figure amounts to a total of 1 billion individuals, one fifth of whom (between 110 and 190 million people) experience significant disabilities (World Bank 2019a). According to the United Nations publication *Good Practices of Accessible Urban Development*, for the 15 per cent of the world’s population with a disability, “available evidence reveals a widespread lack of accessibility in built environments, from roads and housing, to public buildings and spaces. Evidence also reveals a lack of accessibility to basic urban services such as sanitation and water, health, education, transportation, emergency and disaster response, resilience building, and access to information and communications. These accessibility limitations greatly contribute to the disadvantages and marginalization faced by persons with disabilities, leading to disproportionate rates of poverty, deprivation and exclusion” (United Nations Department of Economic and Social Affairs 2016).

Fortunately, evidence also shows that designing and building urban infrastructure and services to conform with accessible, inclusive “universal design” principles adds a negligible cost, which means that designing for accessibility to persons with disabilities is not unaffordable for low-income countries (United Nations Department of Economic and Social Affairs 2016).

It is estimated that 15 per cent of the world’s population lives with a disability; this figure amounts to a total of 1 billion individuals, one fifth of whom (between 110 and 190 million people) experience significant disabilities (World Bank 2019a).

Diagram 4: Planning for migrants, ethnic minorities, and persons with disabilities



SOCIAL SUSTAINABILITY

PLANNING FOR MIGRANTS, ETHNIC MINORITIES AND PERSONS WITH DISABILITIES

71 million

were displaced from their homes by the end of 2018

26 million

identified as refugees

4 million

were asylum seekers



15% of the world's population lives with a disability, this figure amounts to a total of 1 billion individuals.

PRINCIPLES



Right to the city

Migrants, refugees and internally displaced persons have a right to the city, which must be reinforced through explicit welcoming, inclusion and integration efforts.



Universal design

Accessible and disability-inclusive urban planning is "universal design" and can be realized everywhere.



Participation

Participation of disability stakeholders is essential to the urban development process.

ILLUSTRATIVE ACTIONS



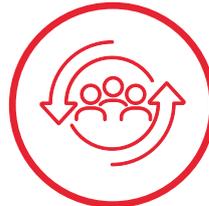
Vocational education

Strengthen vocational education for new migrants and internally displaced persons.



Labor protection

Improve the protection of labor.



Inclusion and diversity

Build a city identity based in values of inclusion and celebrating diversity.



Cooperatives

Support cooperatives and mutual aid groups that allow new migrants to form relationships and networks.



Social protections

Extend universal, tax-financed social protections for ethnic minorities and indigenous peoples.



Transit equity

Plan for transit equity for marginalized groups and especially persons with disabilities.



Building standards

Enforce standards that create accessibility for persons with disabilities.

 **Principles**

Migrants, refugees and internally displaced persons have a “right to the city”, which must be reinforced through explicit welcoming, inclusion and integration efforts. Migrants and refugees are contributing citizens of the cities that they inhabit and must be included and welcomed into the public life of the city at all levels (UNESCO 2016a).

Accessible and disability inclusive urban planning is “universal design” and can be realized everywhere. This means that urban development can and must be disability inclusive in all contexts, sectors, policy frameworks and regulatory structures. Figure 7 shows the importance of accessible transport for people with disabilities. When we “design for the margins”, we “design for all”, and it benefits everyone (United Nations Department of Economic and Social Affairs 2016).

Participation of disability stakeholders is essential. Persons with disabilities and the organizations that they lead are stakeholders, rights holders and agents in the urban development process.

 **Illustrative Actions**

Strengthen vocational education for migrants, refugees and internally displaced persons. Vocational education allows migrants, especially those from rural contexts, to gain the skills they need to be employable in cities. In addition, governments should actively support small businesses and entrepreneurship in immigrant and refugee communities, including through the provision of business financing and technical assistance.

Improve the protection of labour. Migrants in vulnerable situations are susceptible to labour exploitation because of their precarious status, lack of formal education or language skills. Undocumented migrants are specifically endangered of applying unhealthy coping strategies for survival. For example, a study on rural-urban migration in China noted that a large percentage of migrant workers in Nanjing were unable to articulate their rights; many had also not signed

any type of contract with their employers. Cities should take steps to ensure that industries in which migrants work are governed by policies that protect workers and ensure their integration into the larger society and economy (Chunyan 2011).

Build a city identity based on values of inclusion and celebration of diversity, including the diversity of migrants, refugees, internally displaced persons and ethnic minorities. Support communities and NGOs in creating spaces that allow dialogue, intercultural encounters and cultural celebration. Dedicate resources to supporting these efforts (UNESCO 2016a, UNU-GCM 2014).

Support civil society engagement, cooperatives and mutual aid groups that allow newly arrivals to form relationships and networks. Communal kitchens, community spaces, sport clubs and credit cooperatives can help build social capital

Vocational education allows new migrants, especially those from rural contexts, to gain the skills they need to be employable in cities.

Figure 7: Public transport should be accessible for people with disabilities.



© Diane Diederich / iStock

for migrants who are sometimes excluded from economic opportunities and social inclusion. These services can be especially critical for migrants who are also ethnic minorities and individuals living in informal housing.

Extend universal, tax-financed social protections for ethnic minorities and indigenous peoples. Due to high levels of segregation and discrimination, ethnic minorities and indigenous peoples are often employed in the informal sector and are therefore excluded from employment contribution-based social protections (United Nations Department of Economic and Social Affairs 2018).

Plan for transit equity for marginalized groups and especially persons with disabilities. Accessibility in transit requires that transit facilities, entrance ways, connections and services are physically accessible and that the cost of using transit is affordable. Accessible transit requires that all segments of a transit journey be well-connected, accessible, and affordable. At Melbourne's Southern Cross train station, a new "beacon navigation system" allows users to receive audio cues on their smartphones, which provide directions and alerts about escalator outages, among other information (Salman 2018).

Strengthen accessible building standards, laws and enforcement mechanisms. As new urban environments are built and existing ones are renovated, governments must enforce standards that create accessibility for persons with disabilities. Enforcement is essential to institutionalizing these norms.

Box 3 explains how Toronto made changes to its community services divisions to integrate immigrant voices in decision-making.

1.1.4 Age-responsive planning

The New Urban Agenda recognizes the importance of age-responsive planning, for both youth and older persons, as a component of providing access and enabling the participation of all marginalized groups in every area of urban development. The New Urban Agenda commits to addressing multiple forms of discrimination faced by, inter

Box 3: Metro Toronto's changing communities: Innovative responses

Challenges In 1996, Toronto was in the midst of major community transitions, with increasing numbers of immigrants from Asia, Latin America, Africa and the Caribbean. Toronto's ethno-racial communities represented 3 per cent of its population in 1961 and exceeded 50 per cent by 2001, making it one of the most multicultural cities in the world.

Action As a response to the diversifying population in Metro Toronto, the government made six changes to its community service divisions. It focused on housing, homes for older persons, an advisory committee, a residential council and a family and volunteer committee to create community accountability and ensure community confidence in service delivery.

These divisions were effective because of a combination of principles applied in their implementation. The first was built-in flexibility to change and make improvements within a strategic and appropriate framework. The Housing Company's mission and strategic directions were reviewed to ensure they met the new needs of the communities. This review resulted in a resident involvement plan that was inclusive of tenants, front line staff, board members and community agents, in an effort to shift the culture. The organization could respond to a changing landscape through the establishment of flexible funds, such as the multicultural access policy for grants and the Ethno-racial and Aboriginal Access Fund, which reallocated funding based on changing community needs.

Second, these changes integrated representatives across communities into decision-making. For instance, the metro's Homes for the Aged developed a community advisory committee with a volunteer system that successfully increased inquiries into the quality of care in homes. Established committees recruited members of ethno-racial communities to sit on their boards and participate as staff and volunteers.

Third, the city prioritized accountability between political staff and communities, and effective collaboration with stakeholders. Social Services created clear policies, procedures and protocols that were publicly available to customers, staff and community partners, resulting in an authentic exchange of information and a commitment to shared goals. Moreover, the programming was inherently culturally sensitive. To meet the needs of all racial and cultural groups, the Race Relations working group mandated anti-racism policies for childcare programs, as well as the development of anti-racism training for staff, administrators and programme directors.

Source: UN-Habitat

alia, women and girls, children and youth, persons with disabilities, people living with HIV/AIDS, older persons, indigenous peoples and local communities” - **NUA 20**. It also commits “to promoting equitable and affordable access to sustainable basic physical and social infrastructure for all, without discrimination, including affordable serviced land, housing, modern and renewable energy, safe drinking water and sanitation, safe, nutritious and adequate food, waste disposal, sustainable mobility, health care and family planning, education, culture, and information and communications technologies. We further commit ourselves to ensuring that these services are responsive to the rights and needs” of older persons and all other vulnerable and marginalized groups - **NUA 20, 34**.

Municipal governments will need to adjust service delivery to changing demographics around the world. In OECD countries, it’s expected that 25.2 per cent of the population will be over 65 years old by 2050, while cities in these countries are currently home to 43.7 per cent of older persons. Based on the OECD average, the older persons are more likely to occupy urban hinterlands than inner cores (OECD 2015). The New Urban Agenda also highlights the need for age-responsive planning in regard to road safety, mobility and transport access; stakeholder inclusion in shaping governance processes; and in civic dialogue - **NUA 113, 114, 148, 155**. **SDG 11** also affirms the importance of giving special consideration to the access needs of older persons in the target areas of safe, affordable and accessible transport and access to safe, inclusive and accessible green and public spaces - **SDG Targets 11.2, 11.7**. **SDG 11.2** aims to “provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons”. **SDG 11.7** is about providing “access to safe and inclusive green and public spaces” by 2030.

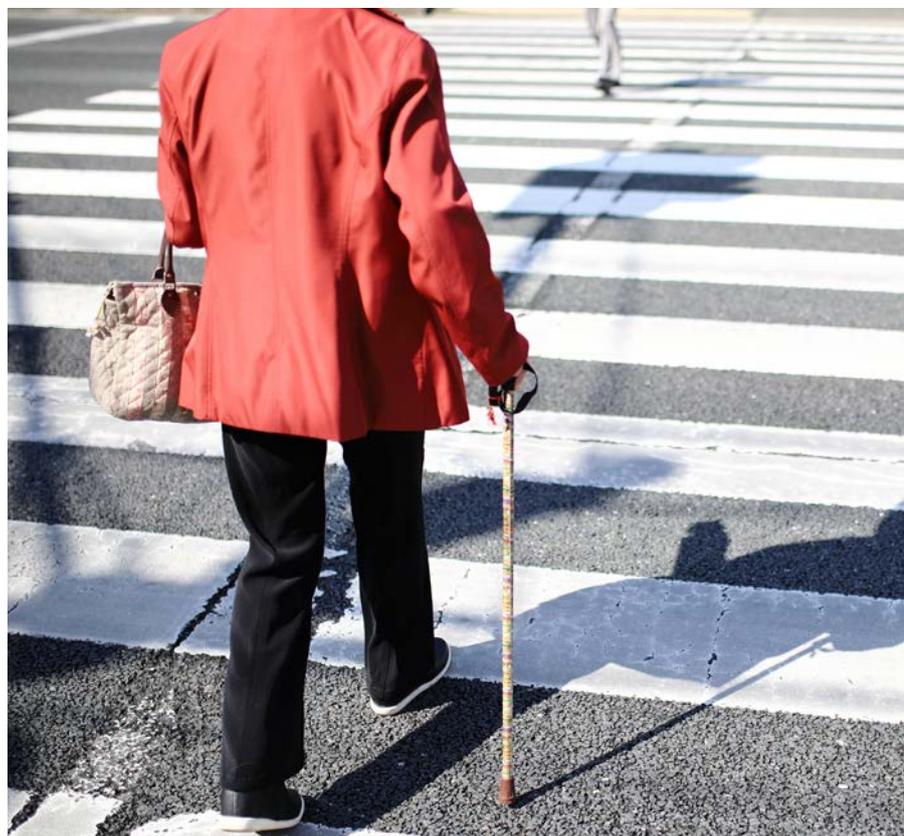
Regarding the labour force, Maestas and others (2016) use historic data from the United States to demonstrate that for every 10 per cent increase in the share of older persons, the per capita GDP growth rate decreases 5.5 per cent, resulting from

both decreased worker productivity and slower labour force growth (Maestas and others 2016). Aging presents a number of challenges including a loss of local revenue, an aging labour supply, an increase in public spending for health care, infrastructure and urban form adaptation, social isolation and housing affordability. However, there are a number of opportunities that may be addressed as a result, including new technology development centred around the older persons, design and urban form changes that could result in greater accessibility for all, voluntary work and social capital development for the older persons and the reimagining of the public sector by a larger citizenry.

The New Urban Agenda also particularly recognizes the needs and rights of children and youth. The New Urban Agenda commits Governments to

Municipal governments will need to adjust service delivery to changing demographics around the world.

Figure 8: Cities must be designed to accommodate older persons.



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Diagram 5: Age-responsive planning



SOCIAL SUSTAINABILITY
AGE-RESPONSIVE PLANNING

25.2%

of the population is expected to be over 65 years old on average OECD countries.



The elderly are more likely to occupy urban hinterlands than inner cores in OECD countries on average.

1.2B

youth aged 15-24 years accounted for one out of every six people worldwide in 2015.



In developing countries young people represent 30 percent of the population.

PRINCIPLES



Holistic planning

Planning for aging should be holistic and multi-sectoral; cities should begin their planning process with a vision statement.



Child responsive

The safety and needs of children should be incorporated in all aspects of urban planning and development.



Built environment

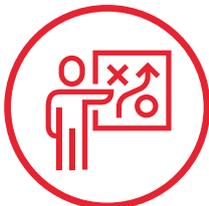
The built environment is an important factor for the quality of life for the elderly, as well as consistent communication and public sector service delivery.



Positive youth development

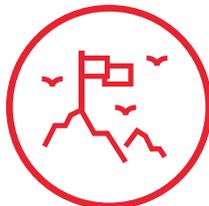
Principles such as considering holistic well-being needs should be prioritized in urban youth focused programming.

ILLUSTRATIVE ACTIONS



Indicators

Develop indicators to measure the impact of aging on society, and relative access to services.



Lifelong learning

Promote a culture of lifelong learning, where volunteerism and education opportunities are available for the elderly.



Affordable housing

Provide affordable, multi-generational housing for elderly residents.



Skills for emerging industries

Prepare youth to enter new job markets.



Connect employers and youth

Create information hubs and networks to connect employers and youth.

“promoting a safe, healthy, inclusive and secure environment in cities and human settlements enabling all to live, work and participate in urban life without fear of violence and intimidation, taking into consideration that women and girls, children and youth, and persons in vulnerable situations are often particularly affected”, to “promoting access for youth to education, skills development and employment to achieve increased productivity and shared prosperity in cities and human settlements” and to promoting “capacity-development initiatives to empower and strengthen the skills and abilities” of children and youth - **NUA 39, 62, 155**.

According to the United Nations, there were 1.2 billion youth aged 15–24 years old globally in 2015, accounting for one out of every six people worldwide. These numbers are growing, particularly in developing countries, where in many places young people represent 30 per cent of the population. For the youth, it will be essential for cities and nations to plan for the long-term economic future. Without employment and education opportunities, young people may end up as NEET (not in employment, education or training). In Peru, around one fifth of urban youth were living in this state; in Tunisia, around the same share of boys are NEET status, and the share is even higher for girls (Making Cents International 2015). According to metrics tracking the progress of UN Sustainable Development Goal 8 - **SDG 8** – *Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all* – globally, youth unemployment is three times the aggregate global employment rate. Municipalities will need to focus on providing employment and education opportunities for young people to ensure the stability of economies.



Principles

The built environment is an important factor for the quality of life of older persons; also important are consistent communication and service delivery from the public sector. Urban form and accessibility changes for older persons have the potential to benefit a larger populace. Information technology, in addition to hard infrastructure, is another component of accessibility.

Commit to child-responsive urban planning. The safety and needs of children should be incorporated in all aspects of urban planning and development. Children should be understood as stakeholders and involved in development processes and evaluations.

Use “Positive Youth Development” principles. Principles such as considering holistic well-being needs, promoting gender equality, promoting youth participation and leveraging technology and innovation should be prioritized in urban youth focused programming (Making Cents International 2015).

Take a holistic approach to building human capital. Policymakers and service providers should seek to address challenges and capacity issues in urban education systems in an effort to support youth in their development as future workers.



Illustrative Actions

Develop indicators to measure the impact of aging on society and relative access to services. Some of the indicators suggested by OECD (2015) are number of people by age group in need of health support services, number of opportunities and percentage of participation in recreational and cultural activities, labour participation rate by gender and age group, housing expenses for older persons, transport ridership by age and gender, and so forth. Indicators can be developed in the visioning stage (OECD 2015).

According to the United Nations, there were 1.2 billion youth aged 15–24 years old globally in 2015, accounting for one out of every six people worldwide. These numbers are growing, particularly in developing countries, where in many places young people represent 30 per cent of the population.

Promote a culture of lifelong learning, where volunteerism and education opportunities are available for older persons. Not only will this strategy improve quality of life for older persons, it will also improve intergenerational linkages and relationships within communities. These activities can strengthen social capital as well. For example, in Lisbon, Portugal, the city operates a Senior University, where volunteer seniors can both attend and teach classes (OECD 2015).

Provide affordable, multigenerational housing for older persons. Though housing for older persons is often associated with images of age-segregated senior centres or senior communities, developing affordable housing for older persons that is also multigenerational can improve quality of life for seniors and those interacting with them. For example, in Cologne, Germany, shared housing is offered to university students and older persons; both are able to forge multigenerational connections while also gaining access to housing (OECD 2015).

Provide job training in emerging industries for youth. As information technology sectors grow, youth should be prepared to enter jobs that don't exist yet. For example, Rockefeller's Digital Jobs Africa initiative is seeking to train youth across six countries so they will be prepared to enter Africa's emerging information and technology driven labour markets (Goldin 2016).

Create information hubs and networks to connect employers and youth. For youth to seek appropriate training and join the labour market, they must be aware of opportunity areas and sectors. Similarly, employers and industry leaders must be able to connect with youth and youth training programs.

Box 4 summarizes Hong Kong's approach to treating older persons.

Box 4: Hong Kong's age-friendly urban policies

Hong Kong has an extremely progressive approach to older persons' participation and policy. There are two main entities working on aging society in Hong Kong: the municipality's Elderly Commission and an NGO called Hong Kong Housing Society (HKHS). The Elderly Commission is an advisory group that seeks to obtain security, health maintenance and enabling environments for older persons (Chang and Cao 2015). HKHS aims to ameliorate physical barriers to ageing persons, such as in level changes and narrow doorways within the home (Lui 2015). The municipality has established a three-point framework for the care of older persons:

1. Security of living, including social, financial and physical needs as people age.
2. Health maintenance, including both personal efforts and supplementary health and social services provided by the government.
3. Enabling environment for social participation.

More than political bluster, Hong Kong has both developed initiatives to create age-friendly neighbourhoods as well as taken active steps to implement some initiatives in collaboration with NGOs and faith-based organizations. The structure of its programs is wholly bottom-up, guaranteeing a level of inherent support for the initiative. This programme was successful because it approached the problem from the community level. The programs were based on building partnerships with the older people and emphasized their roles as both decision maker and participant.

Source: UN-Habitat

1.2 Economic sustainability

Economic sustainability refers to the New Urban Agenda principle “ensure sustainable and inclusive urban economies”. Governments can achieve economic sustainability “by leveraging the agglomeration benefits of well-planned urbanization, including high productivity, competitiveness and innovation; by promoting full and productive employment and decent work for all; by ensuring the creation of decent jobs and equal access for all to economic and productive resources and opportunities; and by preventing land speculation, promoting secure land tenure and managing urban shrinking, where appropriate”.

Economic sustainability is an important goal of the New Urban Agenda. It recognizes sustained and inclusive economic growth with decent employment for all as a key element of sustainable urban development - **NUA 43**. Further, the New Urban Agenda envisions cities as places for equal opportunities, that allow citizens to live productive and prosperous lives - **NUA 43**. The New Urban Agenda commits to increasing economic productivity by providing the labour force “with access to income-earning opportunities, knowledge, skills and educational facilities that contribute to an innovative and competitive urban economy” - **NUA 56**. It also commits to increasing economic productivity through employment and “decent work” and livelihood opportunities in cities and human settlements. It highlights the importance of transitioning informal labour force in the cities to the formal sector. **SDG 11** sets an intention to promote positive economic linkages between urban, peri-urban and rural areas by strengthening national and regional development planning - **SDG Target 11.A**.

The New Urban Agenda commits to increasing economic productivity by providing the labour force “with access to income-earning opportunities, knowledge, skills and educational facilities that contribute to an innovative and competitive urban economy” - NUA 56.

Figure 9: Women selling fruits in downtown Port-au-Prince, Haiti.



The value of the economic output of a city relative to its labour force is measured by the gross domestic product (GDP) and is increased in better allocation of production factors by its productivity. Productivity can be described via multiple economic indicators; the output of the firms within a municipality (often expressed as GDP per capita) as well as individual earning and wages can both serve as descriptors to compare different jurisdictions (Glaeser and Xiong 2017). High economic productivity can occur in large landholdings with industrial production in rural areas, but at the urban level it cannot be achieved without urbanization; economic development in the West and the rapid development of East Asia occurred within the context of urbanization (Hommann and Lall 2019). Urbanization allows labour to shift from the agricultural sector to more diversified, productive sectors, including manufacturing and services. World Bank Group (2015) describes tiered levels of production for individual settlements: initially, market towns where locally produced goods are traded have per capita GDPs less than \$2,500. Through industrialization and urbanization, cities can develop to the point of achieving a per capita GDP upwards of \$20,000. For cities to have GDP values that rise above \$20,000, service sector, technology and innovation industries must be cultivated (World Bank Group 2015). High productivity is essential for long-term development and growth, as well as participation in the global market. Typically, export industries that are traded globally are located within high-density urban centres (Glaeser and Xiong 2017).

As key components of economic sustainability, the New Urban Agenda highlights a) Job Creation and Livelihoods and b) Productivity and Competitiveness. Figure 9 illustrates an example of female entrepreneurship in earning income and contributing to household income in a developing country.

1.2.1 Job creation and livelihoods

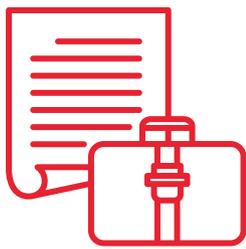
Cities are essential to the creation of jobs and the improvement of livelihoods (Bourdic, Kamiya and Salat 2017). The New Urban Agenda acknowledges the linkages between good urbanization and job creation, livelihood opportunities and improved quality of life, demanding their inclusion in every urban renewal policy. In several instances, the NUA emphasizes the need to create “decent jobs”. NUA commits to “sustaining and supporting urban economies to transition progressively to higher productivity through high-value-added sectors, by promoting diversification, technological upgrading, research and innovation, including the creation of quality, decent and productive jobs, including through the promotion of cultural and creative industries, sustainable tourism, performing arts and heritage conservation activities, among others” - **NUA 60**.

Furthermore, the New Urban Agenda “underlines the linkages between good urbanization and job creation, livelihood opportunities, and improved quality of life, which should be included in every urban area” - **NUA p. iv**. This means that a good urban strategy includes strategies for job creation and enhanced livelihood opportunities to achieve shared prosperity.

To do so, the New Urban Agenda recommends developing inclusive urban economies, by “building on endogenous potential, competitive advantages, cultural heritage and local resources, as well as resource-efficient and resilient infrastructure, promoting sustainable and inclusive industrial development and sustainable consumption and production patterns and fostering an enabling environment for businesses and innovation, as well as livelihoods” - **NUA 45**.

Through industrialization and urbanization, cities can develop to the point of achieving a per capita GDP upwards of \$20,000.

Diagram 6: Job creation and livelihoods



ECONOMIC SUSTAINABILITY JOB CREATION AND LIVELIHOODS

PRINCIPLES



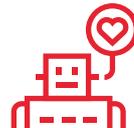
Job growth

Exports and Government spending is not enough to drive job creations, private consumption will be the main driver of the job growth in the coming years.



Policy design

A sound economic development strategy includes stakeholders in policy design.



Automation

Automation is changing the nature of jobs worldwide.



Low skill jobs

Low skill jobs are as important as high skill jobs.

ILLUSTRATIVE ACTIONS



Human capital

Develop human capital.



Financing

Develop financing opportunities.



Digital infrastructure

Build digital infrastructure to enable service and commerce.



Automation

Embrace automation and leverage it for creating better and higher paying jobs.



Growth sectors

To create new jobs, link with other “growth” sectors such as infrastructure, renewable energy, education, and so on.

Principles

Exports and government spending are not enough to drive job creation; private consumption will be the main driver of job growth in the coming years. The strongest growth is seemingly in service sectors such as health, finance, education, transportation and entertainment. In developing countries, the large informal sector can limit consumption because of lack of access to credit to make investments in housing, education or businesses (Augustinraj and others 2018).

A sound economic development strategy includes stakeholders in policy design. Cities that are seeking to grow existing industries and cultivate new ones should work with industry stakeholders to understand their needs and requirements in designing policy and programs. Cities should be deliberate in this process and understand their target industries and businesses as well as the costs and benefits of working with different types of businesses. Designing policy considering the needs of large multinational corporations may result in large infusions of capital and investment, while consulting with small- and medium-sized enterprises (SMEs) can lead to the cultivation of both local talent and quality employment, in addition to city and cultural identity. Understanding intra-municipal relationships is key to implementation; for example, a neighbourhood or spatially based strategy may be particularly effective in assisting SMEs due to their reliance on relationships with each other and suppliers (Kuah 2002). In developing countries, cities should also consult with workers in informal sectors in order to determine ways by which informal, already embedded economic activity may be formalized and supported (UNDP 2016).

Automation is changing the nature of jobs worldwide. Automation technologies (artificial intelligence and robotics) will be instrumental in lifting productivity and economic growth, while generating significant economic benefits for countries. According to McKinsey Global Institute (2017), about half of all work activities in the world could be automated, but the proportion of work that will actually be displaced by 2030 is estimated to be lower. This is because technical, economic

and social factors will affect adoption. McKinsey Global Institute (2017) examined scenarios across 46 countries and found that automation impacts jobs differently in different countries: advanced economies will be more affected by automation than developing countries.

Low skill jobs are as important as high skill jobs. While most governments are focused on creating high paying “tech” jobs, the lower-skilled and mostly informal workers should also be considered as contributors to the economy.

Illustrative Actions

Develop human capital. Cities should strive towards developing the skills, training and capacity of the members of their labour pools. Cities can also provide training and support networks for entrepreneurs and small- and medium-sized business owners; skills or outcome based

Automation technologies (artificial intelligence and robotics) will be instrumental in lifting productivity and economic growth, while generating significant economic benefits for countries.

Figure 10: A woman making batik in Bali, Indonesia.



© Rana Amirtahmasebi

human capital development have been found to be especially effective (Frese and others 2011). Investment in the education and training of the larger municipal population is especially crucial for cities that have seen additional population influxes and can be one way by which migrants are integrated into larger urban economies. On the local level, neighbourhood-level programs and special initiatives may be of interest for areas lagging behind (Dutton, Lindsay and McQuiad 2007). Human capital may also need to be developed through institutional interventions. For example, in the European Union, secondary cities in non-core countries do not have the institutions, capital or resources to reinvent themselves to attract new, tertiary industries. Interventions or partnerships with international governing bodies or universities may be a means of economic development in these cases, especially for cities suffering the effects of deindustrialization (Kinossian 2018).

Develop financing opportunities. Beyond skills training, business owners and entrepreneurs may need capital or credit access to spur ventures or the development of markets. Municipalities can develop business development centres, loan and grant programs, and technical assistance and public visibility opportunities for SMEs, and they can shape these services programmatically around industries of interest (World Bank Group 2015b). For cities with many migrant-owned businesses, there may be an interest in reducing the transaction costs associated with remittances and financial transactions between countries (Maimbo and Ratha 2005).

Build digital infrastructure to enable services and commerce. Some of the fastest growing services in the world are those enabled by digital technologies. E-commerce is a good example with an estimated \$22 trillion in global annual revenue. In China, e-commerce's share of consumption rose from 3 to 15 per cent from 2010 to 2017, and it is projected to account for more than 40 per cent of growth in consumption through 2020. In India, while the physical infrastructure continues to lag behind world standards, digital infrastructure has grown considerably due to innovations in the telecommunications sector (Augustinraj 2018).

Embrace automation and leverage it to create better and higher paying jobs. A McKinsey report estimated that between 400 million and 800 million individuals around the world could lose jobs because of automation by 2030 (McKinsey Global Institute 2017). Cities must develop strategies to help workers transition to higher technology jobs, while providing income support for workers who lose jobs due to automation. Mid-career job training and worker redeployment will be crucial, and educational and workforce training models will have to adapt to automation and technology enhancements.

To create new jobs, link with other "growth" sectors such as infrastructure, renewable energy, education and so on. It is estimated that globally, there is a need to invest about 3.8 per cent of GDP annually, or an average of \$3.3 trillion per year, to fill infrastructure gaps (Garemo and others 2016). Historically, governments underspend on the infrastructure and construction sectors, which have the potential to create millions of jobs. These types of jobs include architecture, engineering, skilled construction and lower-skilled jobs. Similarly, cities can invest in the renewable energy sector (wind and solar, energy efficiency technologies and so on) (McKinsey Global Institute 2017).

It is estimated that globally, there is a need to invest about 3.8 per cent of GDP annually, or an average of \$3.3 trillion per year, to fill infrastructure gaps (Garemo and others 2016).

1.2.2 Productivity and competitiveness

The New Urban Agenda commits to "increasing economic productivity, as appropriate, by providing the labour force with access to income-earning opportunities, knowledge, skills and educational facilities that contribute to an innovative and competitive urban economy. We also commit ourselves to increasing economic productivity through the promotion of full and productive employment and decent work and livelihood opportunities in cities and human settlements" - **NUA 56**. Productivity and competitiveness relate to the concept of the "competitive city", which is one that facilitates foreign investment, job creation, increased productivity and enhanced incomes (Kilroy and Mukim 2015).

The linkage between productivity and urbanization is produced by agglomeration economies, which cluster services, households and resources. One of the New Urban Agenda's principles is to "ensure sustainable and inclusive urban economies by leveraging the agglomeration benefits of well-planned urbanization, including high productivity, competitiveness and innovation" - **NUA 14. b.**

Agglomeration allows workers to live closer to jobs and access educational opportunities, while permitting firms access to suppliers, consumer markets and the labour pool. Through agglomeration, overall productivity increases. This effect can be quantitatively demonstrated, though the magnitude of the agglomeration effect varies considerably based on urban form, industry, working skills and education, infrastructure service delivery and spatial equity, and so forth. As such, it is difficult to translate findings from city to city in empirical studies (Graham, Melo and Noland 2009). For example, Chauvin and others (2017) find that high density is positively associated in earnings in a study of Chinese prefectures, but a World Bank study of Latin American and Caribbean countries does not find a strong relationship between density and productivity (Ferreira and Roberts 2018). Beyond pure density, proximity and connectivity are also essential to entrepreneurship and innovation, as talent and resources cluster within urban environments (Glaeser and Xiong 2017).

Agglomeration allows firms a larger pool of labour to choose from, and workers can be better matched to jobs that they are suited for (Andersson, Burgess and Lane 2007). Porter (1998) proposed the notion of "industrial clustering" and competitiveness, a concept that builds on value chains and supply chains and was of particular interest as the world grew increasingly globalized. Businesses can form clusters where well-suited workers are located. This discourse relates to tertiary and high-technology industries, where highly educated

workers and entrepreneurial networks can facilitate the growth of several similar businesses. Common suppliers and supply chains can also produce this clustering effect; and access to information and the concentration of consumer demand can ensure the success of a group of businesses (Martin and Sunley 2003).

As such, in order to reap the benefits of agglomeration, cities must invest in human capital development through education and skills training in addition to addressing spatial equity and issues of access. The exact effects of agglomeration and their magnitude differ between regions and countries. For example, Chauvin and others (2017) finds that agglomeration is linked to wage increases in the United States and Brazil, but the linkage is much stronger in India and China (Chauvin and others 2017). Agglomeration effects also differ between industries (Glaeser and Xiong 2017). Finally, the concept of agglomeration is often associated with images of megacities around the world, while secondary cities are becoming increasingly more important in this discourse (Roberts 2014).

The productivity gains associated with clustering and greater density can be offset by negative externalities, such as congestion and the under delivery of public services to growing populations. Broadly speaking, cities are continually having to navigate the push and pull of the positive economic effects of agglomeration and these negative congestion effects (Grover and Lall 2015). These issues have caused public authorities to divert development elsewhere or impose growth limits or barriers to urbanizing areas (Goswami, Grover and Lall 2016). Holistically, the larger the scope and implementation capacity of local governments, the more likely it is that infrastructure service delivery and policies and programs geared towards economic development will be successful (World Bank Group 2015).

Agglomeration allows workers to live closer to jobs and access educational opportunities, while permitting firms access to suppliers, consumer markets and the labour pool. Through agglomeration, overall productivity increases.

Diagram 7: Productivity and competitiveness



ECONOMIC SUSTAINABILITY PRODUCTIVITY AND COMPETITIVENESS

PRINCIPLES



Comparative advantage

Cities have a comparative advantage to be leveraged.



Diverse industries

There is a value in developing diverse industries. Cities that rely on single industries are more vulnerable to changes in the economy.

ILLUSTRATIVE ACTIONS



Smart regulations

Design smart regulations and government services geared towards economic development.



Infrastructure and land use

Get infrastructure development and land use planning right.



Value chains

Lengthen value chains and develop industries by actively working with businesses.



Principles

Cities have a comparative advantage to be leveraged. Cities are imbued with their own advantages for production due to their frequent abundance of natural resources, talent pools or spatial configurations. For example, cities with natural resources and historic character can become tourism hubs with the development of proper infrastructure. Cities do not necessarily need to develop seeking to attract “bandwagon” industries, such as biotechnology and pharmaceuticals, in order to be competitive and create jobs. Existing economic activities can be bolstered and cultivated via job training, business development support or infrastructure improvements (see the Illustrative Actions section below). Informal or underutilized components of an urban economy can be supported and formalized through city governments. Tradable goods and services, as opposed to retail and public service jobs, are important for cities to become and remain competitive (Kilroy and Mukim 2015).

There is value in developing diverse industries.

Cities that rely on single industries are more vulnerable to changes in the economy. For example, in the United States, the movement of automobile manufacturers resulted in municipal bankruptcy and other financial planning problems in once prosperous manufacturing cities such as Detroit (Kilroy and Mukim 2015). In the developing world, industry diversification through urbanization is an essential component of overall economic, social and environmental resiliency. For example, rural and peri-urban populations in Bangladesh that are particularly dependent on agricultural yields experience severe instability during extreme weather events (World Bank 2019b).



Illustrative Actions

Design smart regulations and government services. Regulations should be geared towards economic development to encourage development and participation of various industries. For example, tax incentives for SMEs can encourage entry into markets and assist existing businesses. As another example, reducing barriers to acquire key

production inputs, such as industrial or commercial land may also encourage growth and entry into the market. Expedited permitting or licensing for businesses may also be of interest for sectors that a local authority is trying to develop. Clear and transparent government processes, such as online services may also assist business owners in receiving permits, reviewing land-use law and understanding sector specific regulations. For example, Kigali developed a streamlined process and centre to attract foreign investment, based on a programme originally developed in Nairobi (World Bank Group 2015). Opportunity and enterprise zones designated within developing countries can also allow for direct foreign involvement in the development of urban areas and encourage investment.

Get the infrastructure development and land-use planning right. Cities must strive towards the provision of infrastructural services equitably across the entire municipality. Land-use planning and other spatial planning elements are also essential in ensuring that individual municipalities are best configured to attract and sustain economic development. In addition, planning should not be limited to coordination within single municipalities. Agglomeration can also occur regionally within the purview of multiple municipal governments that are linked together. Ellis and Roberts (2016) find that in South Asia, cities have been expanding both individually and as belts and regions. Coordination between municipal authorities for infrastructure service delivery and land-use planning is also essential to ensuring long-term growth and productivity (Ellis and Roberts 2016). Cities need to be properly equipped for infrastructure service delivery to support existing industries and attract capital and investment from elsewhere. Public-private partnerships (PPPs) can be leveraged in order to assist governments with service delivery, but should be considered with caution, especially for governments that are unable to properly oversee service delivery by for-profit entities. Independent public sector authorities funded by user fees can also be used to finance infrastructural improvements (Glaeser and Xiong 2017).

For example, Chinese development in the last three decades has involved land value capture to convert rural land to urbanized land, while moving rural

Cities need to be properly equipped for infrastructure service delivery to support existing industries and attract capital and investment from elsewhere.

agricultural workers to more specialized and higher productivity manufacturing labour. This mass urbanization used land value capture mechanisms to lift half a billion individuals out of poverty and fund infrastructure to further develop urban areas as they grow (World Bank, Development Research Center of the State Council, the People's Republic of China 2014). This success is not due to densification or urbanization, but rather the infrastructural planning associated with this urbanization.

Lengthen the value chains and develop industries.

Cities may have a comparative advantage in the production of a particular good but may not be able to bring this good to the international market. For example, in Agona Swedru, a Ghana municipality, business owners produce agricultural products, but few can bring their goods to export markets due to poor linkages between the production, processing, financing and administration

components. Governments can encourage the lengthening of these value chains by actively working with businesses and industry groups as well as nonprofit organizations. Value chain governance and deliberate planning by both private associations and the public sector can identify individual needs of producers and provide financial and technical assistance to expand and develop individual industries. In the case of Agona Swedru, the development of a certification system would allow business owners to access markets.

The involvement of multinational corporations in the supply chains of SMEs can also be a means by which businesses can enter into global markets. Elsewhere in South Africa's Cape Town, the city funds individual promoters for industries of interest, including crafts and textiles. These promoters serve as conveners for individual artisans and businesses (World Bank Group 2015b).

Cities may have a comparative advantage in the production of a particular good but may not be able to bring this good to the international market.



Man going to market in India. © Ravnipixel / Envato Elements

1.3 Environmental sustainability

Environmental sustainability refers to the New Urban Agenda principle that Governments can achieve environmental sustainability “by promoting clean energy and sustainable use of land and resources in urban development, by protecting ecosystems and biodiversity, including adopting healthy lifestyles in harmony with nature, by promoting sustainable consumption and production patterns, by building urban resilience, by reducing disaster risks and by mitigating and adapting to climate change” - NUA 14. c.

The issue of environmental sustainability is present throughout the New Urban Agenda. The New Urban Agenda calls for the development of cities that “protect, conserve, restore and promote their ecosystems, water, natural habitats and biodiversity, minimize their environmental impact and change to sustainable consumption and production patterns” - **NUA 13. h**. It emphasizes the importance of environmental sustainability by promoting clean energy and sustainable use of land and resources, ecosystems and biodiversity protection, and sustainable consumption and production. The New Urban Agenda calls for building urban resilience by reducing disaster risk, mitigating climate change and adapting to its impacts - **NUA 14. c**.

SDG 11 establishes several environmental sustainability targets for creating inclusive, safe, resilient and sustainable urban settlements. Most broadly, **SDG 11** sets the intention to “reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management” - **SDG Target 11.6**. Regarding climate change

and resiliency, it sets a target for cities to adopt integrated mitigation and adaptation and disaster resilience plans - **SDG Target 11.B**. Lastly, **SDG 11** expresses an intention to “support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials” - **SDG Target 11.C**.

Cities are at the heart of environmental issues the world faces. Urban officials and policymakers manage land and environmental resources, both of which are essential to the long-term sustainability of human settlements and the beneficial linkages between the natural and built environment. Smart resource management, deliberate land-use planning and strict policies to preserve the environment can be determinants of public health, quality of life and social cohesion. In addition, cities both contribute to climate change and therefore can be effective instruments in curbing emissions, and at the same time are vulnerable to climate impacts and thus need to adapt.

Throughout the world, urban areas contain a high concentration of people and assets. They produce more than 80 per cent of global GDP and timely action to adapt to climate change impacts can have tremendous positive externalities. For example, in coastal cities, the cost of adaptation is one tenth the cost of the consequences if there is no action. In coastal cities, rising sea levels along with storms and other weather events could force hundreds of millions of people from their homes, with a total cost to coastal urban areas of more than \$1 trillion each year by 2050 (Global Center on Adaptation and WRI 2019). While mitigation actions aim at minimizing global warming by reducing greenhouse gas emissions, adaptation is a set of actions that fortify a city for the impacts of climate change.

This principle has three outstanding elements: a) Biodiversity and Ecosystem Conservation, b) Resilience and Adaptation to Climate Change and c) Climate Change Mitigation.

Urban officials and policymakers manage land and environmental resources, both of which are essential to the long-term sustainability of human settlements and the beneficial linkages between the natural and built environment.

1.3.1 Biodiversity and ecosystem conservation

Biodiversity and ecosystem conservation are essential considerations in sustainable urban development. The New Urban Agenda warns about unprecedented threats due to loss of biodiversity - **NUA 63**, and draws special attention to conserving and protecting biodiversity and urban ecosystems - **NUA 14. c**. It asks for “particular consideration to urban deltas, coastal areas and other environmentally sensitive areas, highlighting their importance as ecosystems’ providers of significant resources for transport, food security, economic prosperity, ecosystem services and resilience” - **NUA 68**. **SDG 11** speaks to ecosystem conservation through the lens of devoting resources to conserving natural heritage – “strengthen efforts to protect and safeguard the world’s cultural and natural heritage” - **SDG Target 11.4**.

The preservation of natural ecosystems and the services they provide are fundamentally linked to urban sprawl and land area expansion in cities. Researchers from Yale University’s Seto Lab found a number of ecologically rich “hot spots” threatened by the current expansion trajectory of cities around the world. Sprawling cities and the erosion and land degradation caused by this type of urbanization threatens many endangered and critically endangered species (Huang, McDonald and Seto 2018).

Biodiversity loss also has consequences for urban and peri-urban dwellers. The degradation of natural ecosystems can result in greater economic instability and environmental risk, especially for households already living in poverty and those living in peri-urban zones. Informal and unplanned urbanization can increase the risk of natural disasters, such as floods, landslides

The New Urban Agenda warns about unprecedented threats due to loss of biodiversity - NUA 63, and draws special attention to conserving and protecting biodiversity and urban ecosystems - NUA 14. c.

Figure 11: In Seoul, South Korea, the re-creation of Cheonggyecheon stream was an urban revitalization project that also triggered biodiversity and ecosystem conservation. The project created a pleasant urban environment with clean water and natural habitats. Various species of fish, birds and insects started to come back and the stream has helped cool down the temperature of nearby areas.



Diagram 8: Biodiversity and ecosystem conservation



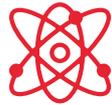
ENVIRONMENTAL SUSTAINABILITY BIODIVERSITY AND ECOSYSTEM CONSERVATION

PRINCIPLES



Urban development strategy

Biodiversity and ecosystem protection are essential elements of a sustainable urban development strategy.



Scientific analysis

Technical analysis and scientific studies are essential for developing a sound vision and goals for protecting biodiversity.



Stakeholders

Urban biodiversity planning should include stakeholder voices, especially those that are directly involved with the ecosystems of interest.



Multi-sector planning

For success, integrated solutions and multi-sector planning initiatives that integrate both the natural and built environment must be considered.



Conservation

Conserve natural areas and assets providing critical ecosystem services through land management and land-use planning.

ILLUSTRATIVE ACTIONS



Built environment

Introduce natural elements into plans for the built environment.



Ecosystem services

Collect data to catalog ecosystem services.



Peri-urban areas

Address issues of environmental degradation in peri-urban areas.



Land titles

Resolving land titling ambiguities and informal development.



Incentives

Develop incentives for stakeholders to comply with biodiversity & ecosystem preservation goals.



Environmental assessment

Require Strategic Environmental Assessment (SEA) for all major infrastructure and urban development projects.

and fires. The poorest populations living in urban peripheries away from public services and disaster mitigation resources will be most affected by these events (World Bank 2014b). As such, the following strategies should be considered by urban practitioners to preserve biodiversity and ecosystem services for both societal and ecological well-being.

 **Principles**

Biodiversity and ecosystem protection are essential elements of a sustainable urban development strategy. Developing overarching municipal biodiversity goals, which may relate to a larger national biodiversity strategy or National Biodiversity Strategy and Action Plan (NBSAP), as outlined by the Convention on Biological Diversity and the Aichi targets (see box 5), is a first step in protecting biodiversity. Policymakers should harmonize municipal agencies in order to meet goals and ensure biodiversity and the maintenance of forests and ecosystem services. This visioning process can also be conducted under the purview of a local planning framework. For example, Local Governments for Sustainability (ICLEI) proposes the development of a Local Biodiversity Strategy and Action Plan (LBSAP), which is a process that cities may follow to envision biodiversity goals and develop implementation strategies (Avlonitis and others 2012).

Technical analysis and scientific studies are essential for developing a sound vision and goals for protecting biodiversity. An ecosystem valuation process is needed to assist practitioners in taking stock of the ecological elements within a municipality. According to the Millennium Ecosystem Assessment (2005), ecosystems can be valued in multiple ways, including their direct provisioning value (economic and direct use value), their regulatory value (adaptation and disaster resiliency value), cultural value and supporting value (value for serving a niche in a larger ecological system). There are multiple methods by which ecosystem valuation services can be conducted. Guidance can be found via the UN Environment Programme (UNEP 2016). Such analyses can also

Box 5: The Aichi Targets

- ➔ Strategic Goal A:** Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
- ➔ Strategic Goal B:** Reduce the direct pressures on biodiversity and promote sustainable use
- ➔ Strategic Goal C:** To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity
- ➔ Strategic Goal D:** Enhance the benefits to all from biodiversity and ecosystem services
- ➔ Strategic Goal E:** Enhance implementation through participatory planning, knowledge management and capacity building

Source: Convention on Biological Diversity

guide planning processes by allowing municipalities to identify important ecological resources and their function, while also forming the basis for policy and programme design. Valuation can be integrated into longer term land-use planning strategies and development review processes.

Urban biodiversity planning should include stakeholder voices, especially those that are directly involved with the ecosystems of interest. Policymakers should form stakeholder working groups to ensure that stakeholders conducting formal and informal activity in peri-urban areas understand the importance of biodiversity and the ways in which stakeholder actions positively and negatively affect ecosystem services (Borelli and others 2016). Peri-urban populations are especially vulnerable to environmental hazards, because they lack access to built environment amenities. Engaging these populations can also build social resilience.

There are multiple methods by which ecosystem valuation services can be conducted. Guidance can be found via the UN Environment Programme (UNEP 2016).

For success, integrated solutions and multisector planning initiatives that integrate both the natural and built environment must be considered.

Ecological management can also be accompanied by strategies to improve quality of life, housing stability or social resilience. For example, a reforestation effort might be combined with a housing retrofit programme to serve a larger goal of coastal resilience (UNDP Green Climate Fund 2017).

Conserve natural areas and assets providing critical ecosystem services through land management and land-use planning.

Urban sprawl and lack of land-use planning has resulted in the destruction of habitats and wetlands in the outskirts of many coastal cities. Wetlands are vital for protecting the environment and public health; they act as buffers, filter pollution, recharge groundwater aquifers, absorb floodwaters and protect coasts from floods, and provide habitat for plant and animal species. A World Bank study, in collaboration with the Sri Lankan Government, has revealed that restoring and rehabilitating current wetlands could help absorb up to 40 per cent of the water during flood events (World Bank Group 2018). Cities should make it a goal to conserve their urban and peri-urban wetlands and develop comprehensive strategies for their protection.



Illustrative Actions

Introduce natural elements into plans for the built environment.

Landscape ecology and green infrastructure methods of planning and management are essential strategies for sustainable water systems management. UNEP provides a number of strategies that may be applied within the built environment, including green spaces, wetland reconstruction and riparian buffers. Designing with nature will especially be important in disaster-prone areas, to mitigate the effects of flooding and extreme weather events (UNEP 2014). Design standards, incentives and pilot projects can assist in this effort to mainstream “designing with nature”.

Collect data to catalog ecosystem services.

Conduct an ecosystem service mapping process in order to develop a comprehensive inventory of

ecosystem services and forestry elements within cities. Utilize these data in neighbourhood and city-level planning processes; determine if there are policies or zoning codes that can rely on these data to assist in decision-making and spatial planning (Borelli and others 2016).

Address issues of environmental degradation in peri-urban areas.

Buffer zones and green corridors within peri-urban areas can help stabilize threatened ecosystems and restore ecological services (UNEP 2014). The conservation of existing natural resources can also encourage densification and infill, which is beneficial for resource provision and both climate adaptation and mitigation (World Bank 2010).

Resolve land titling ambiguities and informal development.

Poor, informal peri-urban areas lack access to public services and clear titles to land. As such, urbanization and expansion occur in a way that worsens quality of life, makes dwellers vulnerable to environmental hazards and the effects of degradation and does not encourage densification or environmental sustainability. The protection of biodiversity and ecological resources is related to the formalization of services and land tenure, as well as the meaningful inclusion of informal settlements into larger planning processes (Torres 2008).

Develop incentives for stakeholders to comply with biodiversity and ecosystem preservation goals.

Borelli and others (2016) suggest subsidies, tax abatement, ordinances or credit incentives for landlords or practitioners who maintain or contribute to urban forests, green spaces and riparian corridors (Torres 2008). Programmatic incentives or interventions for peri-urban populations – such as wetland restoration, shoreline protection or reforestation – can also serve larger ecological goals while involving community members and their livelihoods in planning processes.

Require a Strategic Environmental Assessment (SEA) for all major infrastructure and urban development projects.

SEA is considered a key tool to integrate environmental and social considerations into policies, plans and

Buffer zones and green corridors within peri-urban areas can help stabilize threatened ecosystems and restore ecological services (UNEP 2014).

programmes. SEA is a group of approaches that lie on a continuum. While one end focuses on impact analysis, the other end is fixed on institutional assessment. SEA is developed to integrate environmental concerns across three levels of strategic decision-making: plan, programme and policy (World Bank 2013). Some countries have developed their own versions of SEA. In the United States, the National Environmental Policy Act (NEPA) requires all federally funded projects to go through an environmental impact assessment and, if significant impacts are found, to prepare an environmental impact statement that provides alternatives that are less damaging to the environment. Many countries legally require similar environmental review procedures for major development projects. However, rather than simply acting as an inventorying mechanism, SEA processes should require alternative development schemes if adverse impacts are identified. City governments should integrate environmental assessments with land use planning and master planning.

1.3.2 Resilience and adaptation to climate change

The New Urban Agenda mentions both adaptation and urban resilience multiple times. On adaptation, it asks for commitment to “supporting the medium- to long-term adaptation planning process, as well as city-level assessments of climate vulnerability and impact, to inform adaptation plans, policies, programmes and actions that build the resilience of urban inhabitants, including through the use of ecosystem-based adaptation” - **NUA 80**.

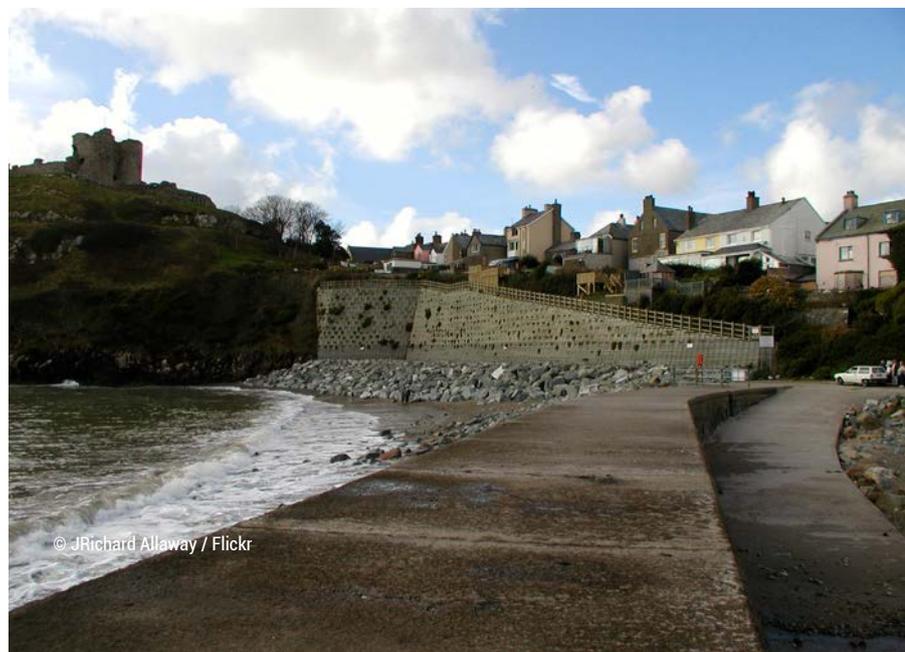
Adaptation is defined as the “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (UNFCCC). Resilience can be defined as the “ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions” (UNISDR and WMO 2012). While adaptation refers

to how current practices must change to adjust to changing conditions, resilience refers to the summative social, economic and environmental practices that allow for an urban area to weather the effects of changing conditions, including the effects of climate change. It includes the social and economic sectors as well as adaptation and disaster risk reduction. The New Urban Agenda commits to “improving the resilience of cities to disasters and climate change, including floods, drought risks and heat waves, to improving food security and nutrition, physical and mental health, and household and ambient air quality, to reducing noise and promoting attractive and liveable cities, human settlements and urban landscapes and to prioritizing the conservation of endemic species” - **NUA 67**.

The New Urban Agenda commits to following the Sendai Framework for Disaster Risk Reduction 2015–2030. This framework was the first major agreement of the post-2015 development agenda and provides Member States with concrete actions to protect development gains from the risk of disaster (UNDRR 2019b). The framework prioritizes understanding disaster risk, developing capacity to address disaster preparedness and recovery and investing in adaptation measures to reduce disaster risk and build resiliency (UNDRR 2019b). Economic losses worldwide from disasters were \$140 billion in 2015; (UNDRR 2019a) climate change will only

Adaptation is defined as the “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (UNFCCC).

Figure 12: Coastal erosion management, Criccieth, North Wales, UK



© JRichard Allaway / Flickr

increase the frequency and intensity of natural disasters in addition to having detrimental effects on everyday quality of life. Risks will especially be compounded for vulnerable populations with limited resources for both preparation and recovery. Given these predictions, governments will need to adapt to a changing climate and develop contingency plans for disasters and “new normals” regarding living conditions, infrastructural performance, sectoral planning and resource management.

SDG 11 also articulates a target around supporting cities in adopting adaptation, mitigation, resilience and disaster relief plans, as well as adherence to the Sendai Framework: “Substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels” - **SDG Target 11.B.**

SDG 11 also articulates a target around supporting cities in adopting adaptation, mitigation, resilience and disaster relief plans, as well as adherence to the Sendai Framework.

Figure 13: In Ahmedabad, India, the city built a wall along the river Sabarmati to prevent floods and protect the environment from degradation. This wall was self-financed creatively by training the width of the existing river to 275 meters in order to reclaim approximately 200 hectares of riverfront land. According to the proposal, 20 percent of the reclaimed land was to be sold to finance the entire cost of the project while the rest was to be used for new streets, parks, and development of other civic amenities. A key feature of this proposal was a continuous promenade along the east and west banks of the river.



Diagram 9: Resilience and adaptation to climate change



ENVIRONMENTAL SUSTAINABILITY RESILIENCE AND ADAPTATION TO CLIMATE CHANGE

PRINCIPLES



Risk reduction

Develop policies for risk reduction to address sectoral and financial risks for urban resilience.



Develop scenarios

Calibrate policies around well-characterized and explicated risks, with agreement between stakeholders.



Sector-specific planning

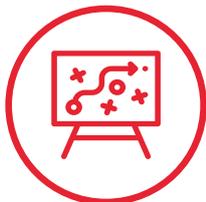
Risks should be considered in the context of specific industries and sectors.



Institutional capacity

Policies and institutions should have disaster response embedded in governance practices; disaster planning and recovery practices should be done so that they add to civic and institutional capacity.

ILLUSTRATIVE ACTIONS



Resilience strategy

Develop a citywide resilience strategy.



Land use

Develop land use policies for climate resilience.



Hazard risk

Develop specific policy actions for each category of hazard risk.



Adaptation funding

Understand adaptation funding as an investment and explore diverse streams of support available.



Recovery funding

Set up recovery funds prior to the emergence of any new risk.



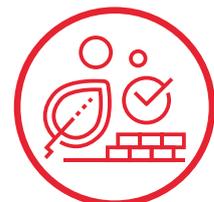
Early warning systems

Develop warning and information systems that are easily accessible to all members of the public.



Institutions

Prepare existing institutions for disasters.



Built environment

Improve the built environment and housing stock.



Principles

Sustainable urban development policies should be developed directly considering risk reduction, addressing sectoral and financial risks for greater urban resilience. Economic activities relate to a city's ability to adapt and recover. It is essential to integrate economic development and quality of life measures into adaptation planning strategies. These strategies are especially important for the urban poor. Prioritizing adaptation strategies with economic co-benefits can improve conditions for vulnerable populations.

Effective policies are calibrated around well-characterized and explicated risks, with agreement among stakeholders. Risks should be considered in the context of multiple scenarios. Understand the risks and develop scenarios to calibrate disaster and climate adaptation plans according to municipal risks. Conduct modeling to determine the health and economic impacts of events such as drought, floods, hurricanes, heat waves, wildfires and other climate disasters. Develop a variety of scenarios and develop responses to each. There are multiple frameworks that can guide risk assessment. Folorunsho and others (2009), in a framework produced for the World Bank, describe a three-step process, where cities first identify climate hazards, then identify vulnerabilities, and finally determine adaptive capacities for addressing risks to vulnerable populations, infrastructure or sectors (Folorunsho and others 2009).

Risks should be considered in the context of specific industries and sectors. Capital planning and financing processes should integrate updated climate predictions into planning processes. For example, changes in seasonal norms for the agricultural sector will require adaptive changes. Extreme heat and storms will require more resilient energy infrastructure and electrical grids. While not all of these changes can be addressed by urban governments, environment standards that are resilient to climate change, such as building and design standards, are the purview of cities. Cities should find ways to integrate climate scenarios and more localized impacts such as urban heat island effects into these types of planning decisions, coordinating with regional and national governments. OECD recommends Strategic Environmental Assessment and other analytic and participatory policy analysis techniques to systematically evaluate the potential impacts of a changing climate within individual sectors and to make planning decisions (OECD 2010); building performance standards such as Leadership in Energy and Environmental Design (LEED) have started to integrate how effectively a building is able to reduce heat islands to minimize impacts on microclimates and human habitats. LEED is the most widely used green building rating system in the world. It is available for all building types, providing a framework for healthy, highly efficient and cost-saving green buildings (USGBC). Urban Land Institute also has published a resource that describes how to quantitatively evaluate infrastructural risk to critical assets (Urban Land Institute 2015).

Cities should find ways to integrate climate scenarios and more localized impacts such as urban heat island effects into these types of planning decisions, coordinating with regional and national governments.

Policies and institutions should have disaster response embedded in governance practices; disaster planning and recovery practices should be done such that they add to civic and institutional capacity.

- **Governments should have embedded leadership and institutional capacity for disaster response.** Develop leaders within individual city agencies and work to develop disaster response plans on the municipal level. Government leaders in this work area should ensure that in their purview as public servants they are able to properly engage with neighbourhoods and community groups as part of leadership and expertise development.
- **Disaster response and recovery are contingent on community knowledge and engagement.** Rely on formal and informal networks of stakeholders to develop greater social resilience. Make use of digital media platforms for risk communication and public engagement purposes. Ensure that the most vulnerable members of the population are engaged in adaptive measures and activities. For example, women and children in developing nations may be more adversely affected by extreme weather events and economic destabilization. Structuring and funding adaptive efforts around vulnerable groups can also be in service of larger social progress (OECD 2010). Identify existing social vulnerabilities and understand how they are clustered spatially within the municipality. Plan disaster preparation efforts to prepare vulnerable populations for future risk. For example, urban areas with poorer air quality and higher rates of respiratory illness will be more vulnerable to extreme temperatures (City of Los Angeles 2019).

Figure 14: Hurricane Katrina flooded New Orleans, USA (before and after). These two images from NASA's Terra satellite show the affected areas. The top image is from 2000 and the bottom image is from 2005. The flooded parts of the city that are still under water appear dark blue and areas that have dried out appear light blue gray. On the left side of the image, the failed 17th Street canal marks a sharp boundary between flooded city to the east and dry land to the west. The images cover an area of 10.4 x 7.1 kilometres.



© NASA / JPL



Illustrative Actions

Develop a citywide resiliency strategy.

Mainstreamed by 100 Resilient Cities, a City Resilience Strategy is a six-to-nine-month process during which a city develops a better understanding of challenges faced in response to economic, environmental and social risks. Through this process, the city reviews its ability to address those challenges and provides a platform for bringing together people, projects and priorities to collectively act on resilience challenges. The outcome is not necessarily a master plan or a legally binding document, but rather a vehicle for kick-starting resiliency efforts. Through the programme, cities around the world, from New York and Medellín to Melbourne and Rotterdam, have produced their first-ever resilience strategies (100 Resilient Cities 2016). The next steps to make such strategy documents more tangible is to employ dedicated staff for the preparation and implementation of identified priority actions and commit funding to ensure longevity of planning actions for resiliency.

Develop land-use policies for climate resiliency.

Require lower density development in potential hazard zones. Zoning and overlay zones can specify resiliency requirements for building or restrict new development altogether. For areas with reduced residential and commercial development, fund the development of green space, forestry and natural buffers to protect more highly developed areas when relevant to the hazard. Building codes and ordinances can shape new development to reduce risk in disaster-prone areas (Grannis 2011).

Develop specific policy actions for each category of hazard risk. The list below provides suggested planning and land-use tools that may be helpful for various hazards.

For flood zones (via Grannis 2011):

- **Local adaptation plans and planning processes to engage community members living within flood hazard zones.** Plans that are developed collaboratively can strengthen stakeholder buy-in and aid in collective decision-making.
- **Development restrictions and building code specifications.** Municipalities can restrict development in potential flood zone areas, while also specifying resilience measures be included for new buildings in these areas.
- **Rebuilding restrictions.** Municipalities (or national Governments administering recovery funding) can specify hazardous areas where funding will not be allocated towards rebuilding.
- **Permitting processes requiring or incentivizing grey and green infrastructure.** Cities can require that within hazard prone areas potential developers implement green infrastructure or storm hardening projects.
- **Transfer development rights and public buyouts.**

For areas subject to extreme heat (via Hoverter 2012):

- **Cool roofs, green roofs and pavements.** Cities can incentivize the installation of cool and green roofs by providing rebates or tax credits for new development. Expedited permitting and allowances for denser development can also be incentives deployed in planning processes. Cities can also use ordinances and regulations to affect new development. Create demonstration projects on municipally owned buildings. Consider low- and moderate-income households or vulnerable populations in providing incentives to building owners or developers, so that building improvements and heat mitigating building practices are not just provided to higher income neighbourhoods.

A City Resilience Strategy is a six-to-nine-month process during which a city develops a better understanding of challenges faced in response to economic, environmental and social risks.

- **Urban forestry.** Urban forests and green spaces can cool cities significantly. These can be funded via bonds, taxes or tax-deductible donations. Municipalities can also mandate requirements for tree planting for new development. They may have existing landscaping standards that may be modified towards heat mitigation (Hoverter 2012).

For drought and resource management issues (via World Bank 2011):

- **Stormwater and rainwater capture systems city-wide.** Better management of stormwater and rainwater harvesting systems installed around the municipality can help conserve water resources.
- **Water conservation and reuse systems.** Develop water conservation measures and reuse.
- **Groundwater drawing management.** Develop regulatory structures to manage drawing of groundwater, especially for industrial and agricultural purposes.
- **Demand management.** Develop demand management systems for water systems to avoid shortages.
- **Municipal level food storage systems.** Develop better food storage systems on a municipal level so that agricultural problems caused by drought do not result in food shortages.

Understand adaptation funding as an investment and explore the diverse streams of support available. Develop funding for adaptation measures at the municipal level. For developing countries, the examples below can guide development of an investment strategy:

- **Multilateral funding** sources are available for individual initiatives and projects. Examples include the Global Climate Fund, the Global Environment Fund and the Least Developed Countries Fund. Approximately \$168 million in multilateral climate-related funding was provided between 2010 and 2014.

- Regarding **borrowing and credit**, programmes such as the City Creditworthiness Academy have also allowed municipalities to become direct borrowers, versus borrowing through national Governments or lacking access to credit entirely (ODI 2015). For cities that do have access to credit, in addition to municipal bonds, categorized or designated green bonds may be of interest to socially minded investors (Herst and Levy 2018).

- **Taxes and surcharges** on real estate development at the municipal level may also be used to fund adaptation measures. For example, surcharges on property taxes are used to fund affordable housing initiatives; similar policies may be applicable or of interest for municipal adaptation measures (Herst and Levy 2018). Surcharges on insurance policies could also fund resilience measures, where the contribution by property reflects its overall vulnerability and climate risk (Herst and Levy 2018).
- **Stormwater fees or special district fees/resilience charges** can be implemented in order to fund green infrastructure improvements, flood barriers and other mechanisms. Any fund established through these financing sources would also need to have transparent terms of allocation and governance so that adaptation is funded equitably and through a clear process.
- It may be possible to harness **private-sector funding** or encourage protective infrastructural investment via incentives such as tax credits, development incentives, abatements or zoning code and land use regulation.

Box 6 presents the participatory resilience planning process implemented since 2010 in Madagascar, Malawi, Mozambique and Comoros.

Set up recovery funds prior to the emergence of any new risk. In addition, financial planning for adaptation, contingency plans and funds should be established for disaster recovery. Develop a disaster recovery fund and fund dissemination mechanisms. The World Bank (2018) provides detailed

Better management of stormwater and rainwater harvesting systems installed around the municipality can help conserve water resources.

guidance on the types of funds that are possible and where financing may be possible. Typically, for municipalities, reliance on regional and central government contingency funds may be necessary following large-scale disaster events (Pigato 2018). Utilize principles of “Build Back Better”, where recovery and rehabilitation efforts can be structured to build adaptive capacity in vulnerable areas (UNDRR 2017).

Develop warning and information systems

that are easily accessible to all members of the public to disseminate information about flooding, heatwaves, and so on (Field and others 2012). Build social resiliency and provide the public access to emergency institutions and services that enable communication and social cohesion. Allow members of the public to develop their own disaster management plans on a neighbourhood level or develop their own networks and information technologies.

Prepare existing institutions for disasters.

Emergency services and other existing public service providers should be prepared for extreme weather and heat. Note that it will also be important to get other sectors involved to assist vulnerable populations. Social workers, home health aides and individuals that interact with vulnerable members of the public should also be involved in disaster preparedness.

Improve the built environment and housing stock.

Improve housing stock to better withstand natural disasters and extreme weather. Infrastructure planning processes that simultaneously consider public health in addition to economic risk can also be helpful in ensuring the protection of vulnerable populations. Cool roofs, green roofs, cool pavements and forestry initiatives can reduce the impact of extreme heat. Flood protection infrastructure and investment in green infrastructure can provide protection against storms and coastal flooding. Utilize incentives (such as tax credit programmes) to assist individual homeowners with retrofits and building improvements (Grannis 2011).

Box 6: Participatory Resilience Planning– Madagascar, Malawi, Mozambique and Comoros (2010-ongoing)

Challenges In southern Africa, the combination of high vulnerability among the region’s large and rapidly growing urban poor populations and the acute impact of increasingly extreme weather events due to climate change has created an urgent need for response. Countries in the region are affected by several hazards that have led to disasters including droughts, floods and cyclones. In their aftermath, thousands are left injured, without shelter, displaced, food insecure, and without access to clean water and medicine. The deepest and longest lasting impacts are felt by those most vulnerable.

Action Four countries that experience severe effects of the same transboundary hazards, -Madagascar, Malawi, Mozambique and the Union of Comoros-, joined forces with UN-Habitat to establish a Technical Centre for Disaster Risk Management, Sustainability and Urban Resilience (DiMSUR). The Center developed a tool, the City Resilience Action Planning tool, or CityRAP, to facilitate participatory resilience planning at the city level. The methodology of CityRAP brings together municipal authorities, urban stakeholders and communities. They jointly conduct a series of activities, through four phases, that includes a crash course on urban resilience, data collection and analysis, participatory mapping, focus group discussions and prioritization exercises that lead to identifying the most important actions the city needs to take to build its resilience to disasters. Amongst the first cities to pilot this tool were Morondava, Zomba, Chokwe and Moroni. Using the tool, the four cities identified their resilience needs, such as reinforcing drainage systems, ecosystem restoration, better management of solid waste and establishing early warning systems and safe havens to protect lives and the city’s assets.

Impact The four countries and cities, with the support of DiMSUR and UN-Habitat, combined the outcomes of the CityRAP process into a single joint proposal and successfully raised \$14 million to implement all of the resilience building needs prioritized in each city, as well as to supplement these with capacity building materials and tools for promoting urban climate adaptation nationally, and for regional knowledge and experience sharing as well. Implementation has kicked off, and it is expected that by 2024 there will be 23 resilient infrastructure interventions completed in the cities, making those cities far more resilient to disasters and preventing massive loss of lives and livelihoods. Additionally, the experiences in the four cities has helped to further develop the CityRAP tool, which since 2016 has been implemented in a total of 34 locations in 12 countries across Africa.

Source: UN-Habitat

1.3.3 Climate change mitigation

Cities are the core of global climate change mitigation and strategic low-carbon development. Cities consume two thirds of the world's energy and a significant portion of global CO₂ emissions. While cities are growing at an unprecedented rate, it is important to keep the urban footprint minimal, so that cities consume fewer resources, and be equipped with tools to mitigate the negative impacts of climate change and global warming.

To this end, the New Urban Agenda recognizes the importance of cities as climate change mitigation implementers: "We commit ourselves to promoting international, national, subnational and local climate action, including climate change adaptation and mitigation, and to supporting the efforts of cities and human settlements, their inhabitants and all local stakeholders as important implementers" - **NUA 79**.

The New Urban Agenda also commits to integrating climate change mitigation considerations "into age- and gender-responsive urban and territorial development and planning processes" - **NUA 101** and to supporting access to funding sources for climate change mitigation and adaptation "including the Green Climate Fund, the Global Environment Facility, the Adaptation Fund and the Climate Investment Funds, among others" - **NUA 143**. This section presents tools and policies to mitigate these impacts while also encouraging development and economic empowerment for vulnerable and disadvantaged urban populations.



Principles

A vision based on benchmarks and clear targets is essential to plan emissions reductions. Cities that seek to achieve emissions reduction goals should establish benchmarks and target dates by which initiatives should be achieved. The baseline for such a planning process can be a comprehensive emissions inventory, in addition to demographic predictions that can serve as a baseline for potential growth. Guides on how to prepare a municipal greenhouse gas (GHG) emissions assessment are available through various institutions. These baseline assessments are critical for long-term mitigation planning. Assessments and goal setting should also be aligned with national or regional goals for emissions reductions (World Resources Institute, C40 Cities and ICLEI 2014).

Economic development and worker empowerment are important factors in conducting mitigation activities, especially in economically depressed or developing cities. Mitigation and emissions reductions are important in their own right but are also opportunities to create jobs and vocational training, improve housing stock and improve access to transportation and public services (City of Los Angeles 2019).

Integrated solutions are the most effective. Many mitigation and emissions reduction strategies not only relate to the deployment of technology, but also to urban form and spatial planning. For example, the development of public transportation systems relies on a supportive, transit oriented urban form as well as densified housing stock.

Decisions regarding energy and infrastructure development in cities are long-lived and have long-term impacts on emissions reduction targets. Cities that are already developed follow the nodes of existing transportation infrastructure. Developed sprawling cities find it difficult to densify and implement transit oriented development. In the developing world, cities that are still in the process of planning and development should develop

Cities consume two thirds of the world's energy and a significant portion of global CO₂ emissions. While cities are growing at an unprecedented rate, it is important to keep the urban footprint minimal, so that cities consume fewer resources

Diagram 10: Climate change mitigation



ENVIRONMENTAL SUSTAINABILITY CLIMATE CHANGE MITIGATION

PRINCIPLES



Vision

A vision or an envisioned path towards mitigation is essential to plan reduction activities.



Worker empowerment

Economic development and worker empowerment are important factors in conducting mitigation activities, especially in economically depressed or developing cities.



Integrated solutions

Integrated solutions are the most effective.



Long-term planning

Decisions regarding energy and infrastructure development in cities are long-lived and have long-term impacts on emissions reduction targets.

ILLUSTRATIVE ACTIONS



Integrated land use planning

Engage in integrated land use planning and densification to encourage low-emission transportation use.



Renewable energy

Develop community-based renewable energy systems.



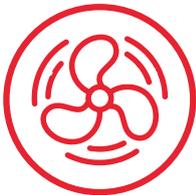
Financial mechanism

Develop sources of financing for mitigation.



Finance retrofits

Develop financial mechanism for home owners and businesses to retrofit buildings, especially those located in low-income communities.



Cooling

Invest in built environment improvements for cooling.



Ordinances

Develop ordinances and mandates for high-emission buildings and new development.



Public procurement

Ensure that public procurement and public-sector capital investments are geared towards low-emissions technology.



Circular economy

Integrate circular economy, sustainable waste management and material reuse principles into urban waste disposal and metabolic systems.

visions for the spatial characteristics of the urban fabric. Similarly, infrastructural investments are often made for the long-term. Investment in energy infrastructure locks cities into a mode of energy generation or distribution. As such, planning and investment must be forward-looking (Edenhofer and others 2011).

 **Illustrative Actions**

Engage in integrated land-use planning and densification to encourage low-emission transportation use. Investments in transportation should be coupled with integrated land-use planning that allows for densification and the promotion of walking, cycling and using public transportation. Low- or zero-carbon technologies for motor vehicles, including fuel cell electric and

electric vehicles should also be considered carefully for their long-term land-use implications (Greater London Authority 2018). For developing cities, this is especially critical, as development patterns may be “locked in” for decades to come based on long-run investments in infrastructure. Create policies that promote densification and greater reliance on public transportation and incentivize the development of housing within transit corridors (Edenhofer and others 2011).

Develop community-based energy systems to deploy renewable energy (Edenhofer and others 2011). Aging electrical infrastructure and the heightened threat of disasters and extreme weather necessitates community governance and involvement in energy planning, especially for communities and areas vulnerable to natural disasters.

Investments in transportation should be coupled with integrated land-use planning that allows for densification and the promotion of walking, cycling and using public transportation.

Figure 15: Baltimore, USA. The Inner Harbor Water Wheel combines old and new technology to harness the power of water and sunlight to collect litter and debris flowing down the Jones Falls River. The river’s current provides power to turn the water wheel, which lifts trash and debris from the water and deposits it into a dumpster barge. When there is not enough water current, a solar panel array provides additional power to keep the machine running. When the dumpster is full, it is towed away by boat, and a new dumpster is put in place.



- **Develop capacity-building authorities such as neighbourhood resilience hubs and municipal technical assistance programmes** to allow for distributed energy investment and community-led management. These authorities will allow for individual communities to access resources, while planning for future extreme energy events. This is a means by which renewable energy can be deployed, but also managed and governed democratically.
- **Invest in community-based microgrids and distributed energy.** Especially in disaster prone areas, these can serve as an adaptation strategy in addition to reducing aggregate emissions.

Develop sources of financing for mitigation.

Multilateral funds exist for developing countries to fund mitigation projects. Similarly, bilateral funding and export credits can also assist developing countries. Green revolving funds, where investments in renewable energy and energy efficiency ultimately save energy costs can be reinvested into new capital investments. Green bonds and municipal financing can also be used for investment, as well as funding from PPPs (Corfee-Morlot and Larsen 2009). Creating institutions to administer public funds around mitigation and to research and develop funding from other sources can be helpful for municipalities and regional governments.

Develop financial mechanisms for individual homeowners and businesses to retrofit buildings, especially those located in low-income communities. Tax credits, subsidies and other incentives can assist homeowners and businesses in applying emissions-reducing technology such as energy efficiency retrofits, renewables deployment and more efficient heating and cooling systems. Develop public education and marketing around subsidy and retrofit programmes. Utilities can also participate in offering energy audits and similar

subsidized retrofits. These incentives can also be deployed via ordinances and zoning requirements. Deploy retrofits in low-income and disadvantaged neighbourhoods. Low income populations are more likely to live in poor housing stock and face energy cost burdens. As such, it is important that retrofits and energy efficiency measures be deployed in areas with aging building stock.

Invest in built environment improvements for cooling. Urban forest canopies, green roofs and other natural elements can reduce the energy burden and resultant emissions in neighbourhoods that currently lack these amenities. In addition to improving quality of life, reducing the urban heat island effect through these practices can result in lower heating and cooling costs.

Develop ordinances and mandates for high-emissions buildings and new development.

Performance standards for new buildings will reduce emissions from new development. Ordinances can also focus on larger buildings in order to further reduce the impact of these structures.

Ensure that public procurement strategies and public sector capital investment are geared towards low-emissions technology. Cities should ensure that capital purchases that they make for public use such as vehicles, building construction and renovation, transportation infrastructure, and heating and cooling systems are aligned with mitigation strategies and plans.

Integrate principles of the circular economy, sustainable waste management and materials reuse into urban waste disposal and metabolic systems. Emissions also result from waste disposal, so finding sustainable methods of disposal and energy generation are of particular importance. Cities should consider waste to energy technologies for disposal.

Urban forest canopies, green roofs and other natural elements can reduce the energy burden and resultant emissions in neighbourhoods that currently lack these amenities.

1.4 Spatial sustainability

This handbook includes “spatial sustainability” as a fourth Dimension that builds on the three principles: leave no one behind (social sustainability), ensure sustainable and inclusive urban economies (economic sustainability) and ensure environmental sustainability. Spatial sustainability, as a concept, suggests that the spatial conditions of a city can enhance its power to generate social, economic and environmental value and well-being. Governments can achieve spatial sustainability by guiding the physical form of urban environments to create equitable access to jobs, housing and social interactions; enable agglomeration economies and encourage sustainable relationships to ecosystems and natural habitats. The physical form of a city, which is the result of intentional planning and development, is critical to urban social, economic and environmental well-being.

The New Urban Agenda encourages “spatial development strategies that take into account, as appropriate, the need to guide urban extension, prioritizing urban renewal by planning for the provision of accessible and well-connected infrastructure and services, sustainable population densities and compact design and integration of new neighbourhoods into the urban fabric, preventing urban sprawl and marginalization” - **NUA 52**. It mentions the importance of adequate

spatial and territorial planning that integrates “water resources planning and management, urban-rural continuum on the local and territorial scales and including the participation of relevant stakeholders and communities” - **NUA 72**.

Furthermore, **SDG 11** includes a number of spatial sustainability goals, including spatial equity in transit, access to green and public spaces, and well-planned links between urban, peri-urban and rural areas. In regard to transit, it encourages the provision of access to “safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons” - **SDG 11 Target 11.2**. **SDG 11** articulates an intention to “provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities” - **SDG 11 Target 11.7**. It mentions the importance of “positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning” - **SDG 11 Target 11.A**.

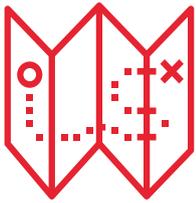
On spatial development of cities, the New Urban Agenda refers to the International Guidelines on Urban and Territorial Planning, approved by the Governing Council of UN-Habitat in 2015 - **NUA 93**. Based on this document of UN-Habitat (2015), adequate spatial development can help cities develop sustained economic growth, maintain sustainable environments and enhance social development.

Satellite imagery captures cities and towns as they expand around the world. Large urban settlements are set into the land and visible from far above, indicative of their scale and density, as well as the livelihoods they sustain. Such images are a testament to mass urbanization occurring in real time.

Spatial inequalities can also be observed. In South Africa, crowded and irregularly arranged

On spatial development of cities, the New Urban Agenda refers to the International Guidelines on Urban and Territorial Planning, approved by the Governing Council of UN-Habitat in 2015 - NUA 93.

Diagram 11: Spatial sustainability



SPATIAL SUSTAINABILITY



Globally, cities are expanding at a faster rate rather than urban population.

1.2
growth rate

of urban populations (1990-2015)

1.8 growth rate
of urban extents (1990-2015).



80% of major South Asian cities face flood risk.

450
million

new urban residents will be added to cities in Africa in the next 20 years.

Source: Urban expansion program at New York university, UN Habitat and the Lincoln institute of land policy,2006, Atlas of urban expansion.

PRINCIPLES



Growth management

Limit and allow for expansion when appropriate.



Connectivity and access

While densification and infill may increase agglomeration, connectivity and access to services are also key.



Affordable housing

Housing and the provision of affordable housing must be key components of integrated spatial planning efforts.

ILLUSTRATIVE ACTIONS



Urban growth boundary

Develop a dynamic urban growth boundary.



Polycentric form

Gradually move from monocentric urban form to polycentric model.



Urban regeneration

Consider policies to encourage infill and urban regeneration.

homes stack up next to each other in a Cape Town township, while a nearby suburb is green with rolling hills. Mumbai's Dharavi informal settlement from above is a collection of blue tarps and concrete dwellings; just across the river is one of the city's richest commercial districts, containing modern skyscrapers, greenery and modern infrastructure. These dramatic breaks in landscapes are indicative of more than just changes in urban form, but rather stark differences in the ability of residents to access essential services, housing and employment.

Spatial sustainability relates to the long-term ability of cities to successfully plan for their increased urbanization and growth. However, beyond descriptors of the built environment, spatial sustainability is fundamentally about people and access. It is imperative that all individuals living within a city, regardless of income level or identity, can access housing, centres of employment and essential public services. These public services – including roads, transportation networks, schools, hospitals, water and sanitation – should be equitably distributed and of equal quality for all residents. It follows that the outcomes associated with these services – including health, economic well-being, upward mobility and overall quality of life – are linked to space and planning policies (Wilson 2006).

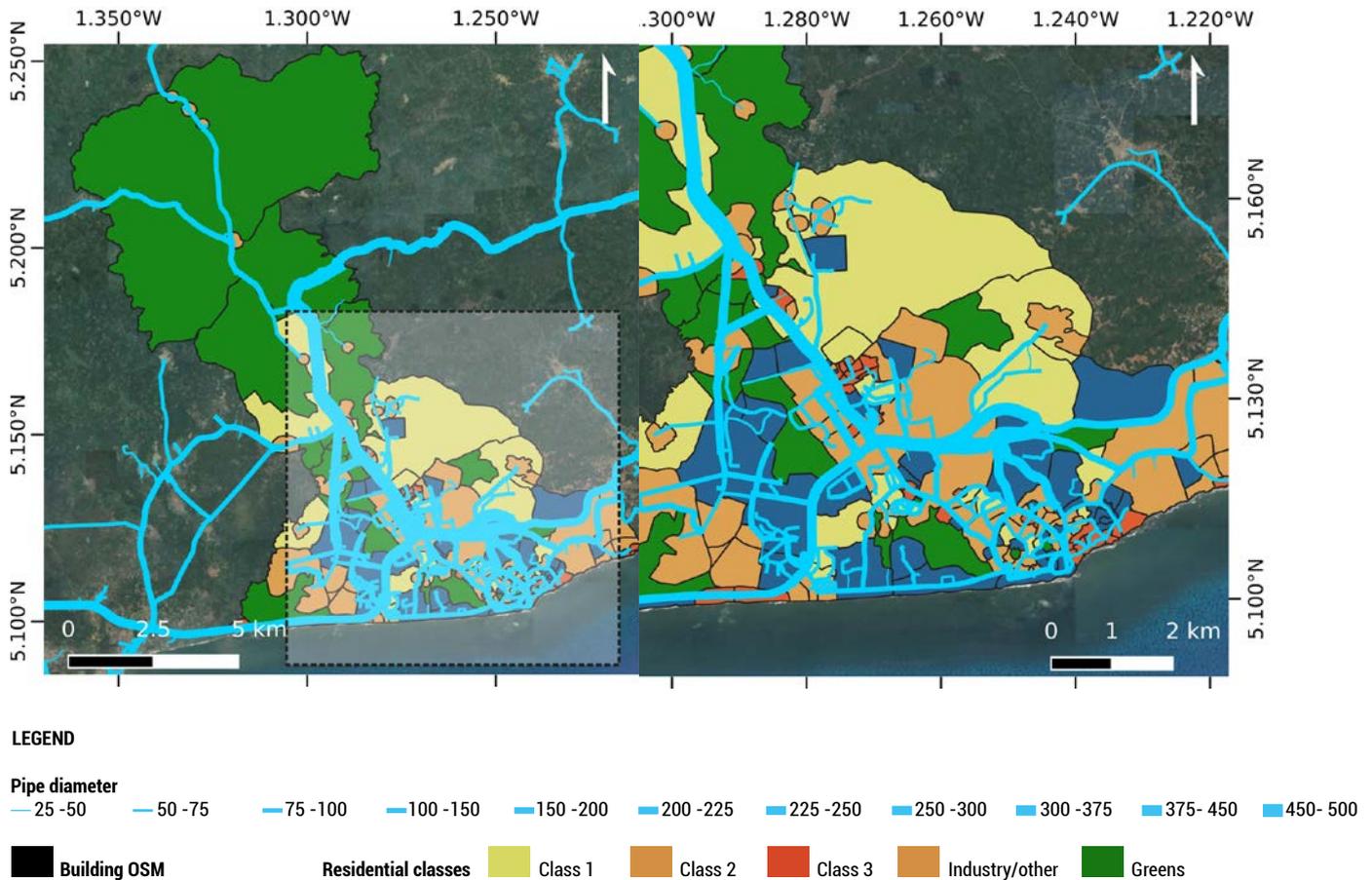
For example, in the developed world, disparities of access exist within prosperous cities and regions. Access to employment centres, education and essential public services can differ radically between individual neighbourhoods within cities and regions even in the developed world; for example, in Paris, all other factors held equal, neighbourhood is an important factor in the likelihood of finding employment (Korsu and Wenglenski 2010). These disparities have their roots in longer planning histories. In the United States, discriminatory lending practices, disinvestment and suburbanization have produced extreme disparities of access along the lines of class and race, where minorities have been cut off from suburban employment centres

and public services by sprawl. As this sprawl occurred, the quality of public services in urban cores deteriorated (Wilson 2006). In Europe and the United States, housing costs within major employment centres have continued to increase and put pressure on the existing housing stock in communities (Inchauste and others 2018). In the developing world, residents of informally settled areas go undercounted by official censuses, lack access to basic services such as water and sanitation and are vulnerable to disease outbreaks as well as environmental disasters.

1.4.1 Spatial sustainability and equity

Urban form and spatial sustainability are important because cities are the engines of economic productivity. The agglomeration of services, customers, supply chains, knowledge centres and access to financial capital can result in higher productivity and greater quality of life for residents. Because of this agglomeration effect, cities are said to have “spatial capital”, which describes this characterization and the notion of urban form as an initial investment towards larger returns. However, spatial capital is not defined purely as proximity or the aggregation of populations and services (see Box 9 on the concept of spatial capital in Wuhan). Rapid expansion without planning can result in cutting the poor off from essential public services. Densification that is conducted without considering issues of access, connectivity, and natural and open space can lead to congestion, unaffordability, inaccessibility and several public health issues. Harvey (1973) defined spatial equity as dependent on accessibility, or relative ease of access to important services. Pitarch-Garrido (2015) via the United Nations states that “measuring equity through access to the education, health and social services by public transport provides very reliable results even when the exact location of the demand (the population) is not available”. As such, equity can be understood by this proxy (Pitarch-Garrido 2015).

Figure 16: High water supply pipeline density in higher class residential and industrial areas in Cape Coast, Ghana.



Source: Eparque Urban Strategies, 2019

Figure 16 shows a map of Cape Coast in Ghana. The map was created using satellite imagery to classify settlements from high class to low class (informal and low construction quality). Then, a map of the city's water network was overlaid. The result clearly shows that higher-income areas have better water access, and therefore it is a good manifestation of spatial inequalities. Good spatial planning is essential to sustain human settlements around the world and ensure that urbanization and city expansion is properly managed, especially in the rapidly expanding developing world.

1.4.2 Spatial sustainability and urban density

At the core of many of these issues and trends are density and the spatial concentration of people, institutions, goods and services. Density is the ratio of the population to the overall land area of a city. It is generally more expensive to finance and construct infrastructure and connect individual residents to employment centres and essential services or amenities in low-density, sprawling cities. For example, a well cited study compares

the urban forms of Barcelona (high-density) and Atlanta (sprawling, low-density), and demonstrates that the length of a rail line is “accessible to 60 per cent of the population in Barcelona but only 4 per cent in Atlanta” (Bertaud 2004).

Globally, urban land cover is expanding faster than urban population. Between 1990 and 2015, the population of cities in more developed countries increased by a factor of 1.2; their urban expenses increased by a factor of 1.8. In the cities of developing countries, average urban densities have declined at an average annual rate of 2.1 per cent between 1990 and 2015, which shows an increase in urban land consumption per capita (Angel 2016). For example, Box 7 explains the case of a secondary city in Ghana, where many cities are sprawling while population densities are dropping.

In both the developing and developed world, sprawl can make it difficult for local governments to improve access and connectivity for residents. In the developing world, sprawl is often informal and the result of peri-urban settlement and unavailable or unaffordable housing stock in the urban core. Alternatively, suburban areas may also be out of reach or without reliable, affordable transportation options. In informal development, residents are left out of censuses or planning efforts, further alienating them from governance processes, increasing economic and environmental vulnerability and reducing overall quality of life (Arfvidsson and others 2017).

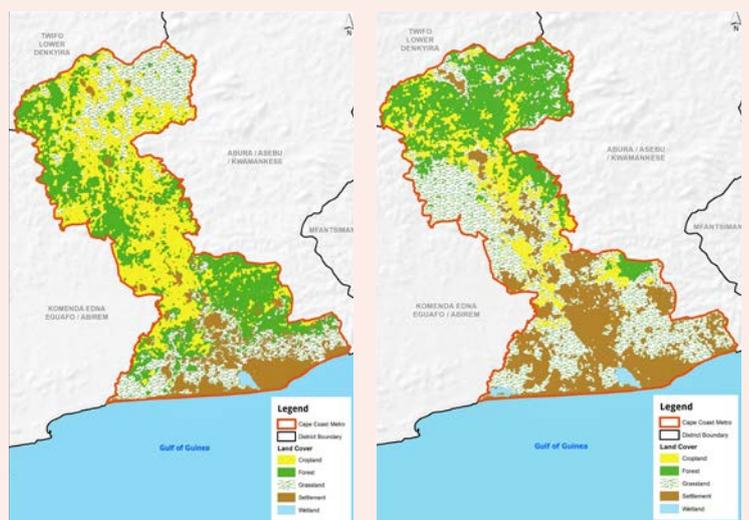
The cost of infrastructure provision is much higher in sprawling cities. For example, a study on infrastructure provision in urbanizing Africa estimates that the cost of providing water service to an extremely high-density city is a quarter that of provision in a low-density city on a per capita basis (Foster and Briceno-Garmendia 2010). Another finds that the price of water provision is \$0.70 to \$0.80 per cubic metre in urban areas, versus \$2.00 in rural areas (Bakalian and others 2013). Box 8 describes efforts in the city of Santiago, Chile, to curb the spatial growth of the city to decrease the cost of infrastructure provision. Sprawling urban forms are also less economically efficient than compact, dense forms in developed cities

Box 7: Cape Coast metropolis in Ghana is sprawling

The built-up density in Cape Coast Metropolis increased marginally between 2000 and 2010. The 2000 to 2010 decadal period saw an increase from 11,367 persons per square kilometre to 11,410 persons per square kilometre.

Challenges From 2010 to 2018, population density in the Cape Coast Metropolis declined massively from 11,410 persons per square kilometre of built-up area to only 7,091 persons per square kilometre. This means that fewer people are living in a larger built-up area, implying higher levels of urban sprawl or less compact settlement development. In effect, the costs of infrastructure provision and operations and maintenance have increased. This reduction in density also suggests that the environmental footprint of the Metropolitan Assembly is increasing, in opposition to targets of the Sustainable Development Goals for city/urban management. The two maps below show the extent of this expansion. See Figure 17 for an illustration of the growth of settlements.

Figure 17: Settlement growth in Cape Coast, Ghana, 2010 (left) and 2018 (right).



Source: Eparque Urban Strategies based on Forestry Commission's Land Cover Data and USGS LandSat8, 2018

Box 8: Building the city from the inside out: Repopulation of Santiago, Chile

Challenges In the late 1980s, a series of studies were conducted to demonstrate the problems associated with sprawl and to make the case for compact development and infill. One study was called “The Imperatives of the Urban Renovation of Santiago: The Costs of the Expansion” and was conducted by Santiago Development Corporation. It demonstrated that providing services and infrastructure for social housing developments located in the periphery was almost 18 times more expensive than allocating the resources in municipalities with existing infrastructure, services and accessibility, such as Santiago Municipal District. In consolidated areas, the average cost of infrastructure (water pipes, sewage, electric power networks, access and circulation roads) and services and equipment (health and education services, police surveillance, sport and recreational furniture) for each housing unit was \$363, compared to \$6,387 in areas of expansion. See Table 1 for details.

Table 1: Cost of Incorporating a New Residential Unit in the City Centre versus Periphery

| ITEM | CITY CENTRE (\$) | CITY OUTSKIRTS (\$) |
|------------------------------|------------------|---------------------|
| Infrastructure | 178 | 740 |
| Water pipes | 45 | 236 |
| Sewage | 12 | 98 |
| Rainwater drainage | 0* | 12 |
| Electric power networks | 112 | 161 |
| Access and circulation roads | 9 | 234 |
| Urban Equipment | 185 | 5,747 |
| Health | 0* | 237 |
| Education | 0* | 4,100 |
| Police surveillance | 133 | 1,361 |
| Sports and recreation | 72 | 49 |
| Total | 363 | 6,487 |

Source: Verdugo 2003

*Some costs are recorded as zero because the infrastructure already exists in the inner city and there is no need to build additional.

Action Inspired by these studies, the “Plan for the Renovation of Santiago” was initiated in 1990 and aimed at developing infill housing. Based on the findings about cost, the Chilean Ministry of Housing and Urban Development decided to support a programme to repopulate the inner city of Santiago. To this end, two programmes were created. Santiago’s Repopulation Programme was designed to attract new residents and activate the housing market in the municipal district based on a PPP structure; and the Housing Rehabilitation Programme was developed to reconstruct 500 tenements halls comprising 7,500 housing units.

The repopulation programme had four pillars: 1) identifying available land for redevelopment, 2) redefining the national housing subsidy to fit Santiago’s needs, 3) demonstrating the existence of large housing demand in the district and 4) collaborating with private developers through repopulation agreements.

Impact The repopulation process took a decade to reverse the depopulation trend in Santiago. From 1992 to 2002, housing stock increased 21.6 per cent while the population decreased by 13.1 per cent. However, from 2002 to 2012, housing stock almost doubled and the population grew 55.1 per cent.

Source: Amirtahmasebi and others, 2016

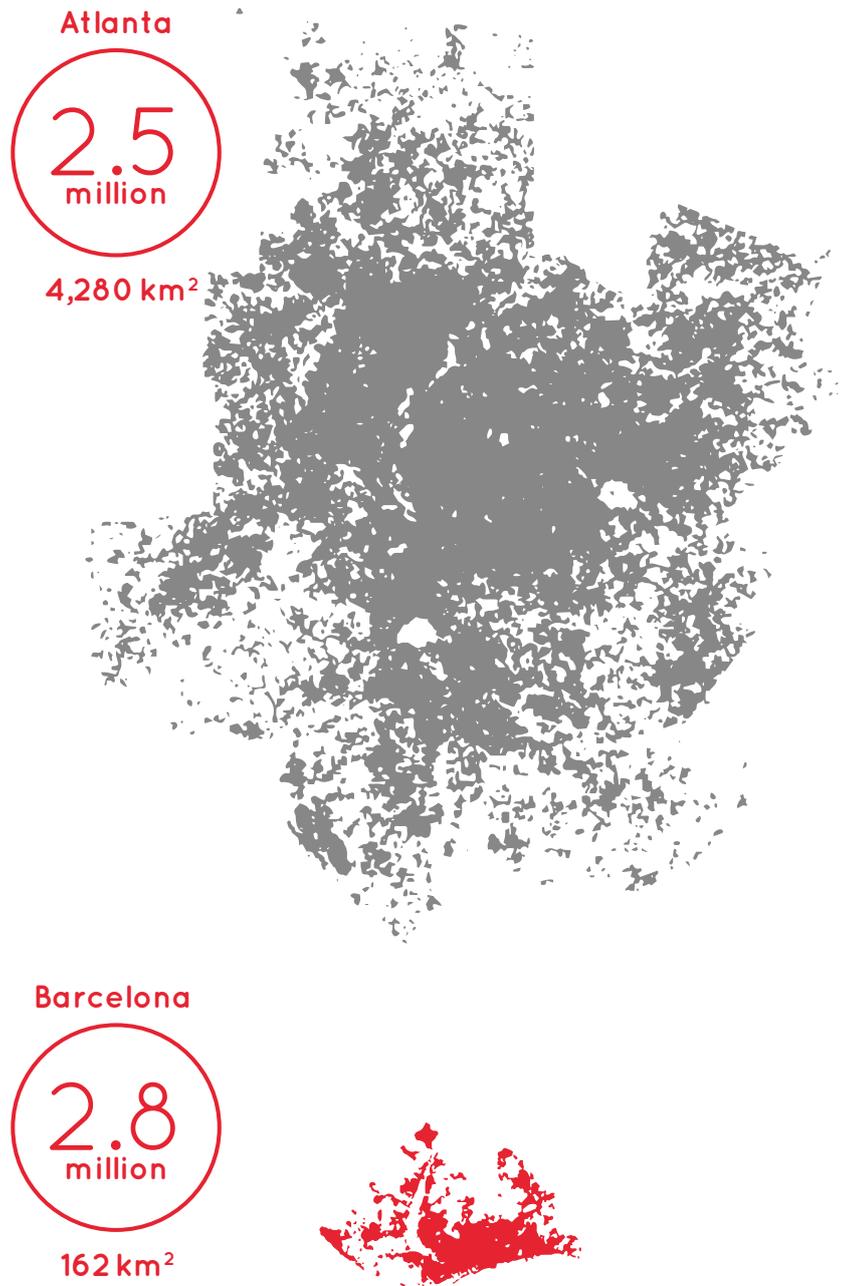
(New Climate Economy 2014). For example, in many sprawling, suburbanized U.S. cities that were developed during the mid-century, it may be difficult to design a public transportation system due to a suburbanized, low-density form. Density also has implications for environmental impacts. In the United States, compact development saves an average of 38 per cent on upfront costs for roads, sewerage, water and other infrastructure (Smart Growth America 2013). In addition, environmental impacts are much higher in sprawling cities than dense ones. For example, in the United States, suburbs are responsible for 50 per cent of national household emissions – despite less than half of the population living in these areas (Jones and Kammen 2014). However, it is important that cities strike a balance between the containment of sprawl and densification, as well as the necessary building out of public services, housing and infrastructure as urban populations continue to grow. Expansion is inevitable and occurring at an extremely rapid pace. In a sample of representative cities in the developing world, Angel (2012) found the peripheries of cities are an order of magnitude larger than the cities themselves twenty years ago (Angel 2018).

 **Principles**

Depending on the context, planners and policymakers can limit or allow for expansion when appropriate. Context matters and will affect the strategies employed; following this logic, density and infill should not be the only goals in planning for spatial sustainability. Peri-urban areas in the developing world are often in need of infrastructure investment and public services. In a dense city within the developed world where housing costs are pushing residents into outlying areas, the development of a more equitable transportation system would provide these outlying areas greater access to employment and services.

While densification and infill may increase agglomeration, connectivity and access to services are also key. If it is too late to limit expansion, measures should be taken to ensure that public services are developed as expansion continues. Based on Angel (2018), urbanization is

Figure 18: A tale of two cities: Atlanta, USA and Barcelona, Spain have similar populations but different urban forms; while Barcelona follows a compact urban form, Atlanta has sprawled significantly.



Source: Eparque Urban Strategies

occurring very quickly, at an unprecedented scale. In the developing world, cities cannot realistically expect to bound their land area but can preserve right of way for roads and other infrastructure to be allocated. Without planning for future expansion, cities can be locked into their forms as urbanization continues. Therefore, cities should pursue investments in services and infrastructure and eventual densification as the city develops (Angel 2018). Neighbourhood-level master planning is a helpful strategy for addressing multiple issues related to land use, transit improvement, streetscape design and other issues of access and movement as infill and densification are promoted. Rather than simply rezoning area for denser development, cities can finance transit infrastructure to connect populations that are farther away from the urban core. In addition, cities should review road and street networks to determine the ways in which transportation can become more efficient. Proximity means little if elements of the built environment are made inaccessible by inadequate transportation systems. For example, the World Resources Institute (2019) proposed a typology of transit and congestion costs. Households can be underserved with low transit cost (the stranded underserved), such as those living in areas without transportation options; they may be cut off from employment opportunities or vital public services, oftentimes within informal, peri-urban areas. Households can be underserved with a high transit cost (the mobile underserved), where the household lacks access to adequate transit but can endure a long commute or expensive costs to access employment and services. Households can be served by transit with a high transit cost (well-located commuters), or finally, be served by transit with a low cost (well-located urbanites) (World Resources Institute 2019). See Figure 18 for a comparison between the spatial structure of Atlanta and Barcelona, two cities with similar populations.

Housing and the provision of affordable housing must be key components of any integrated spatial planning or study effort. Areas with high levels of spatial capital are less likely to be affordable, meaning that affordable and mixed income housing must be consciously distributed or incentivized throughout an urban area, not just in areas where

spatial capital is relatively low. For example, while global cities such as New York City and Tokyo have high amounts of spatial capital in the way of the agglomeration of services, capital, labour, talent and innovation, the housing pressure and cost of living in each of these cities is prohibitively high. Even in cities that are only just developing, unaffordable housing stock can push rents and land prices upwards and result in sprawl or peri-urban development. Cities cannot consider the spatial layout of their jurisdiction without first determining the locations and availability of housing.



Illustrative Actions

The following are strategies for encouraging density and compactness within cities.

Develop a dynamic urban growth boundary.

Urban growth boundaries have been employed in cities seeking to protect ecological resources, such as Portland and Seattle in the United States. Boundaries can be implemented but should be flexible enough to be re-evaluated as cities evaluate their growth and expansion needs. In addition, natural elements such as parks and preservation zones can serve as boundaries and amenities to residents. Cities can work with owners of peripheral land to transfer development rights in order to better manage these areas (OECD 2018).

Gradually move from a monocentric urban form to a polycentric model. Spatial equity and spatial form, both in terms of overall density as well as issues of access and connectivity, are important drivers of the benefits urbanization can provide. Congestion effects may occur when cities are centred around one single employment and commercial centre. This can reduce quality of life and efficiency. This is referred to as monocentric urban form. Many cities in the developed world have transitioned from relying on one central business district to several major centres of employment. This development is referred to as polycentric form. Chicago is an example of a city in the developed world that is now polycentric that started out with a single central business district. As Chicago grew and expanded, new centres of transportation networks and employment developed at different

Rather than simply rezoning area for denser development, cities can finance transit infrastructure to connect populations that are farther away from the urban core.

locations in the city. Congestion can be reduced when there are multiple high trafficked centres, each with adequate transportation and road networks (Grover and Lall 2015).

Consider policies to encourage infill and urban regeneration: Low-density cities can be better managed by regenerating central urban cores and filling in sparsely developed areas. Instead of building outwards, the provision of housing and essential services through infill ensures that housing stock is not just available in the periphery of a city. Cities can focus on specific target neighbourhoods and conduct an integrated planning process to revitalize businesses, construct new housing stock and renovate existing housing stock, while also developing infrastructure (Amirtahmasebi 2016).

- **Develop PPPs to finance housing and infrastructure.** Infill development and urban regeneration projects are costly, and few cities are able to simply fund or finance the investments required to complete a large-scale project. Private-sector investment can be a good source of capital if the local government has the capacity to ensure that private investments are meeting public needs.
- **Develop incentives and benefits for infill and densification.** Developers can be encouraged via tax and non-tax incentives to build in what were previously low-density areas. For example, the tax valuation of properties can be frozen for a given period of time, allowing developers to pay taxes on the original value of the property, versus the current value. These incentives can be provided within designated zones for improvement and densification. For example, both Santiago (see Box 8) and Johannesburg incorporated tax benefits into the development of blighted and underutilized

areas lacking housing and public services (Amirtahmasebi 2016). Subsidies can also be used to incentivize the development of affordable housing; however, they must be designed intelligently to avoid misuse of public funds.

- **Utilize zoning and spatial planning tools to allow for denser development.** Cities can strategically rezone areas for denser development, encouraging building housing and mixed-use spaces. Rezoning efforts can be accompanied by a larger package of programmatic incentives to encourage development.
- **Utilize land value capture instruments to fund transit and other infrastructure.** Transit planning can also be done as part of an integrated process to add housing stock, commercial corridors and amenities with the development of transit infrastructure. Cities can consider land value capture, where rezoning and specific development rights are offered to certain areas so that private actors can develop them and use the value generated from the rezoning to fund infrastructure and transit. Rather than taxes or fees, this method can fund investment with less public opposition. This type of development also encourages the development of transit corridors. It is also a way by which the government can capture value generated from the activities of developers, while monitoring the development process through stakeholder engagement. For example, in Nanchang, China, the government provided the necessary zoning and regulatory change to increase density to interested developers and leased the land around a major transit system for a premium (Hong and others 2015).

Cities can consider land value capture, where rezoning and specific development rights are offered to certain areas so that private actors can develop them and use the value generated from the rezoning to fund infrastructure and transit.

Box 9. Spatial capital and prosperity of Wuhan, China

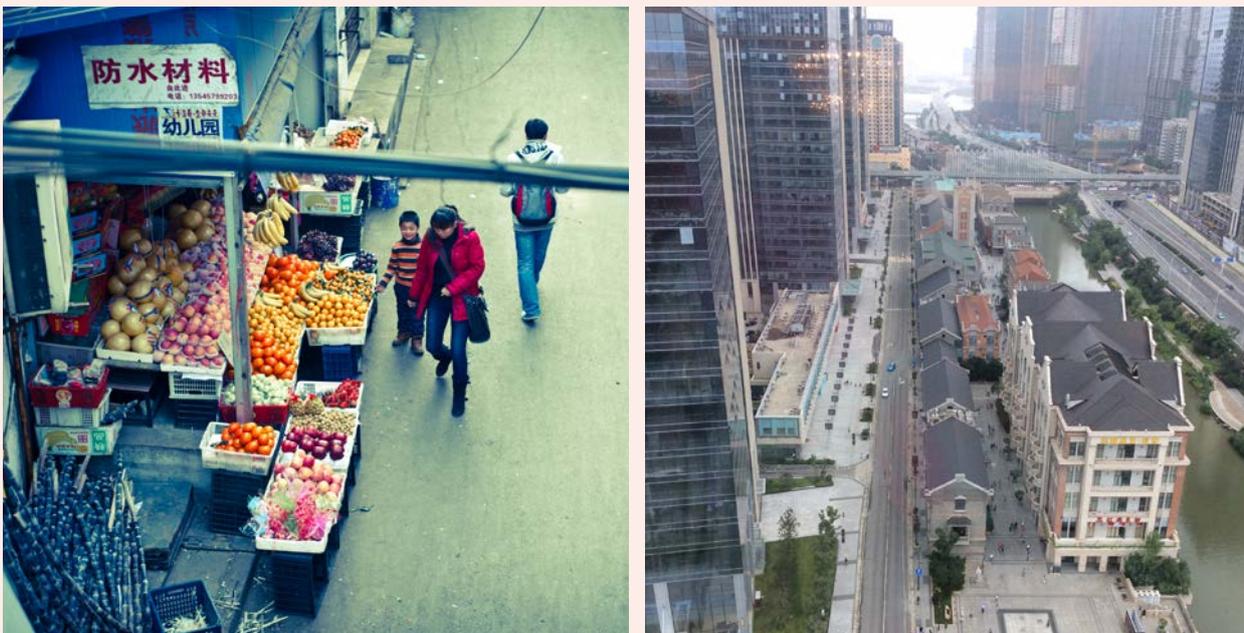
Challenges Between 1990 and 2013, the urban population of Wuhan quadrupled from approximately 2 million to 8 million. The overall urban extent increased at an annual rate of 15 per cent between 2000 and 2013. As growth occurred largely in peri-urban areas, density decreased below the indicator value recommended by the United Nations.

Action With assistance from UN-Habitat, the City of Wuhan undertook a comprehensive study in order to map and characterize its spatial layout via the City Prosperity Initiative (CPI). Wuhan was ideal for study, given the rapid pace and extent of urbanization. Via UN-Habitat's Spatial Capital Index, the city considered the following criteria: street connectivity, density, public open space, diversity (both in demographics and in land-use criteria), public transportation and public services. The aggregation of these variables resulted in a number of overlay maps, which were used to characterize various parts of the city through these individual variables. These maps helped characterize the overall spatial capital value of individual areas within the city. For example, certain neighbourhoods were found to be dense but without proper connectivity or elements to encourage pedestrian level activity.

Impact This quantitative study led to change at the neighbourhood level, where chosen neighbourhoods followed the principles outlined in the study to undertake master planning efforts. For example, the revitalization of Zhongshan Avenue was conducted to encourage pedestrian activity and therefore improve economic conditions for commercial entities located along the main arterial. Access to public transportation as well as open space was also improved in the process, leading to economic development through greater connectivity and adherence to the spatial planning principles outlined in the spatial capital index study.

Source: UN-Habitat 2018

Figure 19: Images of Wuhan, China.



Tauno Töhk (right) and Veronique Lamont (left). © Flickr



02

Means of implementation

Cities and territories are spaces within which different sectors of urban development intertwine. These sectors include hardware – such as transport, energy and waste infrastructure – and also software – such as culture, education, and health measures – that are necessary for the urban settlements to thrive and live to their fullest potential. These sectors interact and collaborate through different systems of governance and intervention mechanisms, which operate on local, regional and national levels. Chapter Two provides a thorough review of these sectors and the mechanisms that govern and coordinate them.

2.1 Intervention mechanisms

Each city and human settlement is part of several different governance systems that rule their operations and management. The New Urban Agenda lays out standards and principles for directing, governing, planning, designing, financing, implementing and managing urban areas and human settlements along its seven main “pillars of implementation” or intervention mechanisms (IM). The seven IMs described in the New Urban Agenda can be divided into national, subnational and local level interventions, promoting a multi-scalar approach to achieving sustainable urban development, with the ability to scale initiatives across territorial administrative boundaries.

This chapter explains a series of key intervention mechanisms that cities can utilize within these governance systems. These mechanisms allow the city to address its challenges across sectors and within different government levels.

The shared vision of the New Urban Agenda states that all cities and human settlements “fulfill their territorial functions across administrative boundaries and act as hubs and drivers for balanced, sustainable and integrated urban and territorial development at all levels”. The intervention mechanisms listed in the New Urban Agenda allow for action across sectors and urban scales, as well as agglomeration benefits of well-planned urbanization. The seven IMs listed below (see Diagram 12) can be deployed by national, sub-national and local governments, as well as civil sector organizations and other relevant stakeholders (where appropriate). It is important to highlight that the availability of quality (accurate and reliable) national and city-level datasets including socioeconomic indicators and spatial

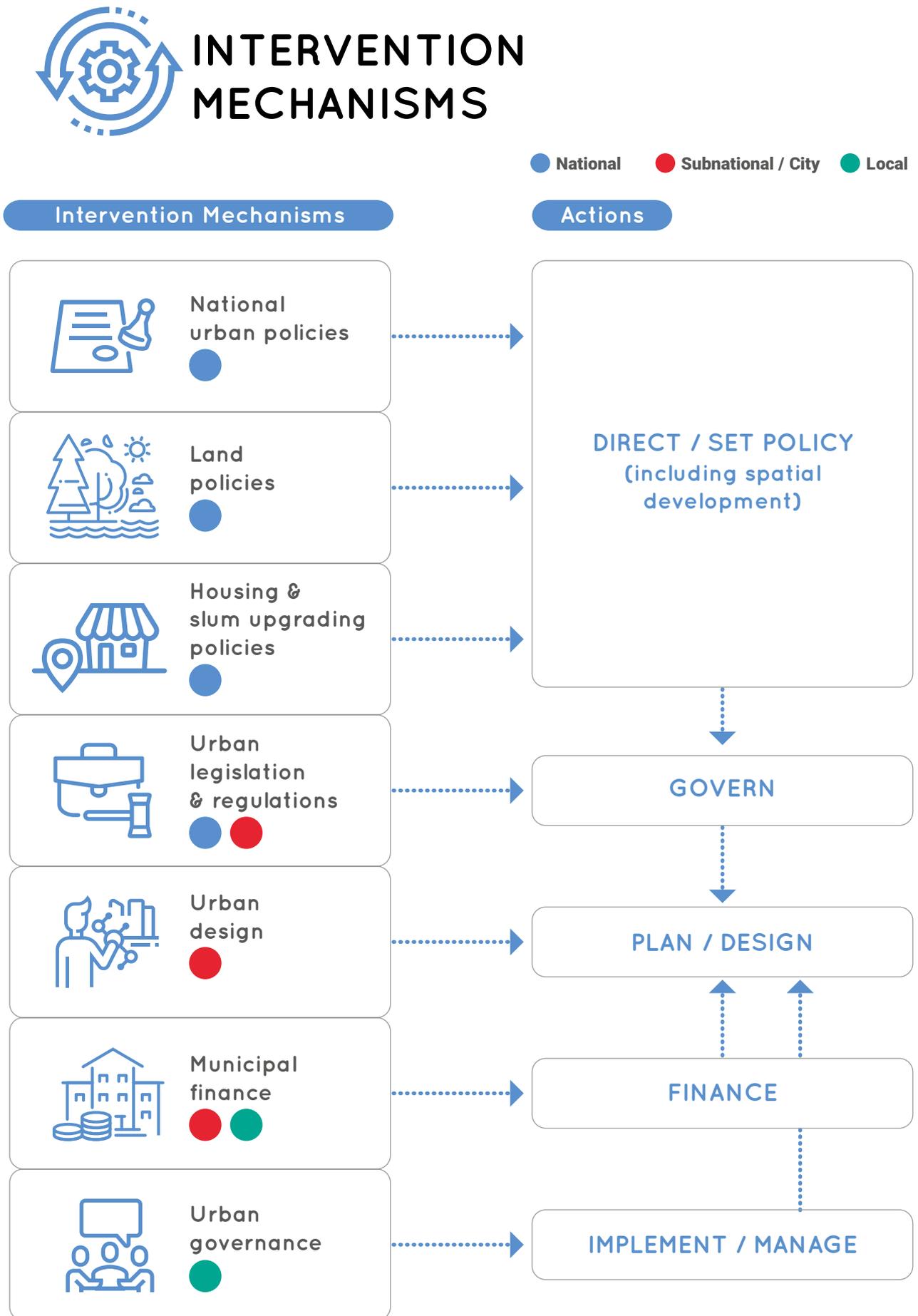
data is critical in order to apply the mechanisms listed here. This can be a challenge in some data-scarce developing country contexts, and therefore it is of critical importance that data gaps are filled so the strategies listed can be best applied to address urban challenges.

The New Urban Agenda highlights that achieving sustainable urban growth requires city-region and metropolitan plans and encourages synergies in the development of all urban areas on all scales along with urban and peri-urban areas. Further, it acknowledges that sustainable regional infrastructure projects stimulate sustainable economic productivity, and it promotes equitable growth of regions across the urban-rural continuum. These declarations are the basis for this chapter on intervention mechanisms that intertwine planning activities on all scales and across all levels of the government to deliver public services and perform other municipal and metropolitan administrative tasks - **NUA 96**.

This section will draw the reader’s attention to a variety of governance models that exist throughout the world. While some countries like Brazil or the United States have decentralized decision-making power to the cities and local authorities, in some other countries like Mexico or Iran, the central Government is responsible for collecting and transferring funds to the city-level authorities. In some other countries such as India, states are more empowered in decision-making, infrastructure planning and managing finances for cities in their boundaries. The intervention mechanisms described here relate to each of these scales and provide a snapshot of different options available for developing and managing ever-growing cities.

The New Urban Agenda lays out standards and principles for directing, governing, planning, designing, financing, implementing and managing urban areas and human settlements along its seven main “pillars of implementation” or intervention mechanisms.

Diagram 12: Intervention mechanisms



2.1.1 National urban policies

The New Urban Agenda commits to “take measures to 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, and to empower them as policymakers and decision makers, ensuring appropriate fiscal, political and administrative decentralization based on the principle of subsidiarity” - **NUA 89**. Similarly, **SDG 11** affirms the importance of policy making and planning frameworks through the goal of supporting “positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning” - **SDG 11.A**.

A National Urban Policy (NUP), is a national level intervention mechanism and important tool for governments to establish a common vision and provide a comprehensive framework for urban development in cities of varying size, population and rate of urban growth. UN-Habitat defines a national urban policy as “a coherent set of decisions derived through a deliberate government-led process of coordinating and rallying various

actors for a common vision and goal that will promote more transformative, productive, inclusive and resilient urban development for the long term” (Cities Alliance and UN-Habitat 2014). Through a new generation of NUPs, national governments around the world have begun to plan and manage urbanization in a way that is more sustainable, productive and inclusive than in the past.

Countries can achieve tangible processes and outcomes in urban governance by implementing NUPs to analyze and address key planning issues, such as population trends, urban trends and cross-sectoral coordination for realizing the benefits of urbanization at national or subnational levels. UN-Habitat outlines the five phases of the NUP process, which starts with the feasibility phase to determine the framework and policy direction and continues with diagnosis, formulation, implementation, and monitoring and evaluation phases. It is important to approach monitoring and evaluation as an opportunity to review gains and evaluate shortcomings. Rather than a final step, monitoring and evaluation is iterative, ensuring that NUPs are continuously improved through policy design (UN-Habitat, 2019b).

A National Urban Policy (NUP), is a national level intervention mechanism and important tool for governments to establish a common vision and provide a comprehensive framework for urban development in cities of varying size, population and rate of urban growth.

Diagram 13: National urban policies



INTERVENTION MECHANISMS

NATIONAL URBAN POLICIES

PRINCIPLES



Compact growth

National urban policies should manage the peripheral expansion of cities and promote compact and inclusive urban growth.



Context

National urban policies should be sensitive to context and the distinctive history and evolution of cities.



Local governance

The active participation of local governments and cities is necessary to achieve national policy goals.



Minimize displacement

National urban policies should minimize displacement and proactively prepare land and infrastructure, rather than relocating informal settlements once they are built.

ILLUSTRATIVE ACTIONS



Land-use planning

Land-use planning is a tool to manage urbanization towards mixed use development to promote more workable, accessible and compact cities.



Finance infrastructure

Use national urban policies to address the financing of major infrastructure or control improvement projects by identifying ways of diversifying funding sources.



Territorial planning

Introduce regional or territorial planning tools with national urban plans to strengthen the connectivity and cooperation between cities and towns.



Principles

NUPs should strive to manage the peripheral expansion of cities and promote compact and inclusive urban growth. Compact growth and urban consolidation require proactive efforts to concentrate development within the urban core and along transit corridors, mixed-use development, the optimal use of vacant land and upgraded urban infrastructure. NUPs should diagnose current urban conditions and analyze shortcomings of existing policies to promote shorter commutes and contain impacts on surrounding agricultural land, fresh water sources and other ecosystems.

NUPs should be sensitive to context and the distinctive history and evolution of cities. There is also no single approach for producing a desirable outcome that can be replicated in different national or local contexts, thus NUPs should be responsive to coordinate territorial, rural and regional policies.

The active participation of local governments and city authorities is necessary to achieve national policy goals. Urban policy requires a broader territorial integration of metropolitan regions and stronger connectivity between cities, towns and rural areas while promoting their distinctive strengths.

NUPs should strive to minimize displacement and proactively prepare land and infrastructure, rather than redeveloping or relocating informal settlements once they are built. Wherever possible, existing informal settlements should be formally recognized and upgraded (Cities Alliance and UN-Habitat 2014).



Illustrative Actions

Land-use planning is a tool to manage urbanization towards mixed-use development to promote more walkable, accessible and compact cities. Land-use planning, which has influenced national urban policy, has historically been a tool to separate incompatible activities to protect residents from adjacent noxious uses such as industrial or agricultural activities identified as “nuisances” and to make the structural arrangement of the city more efficient. A new generation of NUPs need to revise aspects of established legislation such as old land-use planning regulations and laws governing the ownership, use and development of land so that they are relevant to contemporary conditions, such as urban sprawl, and better equipped to deal with growing informality.

Use NUPs to address the financing of major infrastructure or capital improvement projects by identifying ways of diversifying funding sources.

One key strategy is capturing a share of the rise in land values that accompanies the development of vacant or under-used land, or the redevelopment of buildings to higher-density properties or higher-value uses. Unless countries are benefiting from revenues generated by commodity exports or have a robust financial system that enables them to raise long-term capital investments, the high cost of urban infrastructure requires new mechanisms beyond conventional tax revenues to generate financial resources. Locally based investments funded by local taxes can reinforce local accountability (Cities Alliance and UN-Habitat 2014).

Introduce regional or territorial planning tools in NUPs to strengthen connectivity and cooperation between cities and towns.

Cooperation may extend to strengthening the role of secondary cities in the national urban system so that they function better and help to absorb some of the pressures on the largest cities. Governments can use territorial impact assessments to assess the implementation of spatial planning instruments and to make sure that all relevant sectorial policies adequately address the challenges that towns, cities and larger functional urban areas are facing.

The active participation of local governments and city authorities is necessary to achieve national policy goals.

2.1.2 Land policies

Land is a critical topic in the New Urban Agenda. Land is at the centre of the shared vision of the document, where Governments declare:

“We envisage cities and human settlements that fulfil their social function, including the social and ecological function of land, with a view to progressively achieving the full realization of the right to adequate housing as a component of the right to an adequate standard of living, without discrimination, universal access to safe and affordable drinking water and sanitation, as well as equal access for all to public goods and quality services in areas such as food security and nutrition, health, education, infrastructure, mobility and transportation, energy, air quality and livelihoods” - **NUA 13. a.**

The New Urban Agenda acknowledges the land issue several times. It commits to promoting increased security of tenure for all, and it recognizes the plurality of tenure types and underscores the importance of developing “fit-for-purpose and age-, gender- and environment-responsive solutions within the continuum of land and property rights, with particular attention to security of land tenure for women as key to their empowerment, including through effective administrative systems” - **NUA 35.** Furthermore, the New Urban Agenda underlines that access to land is one of the fundamental steps in achieving economic stability and upward social mobility for low-income urban residents. Many of the challenges in urban development stem from lack of tenure and informality of land markets. The New Urban Agenda resolves to adopt the following principle, among others, in order to achieve its vision: “Ensure sustainable and inclusive urban economies by leveraging the agglomeration benefits of well-planned urbanization ... by ensuring the creation of decent jobs and equal access for all to economic and productive resources and opportunities and by preventing land speculation, promoting secure land tenure and managing urban shrinking, where appropriate” - **NUA 14.b.**

In order to get urban development right, cities must reassess their land markets and develop schemes for better management and administration of land.

Box 10: The use of betterment levies in Colombia

Action Contribución de Valorización (CV), a betterment levy (or “special assessment” in the United States), has been collected in Colombia since 1921. The levy is a compulsory charge by the government on the owners of selected properties to offset the cost of a specific improvement or service that is of special benefit to the property owner.

The Urban Development Institute (Instituto de Desarrollo Urbano, or IDU) determines an area of influence, where the area will benefit from a public works project such as road construction, in order to collect a betterment levy. The area of influence determinations take into account the benefits of proximity and accessibility to the project, as measured by the project’s impact on the assessed value and economic conditions of real estate properties in the area.

Once the area of influence is determined, the betterment levy is calculated according to three parameters, which are the cost of the construction project, the value added to properties that can be attributed to the project and the affordability of the levy (measured as the capacity of the property owners to pay). However, there are differences in implementation. For example, while the Bogotá model is similar to a general tax to finance public works, the Medellín model is closer to the concept of a value capture contribution to fund public works, as it distributes the levy among the property owners by taking into account their capacity to pay following a dual appraisal process. Typically, the initial appraisal is intended to create a map of land prices before construction, while the second appraisal determines the added value hypothetically generated by new infrastructure. The lot or area where the “maximum added value” occurs is the “focal point”, which is analyzed in detail to calculate the maximum percentage increase in value, determining the levy. Finally, once the levy is distributed to property owners in the area, taking into account the affordability, a collection period is determined. While the levy can be collected as early as two years before construction, the legal maximum collection term is five years following project completion.

Impact In Colombia, the betterment levy has played a significant role in financing public works and has been a major contributor to municipal revenues. Bogotá currently has about \$1 billion worth of investment in public works from this levy, with eight other smaller cities at a combined \$1 billion. Given that the levy is imposed on 1.5 million properties in Bogotá with relatively low default rates, lower than for the property tax, there is general acceptance of the levy by property owners.

Source: Borrero Ochoa, Lincoln Institute of Land Policy, 2011

Diagram 14: Land policies



INTERVENTION MECHANISMS

LAND POLICIES

689-880 million

Number of slum dwellers in the developing world has increased from 1990 to 2014.

46% - 29%

Share of urban population living in slums has decreased from 1990 to 2014.



62%
Sub-Saharan Africa



35%
Southern Asia



24%
Latin America & the Caribbean

% urban population living in slums

PRINCIPLES



Land assets

Land is one of the most valuable assets that a city possesses.



Manage informal areas

Cities in the process of rapid growth must focus on preventing the formation of new informal settlements while undertaking projects on the current slums.



Land titling

Land tenure regularization or "land titling" can help increase income and productivity, credit access, housing investment and child education.



Land ownership

Each city and county should record their unique systems of land ownership to plan for development and management.

ILLUSTRATIVE ACTIONS



Land administration

Develop a proper system for land administration.



Land assembly

Account for fragmented land and design strategies for land assembly.



Land readjustment

Develop policies for lane re-adjustment to support urban regeneration.



Land sharing

Develop land sharing schemes through resettlement housing.



Regularize tenure

Regularize tenure to upgrade informal areas in and around cities.



Value capture

Develop land value capture methods to finance infrastructure.

Because of dysfunctional land markets, informal settlements grow in and around cities. Because of the lack of secure tenure, informal settlers cannot incrementally invest in their land and live in better conditions. Inefficient land-use plans result in sprawling settlements where residents do not have access to proper water and sanitation services.

Principles

Land is one of the most valuable assets that a city possesses. Whether public or private, land assets must be accounted for and managed properly to provide housing, public spaces and infrastructure for all residents.

Cities in the process of rapid growth must focus on preventing the formation of new informal settlements, while undertaking projects on the current slums. This will be implemented by curbing spatial growth, while providing affordable land within the cities for poor urban residents and the migrant population.

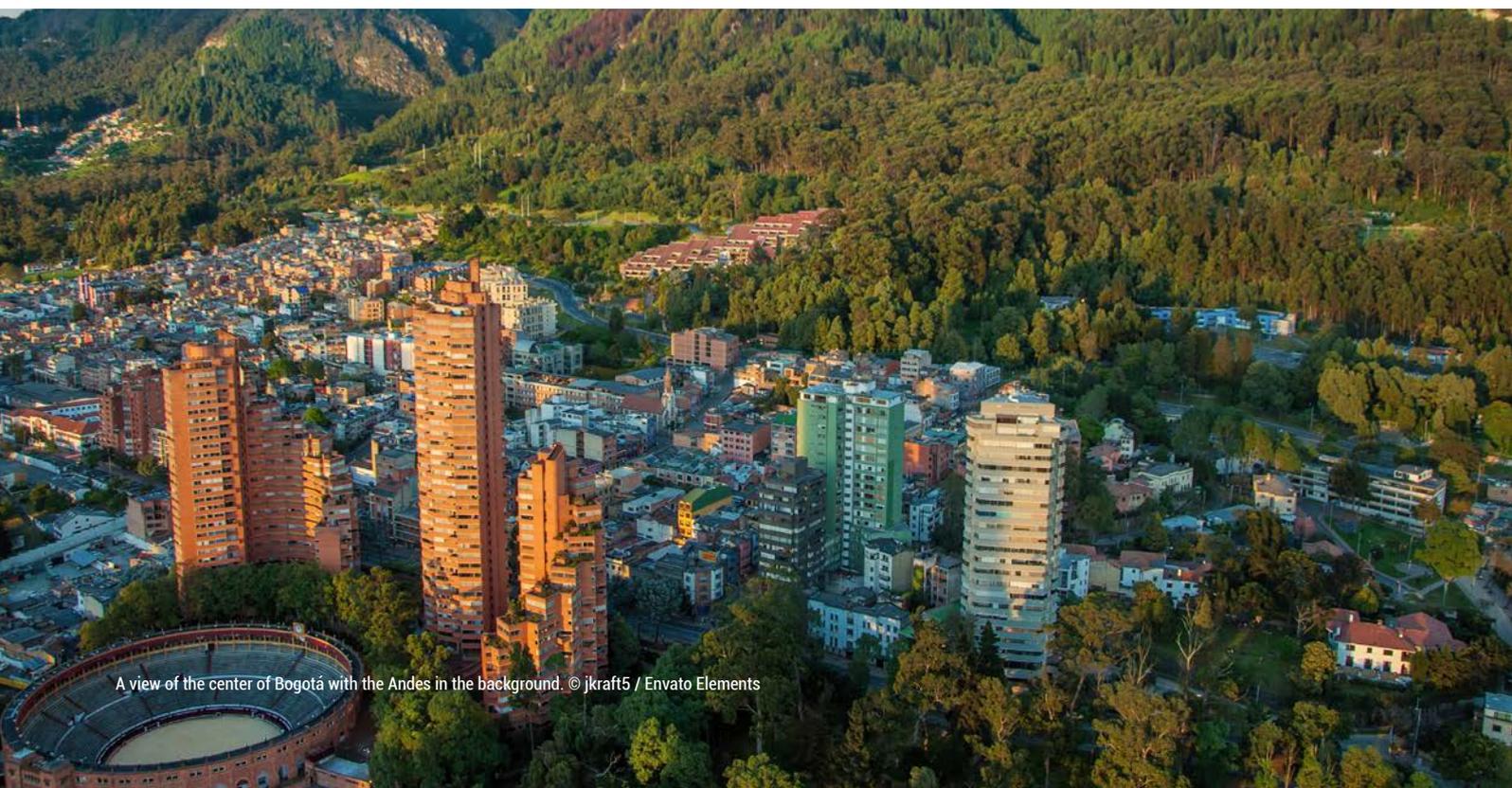
Land tenure regularization or “land titling” has many social, economic and political impacts, including increases in income and productivity,

credit access, housing investment and child education. Titling is a process by which informal tenure is integrated into a system recognized by public authorities. Informal settlements can be formed on public or private land, and their formation could happen naturally or through a broker who organizes a group to occupy a piece of land (see Box 10).

Each city/country has different systems of land ownership. It is important to record these systems to plan for their development and management. Land ownership can be private, public, communal or endowment.

- **Public land** assets could be owned directly by a government (central, state or local) or by its subsidiaries. In some countries like China or Singapore, all land is owned by the government. In these cases, the government can choose to lease the land to private bodies for various uses. In some Middle Eastern countries (Egypt, Saudi Arabia, and so on), desert land is all owned by the government.
- **Private land** is owned by individuals, corporations, institutions or other private bodies. While this land is privately managed,

Land tenure regularization or “land titling” has many social, economic and political impacts, including increases in income and productivity, credit access, housing investment and child education.



A view of the center of Bogotá with the Andes in the background. © jkraft5 / Envato Elements

it is regulated by governments through a series of rules such as land-use plans and zoning codes. Private land ownership could be formal or informal (such as in the case of slums). In the case of informal land ownership, the government can authorize the population to stay and develop the land if they can demonstrate that they have occupied the land for a given period of time. In some Middle Eastern countries, this rule allows the occupants of “dead” land (*Mawat*) such as barren or desert land to own and valorize the land. In Brazil, the law allows residential property no greater than 250 square metres to be granted *Certificados de Direito Real de Uso* (certificates of real right of use) after five years of continuous occupancy.

- **Communal land** is also called customary land and is owned by a group of people or a specific ethnic group or tribe. This type of ownership is dominant in many African countries, such as Ghana and Zambia. This type of land is managed by a designated person or a community or tribal leader on behalf of the community. This system interacts with other land management systems and generally leads to distortions in the functioning of urban land markets.
- **Endowment land** is especially common in Muslim societies across the world, and it functions as a land trust. It is called *Awqaf* in Iran, Egypt and Turkey, and *habous* in Morocco, and so on. In these cases, the original owner endows the land and its future revenues to a social or religious cause. A trustee manages the land and its functions. This land cannot be sold or used for any other purpose. It is estimated that 30 per cent of the land in Islamic countries is endowment land, which makes planning for urban renewal difficult and inefficient.



Illustrative Actions

Develop a proper system for land administration.

New technologies allow for cheaper options in developing land cadastres and information systems. Exploring these technologies, which usually include working with satellite imagery, can save time and cost and provide an almost perfect land database.

Account for fragmented land and design strategies for land assembly.

In many cases, the government needs to assemble land for several reasons including building public facilities and infrastructure. There are several tools at the government’s disposal. These include voluntary and involuntary tools. Voluntary tools include purchase at market or negotiated prices, land readjustment or urban development, and land sharing. In special cases and when the voluntary tools are unavailable, a variety of involuntary tools could be used such as expropriation and the right of preemption.

Develop policies for land readjustment.

In this approach, the municipal government can use land readjustment schemes to pool or assemble several privately owned land parcels in order to take on an urban regeneration project. Land readjustment is an effective tool for allowing local governments to take on regeneration projects through increased land values while engaging and involving the original residents and landowners as stakeholders. It is also beneficial for the government because it does not require a massive upfront investment to buy the land from the owners. A variation of land readjustment is called urban redevelopment and is a very common approach to regenerating disaster prone areas in Japan under its Urban Redevelopment Law. This law allows landowners, tenants and developers to regenerate unsafe areas, develop new transit and create development opportunities. The government helps with and benefits from this process by changing zoning codes from residential to mixed-use, while also allowing for upzoning. Urban development schemes are implemented in existing urban areas and often involve a rezoning by the government of a given

New technologies allow for cheaper options in developing land cadastres and information systems.

area from a low-density (single-family housing) to higher-density (mixed-use or commercial) development. It is usually accompanied by provision of infrastructure improvements (mass transit, such as metro lines) that can support such upzoning.

Develop a land sharing scheme. Land sharing is a method whereby existing public or private land occupied by squatters is redeveloped to enable the regularization of the existing development through resettlement housing to rehouse squatters. At the same time, new market-rate land uses are co-located and can benefit from these well-located land parcels. This is carried out through a densification of the existing development that can enable a vertical development of existing low-rise or low-density residential uses, thus opening up parts of the land for new development. The land sharing approach benefits existing occupants, who have the right to remain on site (though in new multifamily housing in medium- to high-rise configurations), and existing landowners, who can recover and benefit from part of the land. A good example of land sharing tools is seen in Bangkok in the 1970s and 1980s, where rapid economic growth resulted in a price hike of urban land. Since many of the slums were located in desirable and accessible urban areas, the government brokered seven land sharing deals with the slum dwellers to accommodate commercial development without displacing the residents. These deals were struck in cases of longstanding disputed land rights between the landowners and 10,000 slum dwellers. The deal allowed for the construction of high rises to house the slum dwellers so parts of the land could be released for lucrative real estate development. In all of the cases, the slum dwellers paid a portion of the construction through a loan scheme (World Bank 2010).

Regularize tenure. Regularization of tenure can be effective in upgrading the informal areas in and around cities. Several countries have experimented with different methods, and some lessons have emerged. First, an effective way to secure tenure is to set in place community/collective ownership of the land titles to ensure the community stays in place. Second, the regularization of tenure does not necessarily mean that the title to the land would

be transferred to the occupant. It could mean that the occupant obtains the right to use the land in perpetuity or it could be arranged as a short- or long-term lease. In each case, the city must study the conditions to determine the best course of action.

Develop land value capture methods. Value capture is an umbrella term that includes policies that focus on capturing a percentage of the increase in land value that results from public infrastructure investments or urban population growth. In general, governments can use two distinct sets of tools to leverage the incremental increase in the price of private land to finance infrastructure: financial tools and regulatory tools (see Table 2).

- **Financial tools** involve direct exchange of funds between the public and private sectors for a regeneration project. These could include a variety of value capture methods such as impact fees, levies and special assessments. In this category, there are tools that are more sophisticated and require a high capacity within the government to execute and implement. More importantly these tools require that the city is creditworthy and can borrow in the financial markets. The second group of such tools do not require a linkage to capital markets and could be implemented by cities without such access.
- **Regulatory tools** are applicable to private land and include fiscal or policy categories. They generate municipal revenue and are based on zoning and spatial planning regulations. Private developers often initiate different plans and denser and higher impact development to boost their financial gains from the projects. The use of fiscal tools involves any form of monetary assistance to the private sector allowed by law. But policy tools usually involve creating an appealing regulatory environment to attract the private sector. These tools solely depend on the government's land-use planning powers and ability to leverage these powers in achieving urban regeneration.

Value capture is an umbrella term that includes policies that focus on capturing a percentage of the increase in land value that results from public infrastructure investments or urban population growth.

Table 2: Summary of land value capture tools

| TOOL | DESCRIPTION |
|---|--|
| FINANCIAL TOOLS | |
| Developer exactions and impact fees  | <p>A popular form of value capture, developer exactions and impact fees are paid by the private sector to cover the cost of additional public infrastructure and services when new parcels of land are being developed. These are one-time, upfront charges required by the public sector to approve the planned development. Sometimes, these fees are not in the form of money. The government could ask the developer to set aside land for public use, pay for utility connections or build infrastructure on the land. These fees in any form are designed to lower the burden for the government to provide infrastructure or extend the network of services.</p> |
| Betterment levies  | <p>Betterment levies are considered the most direct form of value capture and are a form of tax or fee levied on land that has gained value because of public infrastructure investments. The difference between these levies and impact fees is that they are applied to private land ex-post (after the land has gained value because of infrastructure improvements). This means that impact fees and developer exactions work from the cost side of budgets, and betterment levies try to capture part of the infrastructure investment already incurred by the government (Peterson 2009). See Box 10 on the use of betterment levies in Colombia.</p> |
| Tax increment financing (TIF)  | <p>TIF is an economic and real estate development tool designed to coordinate the actions of public and private sectors. TIF funds economic development activities in a designated area by earmarking the anticipated property tax revenue increases (the "increment") that will result if the TIF investment stimulates new development and real estate appreciation. TIF has four core elements:</p> <ul style="list-style-type: none"> ● A defined geographic boundary called the TIF district ● A defined and limited operation period ● Expenditures that encourage economic development ● Real estate appreciation that generates new property tax revenues (Merriman 2018) |
| Special assessment districts  | <p>After a special assessment district is assigned, an additional tax (called an assessment) is levied on the properties in the district. This assessment is then used to back a bond issuance to pay for public infrastructure. For this to work, a majority of owners must agree. The appealing aspects of this type of tool are that it expands the available capital budget and aligns incentives of payees and beneficiaries (Amirtahmasebi and others 2016).</p> |
| REGULATORY TOOLS | |
| Density bonus, upzoning, and inclusionary zoning | <p>These tools are all incentive based tools that are designed to incentivize development in areas tagged for urban regeneration. Upzoning is a tool that permits a private-sector developer to increase the maximum allowable development on a site in exchange for either funds or defined policy goals. Cities that experience high market demand with limited availability of land have used this tool successfully to achieve specific policy goals. Upzoning is allowing development in restricted zones either higher density or a change of higher-value land use (for example from industrial to residential or commercial). Density bonuses have been used to promote, among other policy goals, environmental conservation, public spaces and production of additional units of low-income housing (Amirtahmasebi and others 2016).</p> |
| Transfer of development rights | <p>Transfer of development rights is a voluntary and incentive based urban planning tool, which allows the owner of a property and the land associated with it to transfer the allowed development rights to a different lot, with restricted development rights. Historically, this tool was designed to allow the owners of a landmark building to generate economic return on the land that was not allowed to be developed and to distribute the financial cost of historic preservation within the community. Today, it is used for a variety of reasons, and it includes transferring development rights to adjacent lots, a lot in a different area or even to be "banked" and used later.</p> |

 Non-capital markets

 Capital markets

2.1.3 Housing and slum upgrading policies

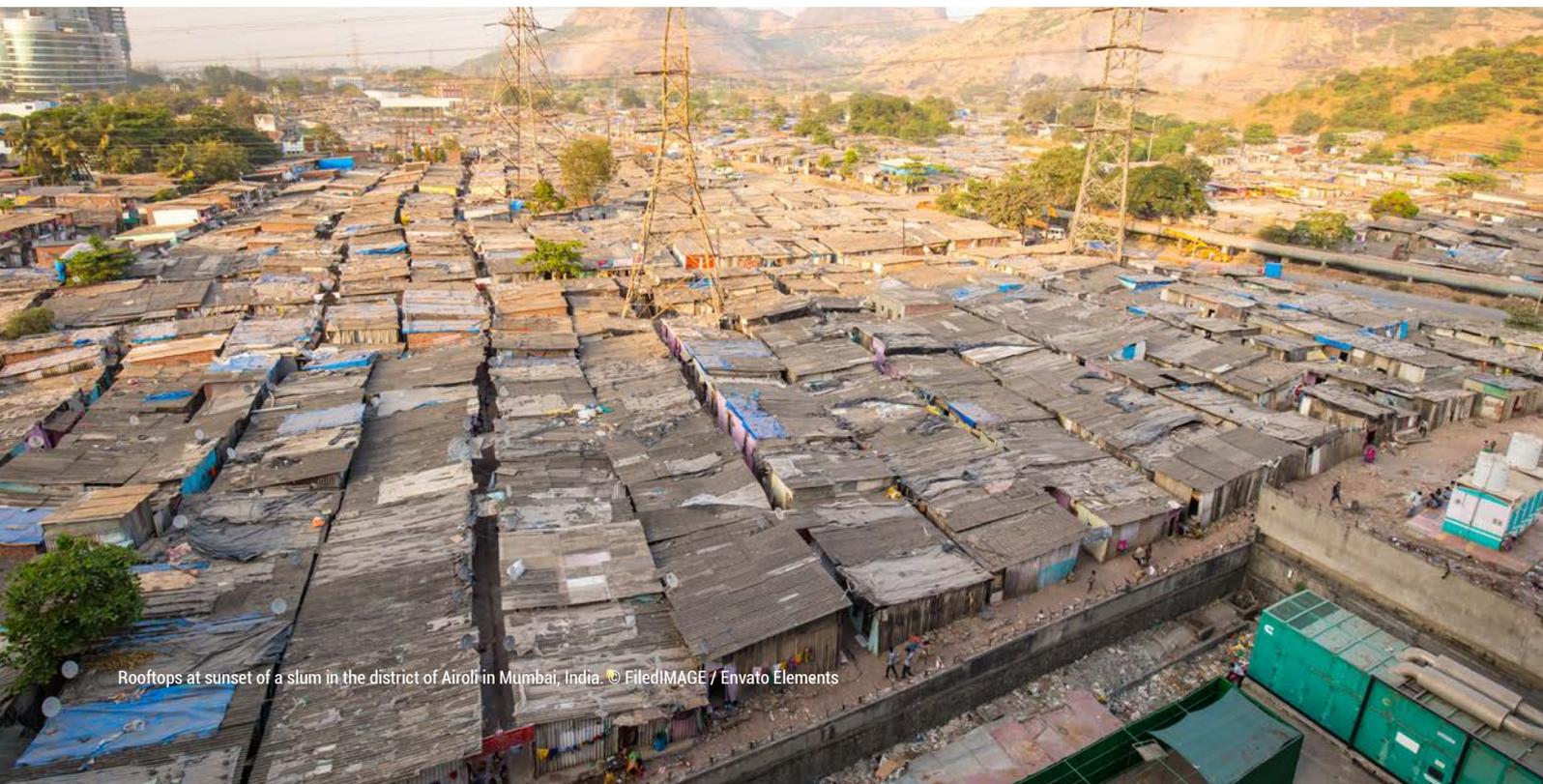
The New Urban Agenda promotes the implementation of sustainable urban development programmes that position housing at the centre of their approaches, as well as the full and progressive realization of the Right to Adequate Housing as one powerful transformative force.

Through the New Urban Agenda, Governments reaffirmed their commitment to the realization of the right to adequate housing:

“We commit ourselves to promoting national, subnational and local housing policies that support the progressive realization of the right to adequate housing for all as a component of the right to an adequate standard of living, that address all forms of discrimination and violence and prevent arbitrary forced evictions and that focus on the needs of the homeless, persons in vulnerable situations, low-income groups and persons with disabilities, while enabling the participation and engagement of communities and relevant stakeholders in the planning and implementation of these policies, including supporting the social production of habitat, according to national legislation and standards” - **NUA 31**.

The New Urban Agenda declares housing provision as a crucial urban planning component and emphasizes well-located and well-distributed housing schemes in order to “avoid peripheral and isolated mass housing developments detached from urban systems” - **NUA 112**. It also advocates for housing policies that foster local integrated approaches and are based on the principles of social inclusion, economic effectiveness and environmental protection. This section presents a review of housing policies as a major part of spatial planning that drives sustainable and inclusive economic transformation and economic growth in cities, and it will highlight different options for housing finance on the national level.

Governments have committed “to promoting the development of integrated and age- and gender-responsive housing policies and approaches across all sectors, in particular the employment, education, health-care and social integration sectors, and at all levels of government – policies and approaches that incorporate the provision of adequate, affordable, accessible, resource efficient, safe, resilient, well-connected and well-located housing, with special attention to the proximity factor and the strengthening of the spatial relationship with the rest of the urban fabric and the surrounding functional areas” - **NUA 32**.



Rooftops at sunset of a slum in the district of Airoli in Mumbai, India. © FiledIMAGE / Envato Elements

Diagram 15: Housing and slum upgrading policies



The housing sector promoted by the New Urban Agenda emphasizes the principles of social inclusion, economic effectiveness and environmental protection - **NUA 106**. It recognizes the fundamental role of housing in economic development and poverty reduction, and it promotes equal access to adequate and affordable housing as an effective equalizer for shared prosperity and growth, to end poverty in all its forms and dimensions. Housing, in fact, contributes to capital formation and income and employment generation, and it can contribute to driving sustainable and inclusive economic transformation at the national, subnational and local levels - **NUA 46**. **SDG 11** also affirms the importance of housing to sustainable urban development and sets the goal of ensuring universal access “to adequate, safe and affordable housing and basic services, and upgrade slums” - **SDG Target 11.1**.

The New Urban Agenda calls for action to successfully develop cities and human settlements where all persons can enjoy equal rights and opportunities as well as their fundamental freedoms, guided by the purposes and principles of the Charter of the United Nations, including full respect for international law. In this regard, the New Urban Agenda is grounded in the Universal Declaration of Human Rights, international human rights treaties, the Millennium Declaration and the 2005 World Summit Outcome, and it is informed by other instruments such as the Declaration on the Right to Development - **NUA 12**.

Since the United Nations Conferences on Human Settlements in Vancouver in 1976 and in Istanbul in 1996, and the adoption of the Millennium Development Goals in 2000, there has been significant improvements in the quality of life of millions of urban inhabitants, including slum and informal settlement dwellers. However, despite the decrease from 46.2 per cent in 1990 to 29.7 per cent in 2014 in the percentage of people living in slums (UN-Habitat 2016), the absolute number of slum dwellers keeps growing. UN-Habitat estimates that the number of slum dwellers in the developing world has increased from 689 million in 1990 to 791 million in 2000 and 880 million residents in 2014. Today, there are one billion people living in slums and informal settlements. According to UN-Habitat estimates, the proportion of the urban

Box 11: The community mortgage programme in the Philippines

Action In the Philippines, the Community Mortgage Programme (CMP), a component of the National Shelter Programme, was set up as a group loan/mortgage programme to help legally organized associations of underprivileged and homeless citizens buy and develop land and also own the lots they occupy or wish to relocate to “under the concept of community ownership”. The CMP transfers funds to the community association and also offers loans for site improvement and house construction. The CMP gives the highest degree of land tenure security through ownership without necessitating the transfer of informal settlers to areas far from their employment and essential urban services. In return, the community organizations have to comply with documentary and organizational requirements, which are slow processes, taking up to even a few years to accomplish, and to some degree discourage the landowners from selling to the community organization.

The loan programme works to incrementally develop housing for the poor. The housing loans were planned to be allocated in phases: phase one covers land acquisition, phase two pays for site development and phase three covers home improvement. However, most loans were given only to the first phase, since covering all the phases was unaffordable for the poor. The programme starts when a community (in partnership with a community organization) applies for a loan from the National Home Mortgage Finance Corporation (NHMFC). The loan amount is correlated to the value of land as appraised by the NHMFC. All sites and settlements have to obtain clearance from the Department of Environment and Natural Resources and an approved supervision development permit from the local government.

Impact The programme has assisted 217,929 households and disbursed PHP8.5 billion in loan assistance from 1989 to 2010.

population living in slum conditions in urban areas was particularly high in sub-Saharan Africa (62 per cent) followed by Southern Asia (35 per cent), compared with 24 per cent in Latin America and the Caribbean, and 13 per cent in North Africa (UN-Habitat 2014). Increases in conflicts and instability, migration and urban poverty and accelerated urbanization and population growth explain this trend.

The New Urban Agenda prioritizes promoting measures for strengthening and retrofitting all risky

housing stock, including in slums and informal settlements, to make it resilient to disasters, in coordination with local authorities and stakeholders - **NUA 77**. It also promotes inclusive governance and a participatory approach - **NUA 13. b, 15. ii, 41**. It calls for cities and human settlements that fulfil their social function, including through access to land, infrastructure, water, sanitation, mobility and quality services - **NUA13. a, 34, 35, 55**; inclusive economic growth and sustainable urban economies - **NUA 13. d**; and leaving no one behind, through pro-poor approaches for equally shared opportunities and access to the benefits that urbanization can offer - **NUA 27**.

The New Urban Agenda supports incremental housing and self-build schemes for upgrading slums and informal settlements - **NUA 107**.

It also supports planned urban extensions and infill – prioritizing renewal, regeneration and retrofitting of urban areas, as appropriate, including the upgrading of slums and informal settlements – while preserving cultural heritage, containing urban sprawl - **NUA 97**, strengthening urban resilience and reducing disaster risks and vulnerabilities - **NUA 77**.

Other global frameworks, including the SDGs, recognize the need for action. **SDG 11** calls for ensuring access to adequate, safe and affordable

housing and basic services for all and specifically mentions the importance of upgrading slums. In particular, the achievement of **SDG 11 Target 1** – *By 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums* – is measured through the indicator reflecting the proportion of urban population living in slums, informal settlements or inadequate housing. Other SDGs recognize and are particularly relevant to efforts to upgrade slums, such as **SDG 1** – *End poverty in all its forms everywhere*, **SDG 5** – *Achieve gender equality and empower all women and girls*, **SDG 8** – *Decent work and economic growth* and **SDG 16** *Peace, justice and strong institutions*. Figure 20 shows the slums in Medellin, Colombia.

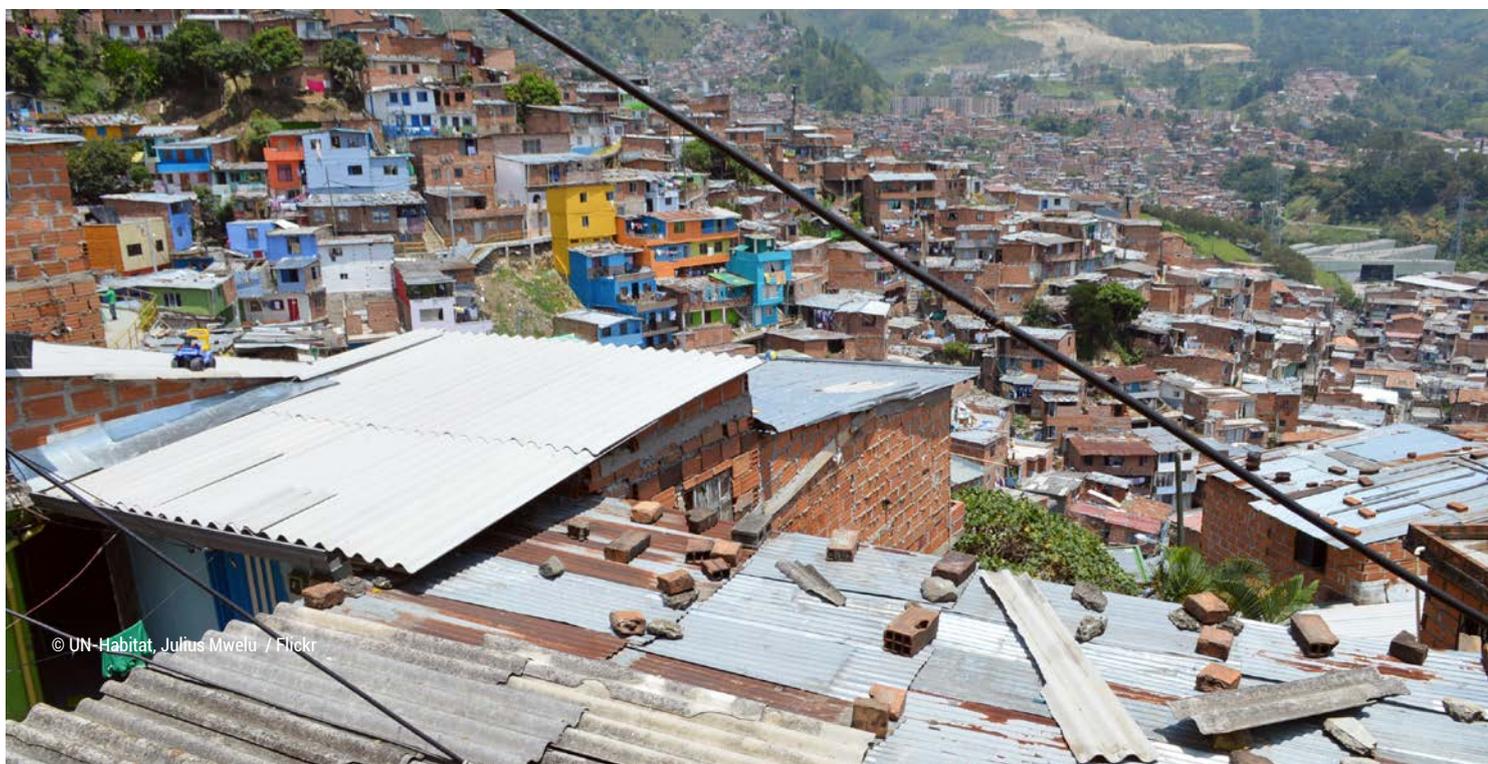
SDG 11 Target 1 is measured through the indicator reflecting the proportion of urban population living in slums, informal settlements or inadequate housing.



Principles

Adequate housing is not just a roof, it is a catalyst for accessing other rights and should leave no one behind. Adequate, affordable and well-located housing is a pathway for the enjoyment of several human rights, including the rights to work, health, social security, vote, privacy and education. Housing policy should promote social justice, social inclusion and development for the whole community. A number of conditions other than four walls and a roof must be met to characterize “adequate housing” – namely, security of tenure; availability

Figure 20: Slums in Medellin, Colombia.



of services, materials, facilities and infrastructure; affordability; habitability; accessibility; location; and cultural adequacy. Housing policies should ensure that the range of housing provision covers the particular needs of different communities, ensuring that no group of people is disadvantaged by its implementation. New housing development in cities should cater to the housing needs of all vulnerable people, regardless of age, mental or physical health, citizenship, income or background. Policies should promote the right density of housing and encourage the development of housing typologies that can respond to a diverse range of household sizes as needed.

Placing housing at the centre promotes a coordinated approach to urbanization, by recognizing the need for a long-term vision and commitment to housing sector development to be integrated into National Urban Policies. “Housing at the centre” promotes the blending of housing policy and national urban policy, with housing recognized as of increased importance as an imperative for socioeconomic development and the sustainable future of cities.

The planning process around housing policy should deploy effective methods through which communities can influence decisions made about housing and related provisions. Only communities know what communities need in a housing scheme. In places where land is limited and governments move towards building high-rises, the input of the community must be recorded and integrated to ensure the living spaces accommodate their lifestyles and needs. Providing an option for the community to use their own taste and design expression would give them voice and cater to their taste while upgrading old and informal housing.

“Housing at the centre” promotes the blending of housing policy and national urban policy, with housing recognized as of increased importance and an imperative for socioeconomic development and the sustainable future of cities.



Illustrative Actions

Put people at the centre of the planning process: encourage the development of a multitude of housing types for the diverse needs of a city's inhabitants through tailored housing programmes, financing mechanisms and zoning incentives.

Cities need a variety of housing typologies to cater to different income groups and prevent informality and homelessness. For the rural-urban migrants

Figure 21: Villa 31 is an informal settlement located in the city of Buenos Aires, Argentina, in the Recoleta and Retiro neighbourhoods.



who need transitional housing, a “minimum shelter” model can be developed. This model provides a unit that is designated to match the ability of potential occupants to pay for it, as opposed to the traditional approach where planners develop housing and then estimate how many people could afford it. In Singapore, a “dormitory style” *Housing New York* plan adopted in 2014, for example, has accelerated the construction and preservation of affordable housing by encouraging a wide variety of housing types and programs.

Beyond mass housing programs, develop incremental housing approaches to provide access to serviced land and a minimum core unit, requiring residents to build and expand on their own according to set standards. Research shows that supporting incremental housing construction by low-income groups through an enabling approach can contribute significantly to solving housing problems. For incremental housing intervention to be successful, the fact that it is intensively time consuming and process based must be considered. Many families work on the improvement and extension of their homes throughout an entire family cycle, first to obtain the minimum standards in size and quality, and later to accommodate changes in family structure or to get income from their investment in the house (Greene and Rojas 2008). Incremental housing usually has three phases: accessing land, building the housing nucleus and making incremental improvements (Greene and Rojas 2008). One of the most successful such programs is *Patrimonio Hoy*, which was launched in 1998 in Mexico to respond to the rising housing needs of very low-income people. The programme aims to reduce the cost and time needed by the poor to improve their housing. It targets low-income residents earning less than four times the minimum wage who lack access to credit and government housing finance programs. The programme provides the residents with microloans, technical assistance and building materials. It benefitted to more than 300,000 low-income families and generated a significant number of jobs (IBD 2011).

Increase the supply of rental housing. The development of affordable rental housing is an important part of a housing policy. Rental housing is a major assistance for those households without sufficient income to buy a home or provide down payment to access housing finance. In addition, rental housing can assist citizens who work in the informal sector and do not qualify for mortgage loans. Furthermore, rental markets are necessary for workers’ mobility. Lastly, developing rental units in dense urban areas can prevent sprawl as many low-income home buyers are forced to move to the suburbs to be able to afford housing.

Develop a blend of supply-side and demand-side subsidies. To develop a healthy housing market, cities must get the subsidies, financing and taxation right. Experience has shown that demand-side subsidies are the most effective form of subsidies for rental housing. However, they require heavy fiscal commitments from the government and require the collection and update of information on beneficiaries. On the other hand, supply-side subsidies cannot provide affordable units to the lowest-income groups and are likely to entail long-term budgetary obligations. In order to serve the lowest-income groups with rental housing options, a blend of demand-side and supply-side subsidies must be used. On the demand side, the amount of direct assistance to low-income tenants should be linked to household income, rent and the type of household or the family size.

Fix the mortgage markets by catering to the lowest income levels and developing primary and secondary housing finance markets, through the issuance of credit and guarantees for housing acquisition, construction and project upgrades. One successful example of such policies is the development of a housing finance system in Mexico with the introduction of a comprehensive federal housing policy package in 2001. This package includes a financial and operational overhaul at INFONAVIT, the largest public mortgage bank; the creation of a specialized organization (*Comisión Nacional de la Vivienda*, or CONAVI) to coordinate housing sector efforts; the implementation of a

Developing affordable housing near transit corridors coupled with mixed-use development can be a forceful tool in combating rising land prices and ensuring social equity and inclusion of lower income groups in the urban planning framework.

large scale subsidy programme for low-income families to purchase housing (*Esta es Tu Casa*); the development of co-financing products and a secondary (mortgage-backed securities) market; and the creation of a guarantee programme, operated by a second-tier development bank. The results have been quantitatively impressive: the number of mortgages issued in the country increased by 126 per cent over the 2000–2008 period and the four largest housing developers are now traded in the stock market (Inter-American Development Bank 2011). Box 11 explains a mortgage programme in the Philippines.

To decrease the cost of land acquisition, develop dense and mixed-income housing models close to transit. Developing affordable housing near transit corridors coupled with mixed-use development can be a forceful tool in combating rising land prices and ensuring social equity and inclusion of lower-income groups in the urban planning framework. The land tools above could be coupled with demand-side subsidies to create a mixed-income and mixed-used community along transit corridors. In Brazil, the *Minha Casa, Minha Vida* (My House, My Life) programme, which was responsible for a third of all low-income housing projects in Brazil in 2013, is also focused on developing affordable housing near transit, when possible. For example, this programme has initiated a project in the city of Rio Grande. It has designated an empty plot of land in order to avoid real estate speculation. The Federal Government has donated the land to the city, and it is an area that is already equipped with public services, infrastructure, and access to transport. The vision is to make the neighbourhood home to 1,300 low-income families, where they can maintain their social relationships and have access to services, jobs, education and health resources throughout the city (Caccia and Zottis 2015).

2.1.4 Urban legislation and regulations

The New Urban Agenda explicitly recognizes the leading role of national Governments in the development and implementation of legislation for sustainable and inclusive urban development, while calling for the participation of other relevant stakeholders, including local governments and civil society - **NUA 15.b**. This is matched by the call, in **SDG 11**, to “enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries” - **SDG Target 11.3**. Strengthening partnerships and enhancing coordination is viewed as critical to the successful development and revision of urban legislation and legal mechanisms - **NUA 21**. This implicitly requires a balance between public and private interests and the participation of a diversity of actors. Transparency in the process and outputs of planning is important in promoting equality in outcomes.

Governments have committed to “take measures to establish legal and policy frameworks, based on the principles of equality and non-discrimination” as well as to “promoting a safe, healthy, inclusive and secure environment in cities and human settlements enabling all to live, work and participate in urban life without fear of violence and intimidation” - **NUA 89, 39**. The New Urban Agenda makes an explicit reference to “promote the development of adequate and enforceable regulations in the housing sector ... combating and preventing speculation, displacement, homelessness and arbitrary forced evictions” - **NUA 111**. The New Urban Agenda also encourages the “development of policies, tools, mechanisms and financing models that promote access to a wide range of affordable, sustainable housing options, including rental and other tenure options” - **NUA 107**. The New Urban Agenda envisages cities and human settlements where there is “universal access to safe and affordable drinking

Diagram 16: Urban legislation and regulations

INTERVENTION MECHANISMS

URBAN LEGISLATION AND REGULATIONS

PRINCIPLES



Citizen needs

Urban laws should have strong links with the needs of citizens.



Compliance process

The compliance processes created by legislative frameworks should be simple, expeditious and affordable.



Legal frameworks

Legal frameworks should be characterized by clear institutional and government set-ups.



Appraisal

The law-making process should include an adequate appraisal of resources.

ILLUSTRATIVE ACTIONS



Urban law

Promote access to a safe, healthy and inclusive urban environment through quality urban law.



Spatial planning

Develop accountable and effective spatial planning.



Land management

Target inclusive, effective and multi-dimensional land management and security of land tenure.



Housing

Legislation for equal access to adequate and affordable housing.



Urban services

Appropriate regulatory frameworks to develop and manage urban basic services.



Municipal finance

Improve accountability and transparency in municipal finance.



Government revenue

Expand local government revenue powers and implementation.

water and sanitation” - **NUA 13.a**. It also requires States to promote “equitable and affordable access to sustainable basic physical and social infrastructure for all, without discrimination, including affordable serviced land, housing, modern and renewable energy, safe drinking water and sanitation” - **NUA 34**.

All too often, the basic elements of urban planning are not clearly defined in the regulatory framework governing the planning system or reflected in the plans, making planning ineffective in shaping cities and achieving sustainable and inclusive results. Therefore, to achieve sustainable and inclusive urban development, the New Urban Agenda recognizes the role of spatial planning calling for a paradigm shift in the way urban areas are planned and designed - **NUA 15**. This means the “development of urban planning and design instruments that support sustainable management and use of natural resources and land, appropriate compactness and density, polycentrism and mixed uses, through infill or planned urban extension strategies” - **NUA 51**.



Principles

For legislation to be implementable and be a useful tool in directing the management and development of urban areas as intended by the New Urban Agenda, it must be of good quality. Legislative quality is assessed by its functional effectiveness, which is the ability of a law to accomplish what it was intended to. Determining features of the quality of legislation include its purpose, substantive content and legislative expression. Its overarching structure and real-life accomplishments are also relevant. Legislative effectiveness can be assessed through four main components of essential law:

Urban laws should have strong links with the needs of citizens, by being appropriate to the local contexts in which they operate. This is not compatible with the practice of blind transplantation of models.

The compliance processes created by legislative frameworks should be simple, expeditious and affordable for most urban dwellers. The complexity and costs of the process should not discourage otherwise law-abiding residents from compliance.

The compliance processes created by legislative frameworks should be simple, expeditious and affordable for most urban dwellers.



Legal frameworks should be characterized by clear institutional and governmental set-ups

including horizontal and vertical coordination mechanisms. They need to specify the roles of each institution in order to eliminate gaps and overlaps, which often lead to confusion, and eliminate lack of transparency, poor accountability and poor compliance.

The law-making process should include an adequate appraisal of the resources – both financial and human resources – needed for its implementation.



Illustrative Actions

The call for law reform in the New Urban Agenda covers four key areas: equity and governance, planning, land and environment, housing and basic services, and economy and finance. The actions below correspond to these four key areas.

Promote access to a safe, healthy and inclusive urban environment through quality urban law.

The impact of legislation is important: good laws and institutions can set meaningful frameworks for sustainable development, but bad ones can accentuate inequalities and exclusion. Laws influence equity directly by determining policy and outcomes on spatial equity. They also influence equity indirectly by providing local governments with the tools to generate public revenue from urban assets. Urban law is necessary to provide a framework of rules to mediate and balance competing public and private interests, especially in relation to land use and development. Quality urban law creates a stable and predictable framework for both public and private-sector action, guaranteeing the inclusion of the interests of vulnerable groups and providing a catalyst for local and national discourse.

Develop accountable and effective spatial planning.

Urban plans create a path for urban growth that seeks to maximize the positive and minimize the negative effects of urbanization. They help revitalize physical facilities in urban areas as well as develop and conserve areas of natural environmental significance. By influencing urban patterns and forms, planning laws also have

Box 12: Flexible land tenure law in Namibia

Action The Namibian government has introduced the Flexible Land Tenure Act of 2012 which provides land tenure security to a special category of people who have not been able to own their piece of land. The law seeks to address the vulnerability of communities who live in informal settlements in urban areas across the country. The basic idea is to establish a flexible, interchangeable system parallel and complementary to the current formal system of freehold tenure.

Two new types of tenure have been introduced within the system which are supplementary to the existing freehold tenure, namely the starter title and the land hold title. Both titles are individual types of tenure but group based, in that, the outside boundary of a block earmarked for titling under the Flexible Land Tenure System (blockerf) is professionally surveyed and registered under the freehold tenure system at the Deeds Registry. Subsequently, the individual tenure rights are registered in the newly established Land Rights Offices. Ownership of the block can be with the local authority, a private owner or a community-based organization.

Impact In 2016, the Ministry of Land Reform decided to pilot the new tenure registration system in different pilot areas, namely in Gobabis, Oshakati, Outapi and Windhoek. In 2020, the Oshakati Town Council became the first local authority in Namibia to implement the flexible land tenure scheme. Seven schemes have been created at Onawa informal settlement, where currently the flexible land tenure system is being implemented in four blocks. Onawa informal settlement is home to more than 300 residents. 40 title deeds have been issued and an additional 288 beneficiaries will be given land title deeds in two months.

Source: Integrated Land Management Institute, Namibia University of Science and Technology.

immense potential for climate change adaptation and mitigation. In adaptation, for example, planning, land-use and building laws may be used to prevent development in vulnerable areas or stipulate the location of essential infrastructure. Similarly, they may be crucial for mitigation by requiring green public spaces, regulating energy consumption in buildings and promoting urban forms that promote walkability and compactness.

Target inclusive, effective and multidimensional land management and security of land tenure. The importance of land cannot be overstated. It acts as the anchor of social and economic activities in most societies and is also a source of cultural

identity. It is the basis of shelter, food production, livelihoods and environmental health. The New Urban Agenda advocates for “increased security of tenure for all, recognizing the plurality of tenure types, and to develop fit-for-purpose, and age-, gender- and environment-responsive solutions within the continuum of land and property rights, with particular attention to security of land tenure for women as key to their empowerment, including through effective administrative systems” - **NUA 35**. The supportive framework for implementation of land policy includes, among other elements, institutional and regulatory frameworks - **NUA 86**. Box 12 presents the Flexible land tenure system in Namibia.

Legislation for equal access to adequate and affordable housing. The right to adequate housing means the right to live somewhere in security, peace and dignity. Legal frameworks ought to support the supply of affordable housing for all income groups. These may take a variety of forms that include incentives or disincentives for the developers. Incentives may be cross subsidies (such as density bonuses for developers to fund affordable housing) and outright subsidies (such as housing vouchers or developer tax incentives). They also include measures that create and promote higher-density urban land or set quota requirements for developers. Legal frameworks also perform a crucial role in the housing context by regulating the rental market. Urban legislation should foster a well-regulated rental market and promote the production of adequate and affordable rental housing. Tenants are particularly in need of legal protection from arbitrary action by property owners.

Appropriate regulatory frameworks to develop and manage urban basic services. Basic services such as water and sanitation, electricity and energy, and refuse and waste removal are critical for a better quality of human life. One of the key features of a developmental state is to ensure that all citizens – including the poor and other vulnerable groups – have access to basic services. Strong regulatory measures coupled with responsive urban governance may set up the necessary conditions

for sound development in this sector. Indeed, urban actors also function as regulators of service provision to guarantee universal access, quality standards and fair pricing. This role becomes even more relevant in places where such services are externalized to the private sector.

Improve accountability and transparency in municipal finance. Municipal finance in many parts of the world is heavily reliant on intergovernmental transfers and property taxes. Identifying taxable properties and setting the tax rate may progressively affect some individuals or parts of the city disproportionately. Legal frameworks should call for participatory and inclusive budgeting, which should be a continuous, open and inclusive process by which citizens and local governments widen mechanisms for promoting direct and indirect citizen participation. The process should involve identifying local needs and deciding preferences, as well as the implementation, monitoring and evaluation of the budget, considering expenditure requirements and available resources. The New Urban Agenda states that Governments will “support subnational and local governments in their efforts to implement transparent and accountable expenditure control instruments for assessing the necessity and impact of local investment and projects, based on legislative control and public participation” - **NUA 138**.

Expand local government revenue powers and implementation. Urban services require an enormous amount of resources. Local authorities need to access funds for them to provide adequate, quality and timely services. Legal frameworks support municipal finance by bridging the gap between increased functions on the one hand and fiscal decentralization on the other. Examples include empowering municipalities to raise revenue through other forms of taxes in addition to the property tax. These other forms include land-based finance mechanisms such as betterment levies, special assessments, developer exactions and the sale of development rights. Public finance legislation should enable municipalities to raise revenue through municipal borrowing and PPPs.

Legal frameworks should call for participatory and inclusive budgeting, which should be a continuous, open and inclusive process by which citizens and local governments widen mechanisms for promoting direct and indirect citizen participation.

2.1.5 Urban design

Tools of urban design are essential to guiding and shaping the built form of cities, relationships between infrastructural systems and land uses, and the quality of the public realm, which encompasses streetscapes, parks, waterfronts, amenities and other elements that provide a complete framework for the public experience of moving through and living in a city. As emphasized in the New Urban Agenda, the accessibility and design of urban spaces can “promote or hinder social cohesion, equality and inclusion” - **NUA 25**. Urban design regulations are essential to achieving some of the spatial frameworks outlined in the New Urban Agenda, including compactness, polycentrism, mixed uses, infill or planned urban extension strategies - **NUA 98**.

Different instruments that govern the process of urban development include master planning, neighbourhood spatial plans, regional plans, heritage and conservation plans, and zoning and land-use ordinances. Urban design regulations are critical for ensuring that key policy objectives are enacted at all urban scales including the metropolitan region, city, district, neighbourhood, block and building scales. The New Urban Agenda emphasizes the importance of “reinvigorating long-term and integrated urban and territorial planning and design in order to optimize the spatial dimension of the urban form and deliver the positive outcomes of urbanization” - **NUA 15.c.iii**.

Urban design and spatial planning also have a critical role to play in the global response to climate change, by reducing greenhouse gas emissions while building resilience to climate risks. The New Urban Agenda recognizes that urban form, infrastructure and building design can have significant implications for resource efficiencies achieved through scale “by fostering energy efficiency, renewable energy, resilience, productivity, environmental protection and sustainable growth in the urban economy” - **NUA 44**. Urban design regulations can be instrumental in ensuring that the evolving urban form of cities promotes resource efficiency, climate mitigation and resilience in ways that are responsive to and appropriate for local conditions.

Different instruments that govern the process of urban development include master planning, neighbourhood spatial plans, regional plans, heritage and conservation plans, and zoning and land-use ordinances.



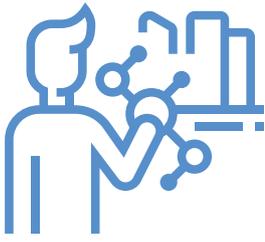
Principles

The urban planning and design process should be clear and inclusive, allowing public, private, and community sectors to contribute their voices. Good urban design and planning outcomes promote cities that are open and accessible to all. Urban design guidelines and ordinances governing new developments should improve accessibility and openness by designing places that encourage public use, ensuring they are visible and welcoming, and promoting affordability in new developments.

Figure 22: In Singapore, different uses and typologies intertwine in a well-established master plan.



Diagram 17: Urban design



INTERVENTION MECHANISMS

URBAN DESIGN

PRINCIPLES



Clear and inclusive

The urban planning and design process should be clear and inclusive, allowing public, private and community sectors to contribute their voices.



Public realm

Expand, protect and promote the public realm and enhance the livability of urban neighborhoods.



Sense of place

Create and protect a unique sense of place, by incorporating the history and intangible culture of diverse neighborhoods, vibrant public spaces and natural areas into planning and policy initiatives.



Design details

Address details at every step spanning multiple scales from public space details to large-scale planning and policy initiatives.



Safety & comfort

Ensure security and bring comfort to inhabitants.

ILLUSTRATIVE ACTIONS



Master planning

Neighborhoods should develop master plans, which are long-term strategies to build connection between buildings, social settings, economic activities, geography and culture.



Neighborhood plans

Ensure that neighborhood master plans respect an area's character, promote a mix of uses and foster inclusive development.



Zoning

In more regulatory advanced settings, zoning laws should be developed to form the bedrock of urban design regulations to encourage mixed uses, compactness and infill development.



Overlays

When necessary, develop zoning overlays to provide more specialized controls for specific elements such as land features, vegetation, heritage or buildings.



Codes

Develop building codes to ensure quality construction, address seismic and flood risks, and set standards for resource and energy efficiency.

Urban planning and design instruments are created to expand, protect and promote the public realm and enhance the liveability of urban neighbourhoods. City planning agencies should introduce clear guidelines and consistent perspective and advocacy in all matters that will affect the public realm and new developments at any scale. The master planning process in Singapore illustrates this well. See Figure 22 and Box 13 for more details.

Urban planning and design regulations are necessary to create and protect a unique sense of place; they should incorporate the history of diverse neighbourhoods, the intangible culture of inhabitants, vibrant public spaces and natural areas. Urban design elements, such as recognizable building types, a vibrant public realm, waterfront esplanades and living edges, can create a rich and welcoming urban environment essential to liveability and should be protected in urban planning regulations and land-use plans.

Urban design and planning mechanisms should address details at every step, spanning multiple scales from public space details to large-scale planning and policy initiatives. Good urban design and attention to detail do not necessarily have to cost more or take more time, but should be initiated before the execution of projects in order to guide future development.

Urban planning and design should ensure security and bring comfort to inhabitants. Zoning regulations were initially established at the turn of the twentieth century in major metropolitan areas to ensure universal access to light and air. Today, planners and designers should also take into account issues related to public health, comfort and security across the public realm. Planning and design regulations should strive to promote a sense of security, comfort and inclusivity in the built environment.



Illustrative Actions

Neighbourhoods should develop master plans, which are long-term strategies to build connection between buildings, social settings, economic activities, geography and culture. Master plans help guide future growth in a city. The master plan serves as a high-level framework for urban design and planning and forms the basis for local land-use regulations and zoning ordinances that ensure urban development is consistent with the community goals and policies expressed in the master plan. An effective master plan provides a degree of prescription while allowing for particular flexibility through an iterative approach.

Ensure that neighbourhood master plans respect an area's character, promote a mix of uses and foster inclusive development. Urban designers frequently cite neighbourhood character and “sense of place” as what gives an area its distinctive cultural DNA. These are not necessarily quantifiable or generalizable elements, but they are critical qualities that help foster a sense of place and memory for a community. Guidelines to create neighbourhood character can include low-rise development typified in the form of detached or townhome developments, commercial cores to be zoned to allow for social events and protect public amenities such as parks, and preservation and planting of street trees and other landscaping initiatives.

In more regulatorily advanced settings, zoning laws should be developed to form the bedrock of urban design regulations to encourage mixed uses, compactness and infill development. Zoning laws not only regulate the use of land by parcel, but also determine the density and height of structures built. Zoning can delineate physical limitations including setbacks, frontages, open space and parking requirements, which are essential tools of urban design to shape built form. While master plans are not legally binding, zoning ordinances must be followed by all.

Master plans help guide future growth in a city. The master plan serves as a high-level framework for urban design and planning and forms the basis for local land-use regulations and zoning ordinances that ensure urban development is consistent with the community goals and policies expressed in the master plan.

When necessary, develop zoning overlays to provide more specialized controls for specific land features such as vegetation, heritage or buildings.

Typical zoning overlays include built form overlays, which include heritage overlays and neighbourhood character protection, environmental and landscape overlays protecting natural features and resources and land management overlays helping protect valuable agricultural or cultivable land at risk of urbanization.

In addition to master plans and zoning regulations, develop building codes to ensure quality construction, address seismic and flood risks and set standards for resource and energy efficiency. Codes can regulate materials used, ingress and egress, safety standards and minimum requirements for the built form and may also include standards regarding inspection. The International Code Council defines building codes as “collections of laws, regulations, ordinances (or other statutory requirements) adopted by a government legislative authority involved with the physical structure and healthful conditions of buildings and building sites”. Building codes are one of the simplest ways to protect citizens and cities. However, any given jurisdiction will be required to carefully consider what their building code will be, and codes can vary wildly in depth and efficacy depending on who implements them. So-called model codes refer to codes that are accepted as current standards and that meet or exceed known practices in ensuring safe and healthful construction. At an international level, the International Code Council (ICC) represents the most established organization whose purpose is to set a global model for construction that can be used consistently around the world.

2.1.6 Municipal finance

The New Urban Agenda supports the creation of legal frameworks for sustainable national and municipal borrowing, accountable expenditure control instruments for national and subnational governments and an expanding revenue base for national and subnational governments. In summary, the New Urban Agenda’s stance on municipal finance includes the following:

Box 13: Singapore’s master plan 2003 – The blueprint for development

Action In 2003, Singapore developed a Master Plan to guide its development over the next decade. The plan was intended to improve upon Singapore’s simplistic statutory plan in 1998, which only specified land uses for residential, employment and recreational purposes. The key focuses in the 2003 Master Plan were 1) improving the quality of the living environment through a variety of housing that would meet the aspirations of the people, ease access to recreation and recognize Singapore’s natural heritage; 2) providing greater flexibility for businesses through new land use zones and 3) reinforcing character and identity to encourage a sense of rootedness amongst Singaporeans. The objectives and strategies included to review the Master Plan every five years, break the plan down into medium- and long-term strategies, ensure sufficient land is safeguarded for the next 15 years, create a consultation public loop and create a participatory planning approach to design a network of greenery and identity.

The Master Plan was developed in conjunction with other government agencies and underwent two rounds of public consultation including focus groups, surveys, exhibitions and dialogues that attracted more than 80,000 visitors. The first consultation reviewed two countrywide guides, the Parks and Waterbodies Plan and the Identity Plan, focused on enhancing greenery and improving the quality of Singapore’s living environment. The feedback was then incorporated into the Master Plan after each round.

Source: UN-Habitat

- Promoting financial mechanisms to develop and broaden integrated and transparent financing frameworks and inclusive platforms through context sensitive approaches to financing urbanization and enhancing financial management capacities at all levels.
- Developing and expanding finance instruments to improve transport and mobility infrastructure and systems at the national, subnational and local government levels and considering establishing urban and territorial transport infrastructure and service funds at the national level.
- Reinforcing the link between fiscal systems and urban planning through the development

Recommendations from this handbook require a proper understanding of costs and benefits. Municipal finance is about the revenue and expenditure decisions of municipal government, and about cost-benefit analysis.

Diagram 18: Municipal finance



INTERVENTION MECHANISMS

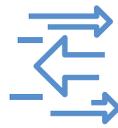
MUNICIPAL FINANCE

PRINCIPLES



De-centralization

Fiscal decentralization is an important indicator in success of municipal financial systems.



Transfers

There are two main categories of intergovernmental transfers: conditional and unconditional.



Financial resources

Beyond intergovernmental transfers, cities should find ways to expand their financial resources.

ILLUSTRATIVE ACTIONS



Local revenue

Collect own revenues and manage local revenues efficiently.



Credit-worthiness

Move toward credit-worthiness. Most cities in the developing world do not have the capacity or authorization to borrow in global financial markets.



Asset management

Develop effective asset management institutions and practices.



Private investment

Leverage private investment, local governments can rarely afford taking on massive urban infrastructure projects using only public funds.

of urban management tools; the development of appropriate and affordable housing finance products; and the encouragement of participation by a diverse range of multilateral financial institutions, regional development banks and development finance institutions, cooperation agencies, private-sector lenders and investors, cooperatives, moneylenders and microfinance banks to invest in affordable and incremental housing in all its forms.

- Developing vertical and horizontal models of distribution of financial resources to decrease inequalities across subnational territories through the use of international public finance, including official development assistance, to catalyze additional resource mobilization from all available sources, public and private, for sustainable urban and territorial development. **NUA 131, 134, 136, 137, 139, 140, 141, 145**

None of the planning initiatives in this handbook will be implementable without a proper understanding of costs and benefits. Municipal finance is about the revenue and expenditure decisions of municipal government, and about cost-benefit analysis. It covers the sources of revenue that are used by municipal governments – taxes (property, income, sales and excise taxes), user fees and intergovernmental transfers. It includes ways of financing infrastructure through the use of operating revenues and borrowing as well as charges on developers and PPPs. Municipal finance also addresses issues around expenditures at the local level and accountability for expenditure and revenue decisions, including the municipal budgetary process and financial management.

 **Principles**

Fiscal decentralization is an important indicator for the success of municipal financial systems. Fiscal decentralization means that financial responsibility is transferred from the central Governments to local entities, making them responsible for financing and delivering infrastructure and services. Cities in industrialized countries have embarked on decentralization earlier than developing countries. Fiscal decentralization

Box 14: Global examples of intergovernmental transfers

Different countries have different systems for transferring funds to local governments. For example, **in Mexico**, the federal Government provides substantial financial support to states and municipalities on an ongoing basis, using a mix of unconditional transfers, as well as policy specific transfers. For urban development projects or public transit systems, a city can petition the Mexican Development Bank (Banobras), which is responsible for promoting and financing infrastructure and services. Banobras acts as the trustee of Mexico’s National Infrastructure Fund, which was created to increase national and international private investment.

In Chile, municipalities do not have borrowing power and have three ways to generate revenues: a) autonomous income (property taxes, vehicle circulation licenses, building permits and commercial and alcohol licenses), b) transfer of funds from the Common Municipal Fund (CMF), which is a municipal income distribution transfer system and c) transfers from central Government agencies’ funds. CMF act as the main source of funds for municipalities in most cases.

In the United States, one example of conditional transfers is the Community Development Block Grant (CDBG) Entitlement Program, which provides annual grants to cities and counties for fostering viable urban communities. These grants can be used for providing housing and living environments and expanding economic opportunities. They are calculated based on a formula and target low- and moderate-income persons (HUD 2019).

In South Africa, cities use transfers from the National Treasury for operating and capital expenditures. There, transfers are in the form of grants and represent an average of 80 per cent of revenue for capital budgets in rural municipalities and 70 per cent of revenue in urban municipalities. The National Treasury reports that, since 1999, transfers to local governments have grown faster than total government expenditures, which signals efforts for fiscal decentralization. The South African Treasury offers performance based incentives, and cities have to meet various conditions to obtain them. For example, a municipality must submit a “Built Environment Performance Plan”, along with potential urban development projects that need capital investment, with an implementation strategy.

Source: Amirtahmasebi and others 2016

should be accompanied by sound revenue sources. Local authorities should be able to impose and collect taxes, but even then, local revenues are seldom sufficient to pay for services and capital investments.

There are two main categories of intergovernmental transfers: conditional and unconditional. Unconditional transfers are mostly used for budget support. These are usually formula based and are granted to the local government based on factors such as population and area of jurisdiction. Conditional transfers have strings attached. They are allocated for undertaking specific projects or providing specific services and development of infrastructure. Conditional transfers could incorporate matching provisions so that municipalities are required to use some of their internal resources to match the grant. Dependence on intergovernmental transfers by local governments is widespread but the extent of the dependence varies by country (see Box 14).

But beyond intergovernmental transfers, cities should find ways to expand their financial resources. Developing PPPs is one way to leverage private investment in all sectors of urban development. Other ways include borrowing in the financial markets or local financial institutions. Developing strong asset management institutions and practices can also increase local revenues beyond intergovernmental transfers.

Fiscal decentralization should be accompanied by sound revenue sources.



Illustrative Actions

Collect own revenues and manage local revenues efficiently. Local revenues include intergovernmental transfers, different taxes (income tax, property tax, business tax, VAT, and so on), user fees and charges, investment income, sales of land and property, licensing fees, and so on. The municipal government provides services to the residents and in turn collects taxes to pay for those services. Therefore, the capacity to pay for collecting own revenues is essential for providing

Figure 23: Kop van Zuid in Rotterdam, Netherlands, was developed on a large former port that had lost its function and was left abandoned. An innovative PPP scheme was used to develop the entire port into a combination of higher-end housing units, offices, commercial spaces and social function areas. The new tramline and the newly built Erasmus Bridge also facilitated the connection between this area and the city center.



municipal services. Globally, local city-level expenditures as a share of total public expenditures vary between 45 per cent in Denmark and 11 per cent in Bolivia (Farvacque-Vitkovic and Kopanyi 2014). Good local revenue management has two principles: first, municipal services should be linked to the revenue sources that finance them; second, services should be directly or indirectly financed by their beneficiaries. Private goods – such as electricity, water, urban transport, waste management and parking – can be financed by fees or user charges, while public goods – such as parks, street cleaning and lighting – are financed by local taxes (Farvacque-Vitkovic and Kopanyi 2014).

Move towards creditworthiness. Many cities in the developing world do not have the capacity or authorization to borrow in global financial markets. Local governments need substantial funding to build infrastructure. These amounts are usually not included in the operating budget and need to be provided either by large transfers from the central Government or by borrowing from external financial institutions. In many cases, the regulatory framework or the local government’s financial and governance situation will not allow sub-sovereign lending to happen. This is determined by intergovernmental fiscal relations and the financial and technical capacity of the local government. When a local government borrows, the resulting long-term debt can be serviced from local municipal income, either from revenue generating projects or indirectly through other sources of revenue. However, the following limitations may apply to this approach:

1. Borrowing in foreign currencies exposes the local authority to foreign exchange and interest rate risks.
2. There should be limits on borrowing. This ceiling can be set as a percentage of the budget or local revenues, or at a maximum debt-service ratio.
3. There could be preconditions such as no current debt obligations in arrears or requiring a balanced annual operating budget, and so on.

4. In some cases, there are restrictions on the type of instrument that is used to incur debt, such as a loan or bond.
5. The debt could be subject to entitlement, such as authorizing individual borrowings or centralizing borrowing operations with on-lending to local governments.
6. In most cases, approval is needed from the central Government.
7. In some countries, control is subject only to market forces and not based on rules. (GIZ 2012)

Develop effective asset management institutions and practices. Many cities in the developing world do not possess a proper and complete inventory of their assets. In this case, inventorying should be the highest priority. Assets are usually grouped in records by type, service sector, or holder or manager. Examples of these groupings include utility and sanitation assets, that is sewer and water systems, solid waste facilities, and so on; highways, roads, and bridges; publicly owned buildings; land or rights to land; certain improvements to land other than buildings; and certain equipment, vehicles and furnishings. Good asset management requires long-term commitment and leadership that goes beyond election cycles. The sequencing of actions needs to be defined locally and necessary technical skills have to be developed or obtained. Lastly, a good asset management practice needs strong ownership that is internalized by the local government (Farvacque-Vitkovic and Kopanyi 2014).

Leverage private investment. It is extremely rare that local governments can afford to take on massive urban infrastructure projects using only public funds. Therefore, PPPs have become important instruments for urban development. PPPs are used when the public sector lacks the necessary funds or institutional and human capacity and so shares the risks and rewards of urban regeneration projects with the private sector. For such projects to be effective, the partnership

Many cities in the developing world do not possess a proper and complete inventory of their assets.

details need to be fully laid out and the institutional and organizational framework be decided in advance. These PPPs can be structured in the form of concessions (contractual), mixed-income joint ventures (institutionalized) or can fall between the two models. Concessions have been mostly used in projects with user-fee revenues and easily measured metrics, and their potential usage in large urban regeneration projects needs to be explored further. Joint ventures are platforms for cooperation between the government and one or more private parties in the development and maintenance or execution of the project (Bult-Spiering and Dewulf 2006). Joint ventures are created through various institutional and legal structures, such as partnerships, limited partnerships, private limited companies or public limited companies. The joint ventures can be incorporated, in which case a special purpose vehicle (SPV) is usually created that is free from any pre-existing obligations and debts and is accountable on its own. Contrary to the concession model, where risks and rewards are transferred to the private sector, in joint ventures, public and private sectors share risks and rewards. In cases where the dominant partner in a joint venture PPP is the public sector, the joint venture acts as a contracting company. Any contract with a third party is subjected to the rules of public contracting. If the two sectors have equal shares in the partnership, it is essential to determine how much control the public sector has over the decision-making process (Bult-Spiering and Dewulf 2006). Figure 23 shows Kop van Zuid in Rotterdam, Netherlands, which was developed using an innovative PPP scheme on abandoned port land.

2.1.7 Urban governance

Urban governance refers to the process through which national, subnational and local governments and stakeholders collectively decide how to plan, finance and manage urban areas. The concept of governance recognizes that power exists inside and outside the formal authorities and institutions of government, and that decisions are made based on complex relationships between many actors with different priorities. Urban governance also refers to the structures and processes that are designed to ensure accountability, transparency, responsive-

ness, rule of law, stability, equity and inclusiveness, empowerment, and broad-based participation.

Recognizing the complexities of urban governance, the New Urban Agenda acknowledges and advocates for a multilevel approach. It calls for stronger coordination and cooperation among national, subnational and local governments, including through multilevel consultation mechanisms and by clear definition of mandates; coherence between goals and measures of sectoral policies at different levels of administration; and strong metropolitan governance based on functional territories rather than administrative borders - **NUA 90**. The New Urban Agenda also emphasizes participation of all urban residents in urban governance by encouraging collaborations among local governments, communities, civil societies and the private sector in infrastructure and basic services provision as well as urban and territorial policy and planning processes - **NUA 92**.

In the New Urban Agenda, national Governments also have a role to provide subnational and local governments “with adequate, timely and predictable resources and enhance their ability to raise revenue and manage expenditures” - **NUA 135**. The New Urban Agenda also contains an express commitment by Member States to adopt “a smart city approach that makes use of opportunities from digitalisation, 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” - **NUA 66**. It further identifies several uses of technology and data for better urban governance and provision of services including better urban planning and design - **NUA 94**, sustainable urban mobility - **NUA 114**, protection of cultural heritage - **NUA 125**, sustainable energy consumption - **NUA 121**, and facilitating participation and flow of information to urban residents - **NUA 156**. The New Urban Agenda also calls for the creation, promotion and enhancement of open, user-friendly and participatory data platforms to transfer and share knowledge among national, subnational and local governments as well as other urban stakeholders including residents - **NUA 160**.

Urban governance refers to the process through which national, subnational and local governments and stakeholders collectively decide how to plan, finance and manage urban areas.

Diagram 19: Urban governance



INTERVENTION MECHANISMS

URBAN GOVERNANCE

PRINCIPLES



Accountable decision-making

Government officials should act openly and share criteria used to make decisions and mechanisms to report public misconduct.



Participation and inclusivity

All stakeholders should be involved in public decision-making.



Subsidiarity and proportionality

Legal frameworks should empower local and subnational authorities fiscal and jurisdictional autonomy to carry out urban functions and service delivery.



Cooperation and efficiency

Local authorities should cooperate and establish inter-municipal institutional arrangements for joint decision-making, service provision and public investment.



Digitalization and knowledge management

While utilizing e-governance tools, governments should ensure that the data collected promotes social inclusion in the decision itself and outcomes.

ILLUSTRATIVE ACTIONS



Multi-level governance

Incorporate polycentrism collaboration and networking between public authorities and other urban stakeholders.



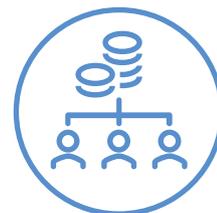
Metropolitan governance

Enable urban inhabitants to access urban goods and services across the urban-rural continuum through inter-jurisdictional agreements and collective action.



Stakeholder engagement

Involve all stakeholders (whole-of-civil society approach) in public decision-making to ensure that the outcomes do not deviate from the needs and priorities of the residents.



Fiscal and human resource capacity

Equip local authorities with the necessary resources and carry out appraisals of existing resources using a set of performance indicators, which might include total expenditure, degree of self-sufficiency, budget management performance, and service delivery performance.



Principles

At its best, urban governance ensures that all urban residents reap the benefits of urbanization. It is outcome-oriented and promotes the civil and political as well as social, economic and cultural rights of all urban residents. For this to be achieved, institutional arrangements, decision-making processes and collective action need to be coordinated. An inclusive urban governance system is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive. It assures that corruption is minimized, the views of minorities are considered and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society. The following principles lie at the heart of effective governance for sustainable urbanization:

Transparent and accountable decision-making.

Transparency requires government officials to act openly and allow those affected by administrative decisions to know about the resulting facts and figures (e.g., the city budget) as well as the criteria used to reach those decisions. Availability of information on government policies and actions, a clear sense of organizational responsibility, and an assurance that governments are efficiently administered and free of systemic corruption are important components of transparent governance. Accountability provides the framework for community oversight and reporting government misconduct as well as the framework for individuals to seek recourse for any harmful acts by public administrators.

Broad-based participation and inclusivity.

Governments should involve all stakeholders including communities, civil society organizations and other public and private institutions in public decision-making from the planning phase, implementation and in maintaining and sustaining the benefits and outcomes (whole-of-civil society approach). The participation model should always contain specific mechanisms to ensure that vulnerable and marginalized groups (based on gender, age, ethnicity and other characteristics) have adequate opportunities for their voices to be heard.

Subsidiarity and proportionality. Subsidiarity involves the delegation of resources, competences and decision-making powers to democratically elected lower-level authorities that are independent of central government. Local and subnational authorities should be empowered by legal frameworks to have the fiscal and jurisdictional autonomy to carry out urban functions and optimize service provision as they are better placed to understand and respond to local needs. Subsidiarity at the metropolitan level involves allowing metropolitan and regional institutions to assume local powers and functions which are transferred by mutual agreement.

Cooperation, efficiency and capacity building.

Urban management, including policy implementation and monitoring must be free of unnecessary bureaucracy. Human resource capacity is the basis for efficient delivery of public goods. In cities where territorial dynamics have surpassed municipal boundaries, local authorities should cooperate and establish formal and informal inter-municipal institutional arrangements, as well as metropolitan governing bodies for joint decision-making, service provision and public investment.

Local authorities should cooperate and establish formal and informal inter-municipal institutional arrangements, as well as metropolitan governing bodies for joint decision-making, service provision and public investment.

Figure 24: Residents of Mukuru informal settlement in Nairobi, Kenya, take part in data verification during settlement profiling.



Digitalization and knowledge management.

The use of e-governance tools and knowledge management strategies can facilitate greater access to urban services for dwellers and businesses, as well as creating new options for gathering and using data. Decision-making should be based on the most reliable and accurate available information. Data collected must be gender- and age-sensitive, promoting social inclusion in the decision itself and outcomes. Cities must implement and make sustainable knowledge management strategies and instances, such as observatories, information systems, think tanks and others that facilitate monitoring and implementation of territorial urban development.

 **Illustrative Actions**

Multi-level cooperation allows broad consultative processes and provides mechanisms for vertical and horizontal integration. Multi-level governance implies vertical coordination among different government levels such as municipalities, metropolitan authorities, regional, state/provincial and national governments. It also requires horizontal coordination among sectoral departments, authorities and governments, as well as non-governmental actors at the same governance level. Multi-level governance incorporates polycentrism collaboration and networking between public authorities and other urban stakeholders including civil societies, the private sector, community groups, and residents (whole-of-government approach).

Metropolitan governance enables urban inhabitants to access urban goods and services without jurisdictional constraints. Metropolitan governance supports the quest to leave no one and no place behind since it aims for balanced territorial development that facilitates housing, work, health, education and other fundamental socio-economic rights without the constraints caused by administrative boundaries and across the urban-rural continuum. Achieving metropolitan governance involves actions on three fundamental fronts (Box 15). First, institutional solutions (formal and informal arrangements) can offer a more efficient management of the inter-jurisdictional

Box 15: Inspiring practices on metropolitan governance from around the world

Metropolitan governance has been achieved in different ways around the world. The cases of Valle de Aburrá in Colombia; San Salvador in El Salvador; Montreal in Canada; Barcelona in Spain; Johannesburg in South Africa; and Singapore, show how to provide integrative territorial governance frameworks involving fit-for-purpose institutional solutions, representative decision-making bodies and processes, and common agreements and collective actions.

Regarding institutional solutions, the inter-municipal cooperation mechanisms such as those of the Barcelona Metropolitan Area (AMB) made up of 36 municipalities, the Montreal Metropolitan Community (CMM) with 82 municipalities or the Metropolitan Area of Valle de Aburrá (AMVA) with 10 municipalities, exemplify how associative schemes optimise territorial management, the provision of services and the implementation of projects that go beyond their municipal boundaries, without decreasing political-administrative or jurisdictional autonomies. In addition, the Metropolitan Agora in Montreal, the Tripartite Commission in Valle de Aburrá, and the Territorial Commission in Barcelona, are useful informal arrangements for diverse actors from public, private, and social sectors to actively participate in shaping inclusive metropolitan management.

Regarding decision-making, some examples like the Council of Mayors of the Metropolitan Area of San Salvador; the Metropolitan Council, Portfolio Clusters and Committees, Mayoral Committee, and Executive Team, in Johannesburg; and the Parliament, Cabinet, Community Development Councils, and Town Councils, in Singapore, show how different configurations of governing bodies have been set for regulating metropolitan institutions while achieving horizontal and vertical cooperation and representing local interests and priorities. Moreover, the Metropolitan Observatory, the Gauteng City-Region Observatory, and the Centre for Liveable Cities, have allowed San Salvador, Johannesburg and Singapore respectively, to share information about government activities, carry out public participation methodologies for inclusive territorial management, and increased transparency and social inclusion in decision-making processes.

Regarding common agreements and collective actions, the “Metropolitan Agreements” of AMVA; the “Resolutions” of CMM; and the “Metropolitan Organic Regulations and Decrees” of AMB, are all examples of binding administrative acts approved by their respective governing bodies, enacted as legal instruments and adopted by their metropolitan institutions for directing the work they carry out at supra-municipal scales. The “Joburg 2040 vision”, the Singapore’s vision on the “Liveable City”, and the San Salvador’s vision of being a “A sustainable, inclusive, competitive and resilient city, with a polycentric configuration,” have all been instrumental for those metropolises in generating collective actions between governments and other local actors in outlining medium and long-term strategic objectives.

Source: UN-Habitat. (2020). Metropolitan, Territorial and Regional Governance Assessment Framework.

and inter-sectoral complexity of territorial affairs. Second, decision-making processes and avenues (governing bodies and knowledge management) to approach territorial management from non-hierarchical perspectives. Third, there is a need for common agreements and collective action (administrative/ legal acts and common development visions) to support integration between several public, private and social actors.

Community and stakeholder engagement increase ownership, trust, reduce conflict and ensure sustainability.

The involvement of all stakeholders in public decision-making is key to ensure that the outcomes of these processes are realistic and do not deviate from the needs and priorities of the residents. Mechanisms such as surveys can be undertaken to identify the needs and views of a large number of people in a standardized format. It is often best to use a short and concise questionnaire where people's views on a specific issue, such as affordable housing development or transit service improvements, are being sought. Charrettes are also useful to assemble key decision makers to collaborate on information sharing, iterative design proposals, feedback and revisions for the development of complex urban projects, designs or policies. Participatory budgeting programs, in which community members decide how to spend part of a public budget, should be gender responsive and should create regional and thematic assemblies in which every member of the community regardless of their status can participate and vote on budget issues. Box 16 presents the Participatory budgeting mechanism of the city of Pune in India.

Fiscal decentralization and human resource capacity is key for efficient delivery of urban services and responsive governance.

As more urban functions get devolved, local authorities need to be equipped with the necessary financial, technical and human resources to fulfil their mandates. First, urban institutions should occasionally carry out an appraisal of existing resources using a set of performance indicators – which might include total expenditure, degree of self-sufficiency (i.e., proportion of own revenues to total), budget management performance (i.e., absence of deficits), and service delivery performance (i.e., client surveys). Second, to

Box 16: Participatory budgeting in India (city of Pune)

Action Participatory budgeting, an alternative to traditional budgeting styles, allows people to deliberate and negotiate over the distribution of public resources.

Pune became the first Indian city to successfully implement participatory budgeting in 2005. Every August, the city's municipal corporation publishes an advertisement and invites suggestions from its people for civic works to be included in the forthcoming municipal budgets. People have a month to submit their proposals by filling up the 'Citizen Suggestion Form' available online and at the ward office. Next, the proposals are sent to the prabhag samiti, made up of elected representatives of the locality.

The samiti approves the suggestions and sends the updated list to the accounts department of the corporation for scrutiny. The accounts department looks at the financial feasibility and sends a final list which is then included in the city budget. The regulations mandate that the individual projects cannot cost more than Rs 5 lakh (\$6,677) and that each of the 76 prabhags (division) in the city can allocate a maximum of Rs 50 lakh (\$66,782).

People can demand works on pavements, streetlights, bus stands, public toilets, water, parks, signage, roads, traffic lights, public parking, garbage management, drainage etc. Civil society played a crucial role in popularizing the initiative. In 2010, non-profits Janwani and the Centre for Environment Education distributed story-format booklets to sensitize people and carried out over 100 workshops.

Impact In 2007-08, the budgetary allocation was Rs 17.62 crore (\$2,353,411), which reached Rs 37.5 crore (\$5,009,451) in 2014-15. Even the total number of suggestions increased from 600 in 2012-13 to 4,645 in 2014-15. The 846 works approved in 2014-15 were for roads (34%), electricity (20%), buildings (15%), drainage (14%), slum redevelopment (13%) and water (4%).

Source: Our Pune, Our Budget

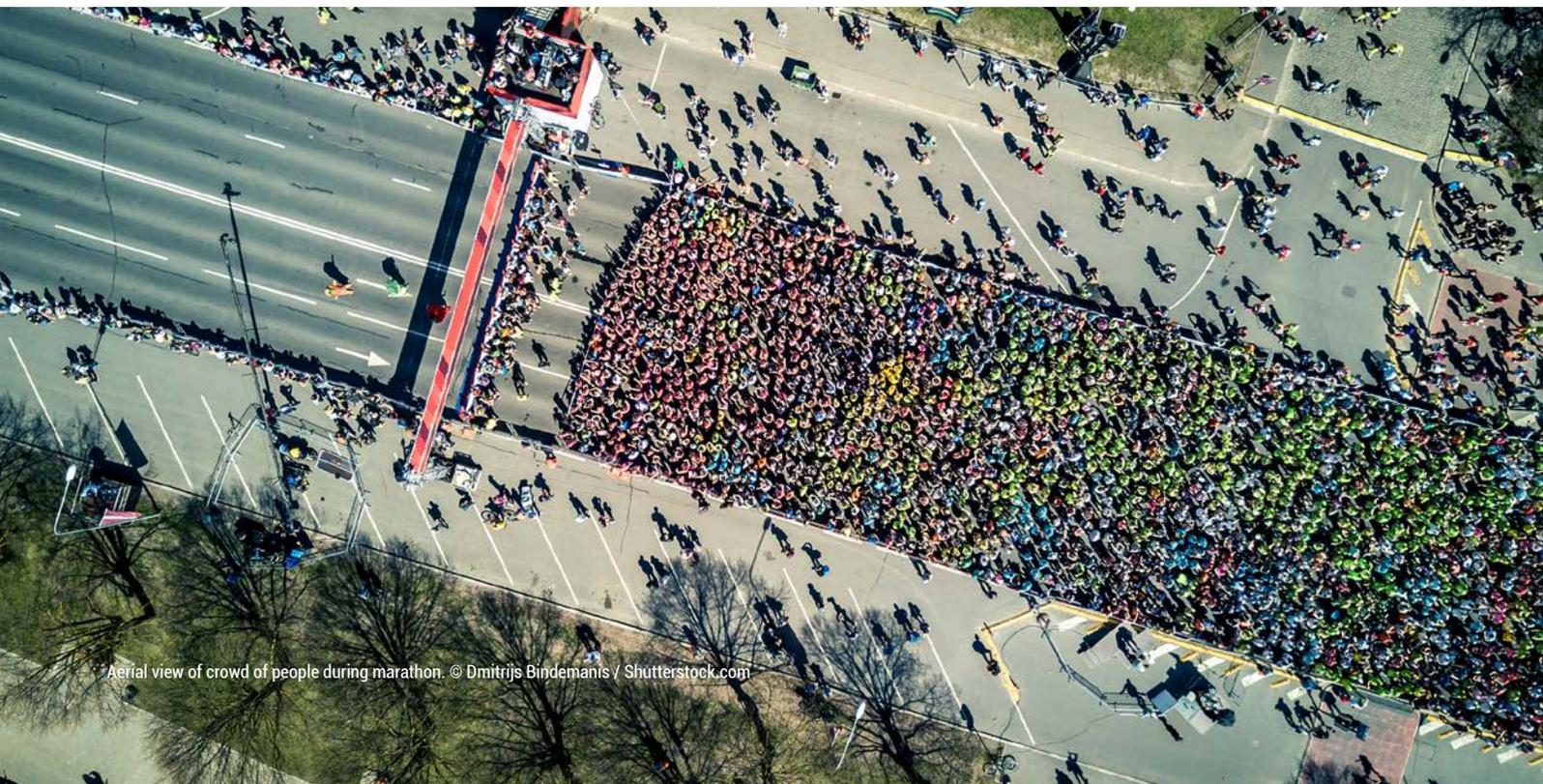
address any capacity constraints, institutions should implement a systemic approach that mobilises different types of education and training – high and middle-level education, technical courses, peer-to-peer learning and technical support. This includes local government and civil society exchanging information and knowledge. The involvement of civil society requires capacity building to improve the ability of community leaders and public institutions to engage in dialogue to support a collaborative approach.

Digital platforms and technology create an enabling environment for smooth provision of city services and infrastructure. Big data, the internet of things (IOT), social media, blockchain and sensor networks offer new ways for urban managers to make informed decisions and strategic choices. This process creates smart cities which use information to produce smart governments (through new forms of e-government, evidence-informed decision making, better service delivery, and increasing transparency, participation and accountability); smart economies (by fostering entrepreneurship, innovation, productivity such as the app economy and open data economy); smart mobility (by creating intelligent transport systems and efficient, inter-operable multi-modal public transport); smart environments (by promoting

sustainability and resilience and the development of green energy); smart living (by improving quality of life, increasing safety and security, and reducing risk); and smart people (by creating a more informed public and fostering creativity, inclusivity, empowerment and participation). Given the data security concerns and the vulnerability of computing systems to hacking, crashing, and viruses, a large amount of personal information is at risk of misuse. Legal frameworks have a crucial role to play here, to increase data protection and strike a reasonable balance between individual rights on the one hand and public interests on the other.

Decision-making, territorial management instruments and administrative acts must include common development visions. Development visions agreed through effective participatory processes must guide both the decision-making processes and the work made by local governments and sectoral institutions. Additionally, development visions should be included in territorial management instruments, especially in those with medium and long-term time periods. To the extent possible and as appropriate, development visions should be inspired by global agendas, as well as link territorial management with socio-economic development.

Development visions agreed through effective participatory processes must guide both the decision making processes and the work made by local governments and sectoral institutions.



Aerial view of crowd of people during marathon. © Dmitrijs Bindemanis / Shutterstock.com

2.2 Hard measures for infrastructure and services

2.2.1 Transport and Mobility

Transportation is an essential component in planning and policymaking. It will become an even more imperative priority as urbanization continues, and the populations and spatial footprints of cities grow and expand. Transportation is what allows urban agglomeration effects to occur, as transit infrastructure is what allows residents to access clustered resources. Residents of cities are connected to employment, resources and education via transportation networks.

Transportation and mobility are important topics in the New Urban Agenda especially because they facilitate urban-rural connections and enable “meaningful participation in social and economic activities in cities and human settlements” - **NUA 114**. The integration of transport and mobility plans into overall urban plans and promotion of a wide range of transportation options are recommended and emphasized in the New Urban Agenda. Further, the New Urban Agenda recommends a) an increase in accessible and sustainable public transport and developing non-motorized options; b) transit oriented development (TOD); c) better coordinated transport and land-use planning and d) urban freight planning that enables efficient access to products and services. **SDG 11** encourages cities around the world to “provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons” - **SDG Target 11.2**.

Urban connectivity is a function of not only infrastructural investment and capital planning for transportation systems, but also land use planning and density management (Cervero 2016). The New Urban Agenda suggests better coordination between transport and urban and territorial planning at the national, subnational and

local levels - **NUA 117**. When spatial planning is not oriented around connectivity both in terms of land use and transit investment, cities do not realize the development potential that can result from urbanization. These challenges will be even more pressing in the future, when congestion is set to increase. For example, by 2030, passenger traffic will increase 50 per cent from the 2015 rate (Sustainable Mobility for All 2017). The New Urban Agenda also emphasizes the importance of freight and the transportation of goods, which are also set to increase, as components of mobility and transportation planning. For example, global freight volumes will grow 70 per cent by 2030, and the costs of freight and export processes are typically higher in developing countries (Sustainable Mobility for All 2017). Both the quality of life of residents and the macroeconomic state of individual countries, regions and cities hinge on transit planning.

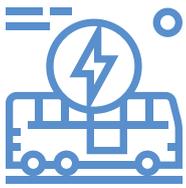
However, given the rapid growth of cities, public transportation and road networks are not growing fast enough. Existing transportation systems have fallen into disrepair and neglect and will need to be retrofitted and expanded. For example, despite being one of the world’s most famous transit systems, New York City has stated a need for

The integration of transport and mobility plans into overall urban plans and promotion of a wide range of transportation options are recommended and emphasized in the New Urban Agenda.

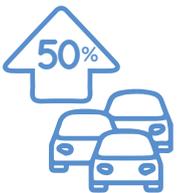
Figure 25: People on board the Blue Ferry in Dar es Salaam, Tanzania.



Diagram 20: Transport and mobility



**HARD MEASURES
TRANSPORT
AND MOBILITY**



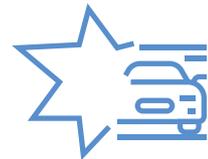
By 2030, passenger traffic will increase by 50% compared to 2015.



Global freight transportation will grow **70%** by 2030.



Transportation contributes to 23% of global energy-related greenhouse gas emissions.



1.24 million people die from road accidents every year.

PRINCIPLES



Connectivity

Transportation and connectivity enable access to clustered resources and the agglomeration effects of cities to all residents.



Economic development

Development of economic sectors follows connectivity options within and between cities.



Land use

Land use planning must accompany the development of transportation networks.



Transit equity

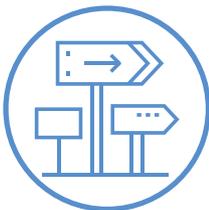
Plans for transit equity, specifically for the needs and experiences of overlooked groups.



Rural areas

Urban transportation should extend to rural and suburban areas when possible.

ILLUSTRATIVE ACTIONS



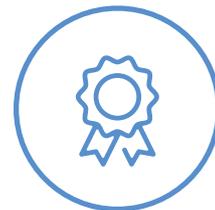
Right-of-way

As cities expand, preserve right-of-ways and space for transportation networks.



Corridor planning

Master planning and transit corridor planning processes can present an integrated vision of transit investment.



Equitable success

Develop policies that provide the poor access to transportation, including transit subsidies or caps based on percentage of income.



Value capture

Land value capture and transit-oriented development can help fund new infrastructure.



Multiple cores

Concentrate economic development efforts outside of the urban core to reduce congestion.



Resiliency

Plan for disaster resiliency.

\$16.3 billion in investment in its transit system (Forman 2014). In the developing world, some urbanized settlements will require the development of transportation systems from scratch. The New Urban Agenda encourages “national, subnational and local governments to develop and expand financing instruments, enabling them to improve their transport and mobility infrastructure and systems, such as mass rapid-transit systems, integrated transport systems, air and rail systems, and safe, sufficient and adequate pedestrian and cycling infrastructure and technology-based innovations” - **NUA 118**.

As governments continue to invest in transit systems, planners should understand that inequalities also exist in transit development, where persons with disabilities, women, children and low-income residents may not be adequately considered or included in the planning of transportation systems, resulting in city transportation networks that are not wholly inclusive or considerate of the needs of these individual groups (Sustainable Mobility for All 2017). For example, women often take more trips than men, due to childcare and domestic needs; they are also more likely to travel as pedestrians in the developing world because they have limited

transportation options, are a lower priority for mobility, lead lower-income households and face the possibility of harassment (Rivera 2007).

Transportation networks as they exist today are also fraught with several negative externalities. Dependence on individual cars results in pollution, spatial isolation and unequal access to goods and services, as well as deaths and injuries resulting from road safety issues. Public transportation systems are safer than private vehicle transportation. Private car transportation is one of the most unsafe and costly modes of travel; a person traveling on a bus is 10 times safer than occupants of cars. Around 40 to 50 per cent of road accidents occur in urban areas, with a larger share of them occurring in developing countries, where road configurations and traffic patterns are more irregular and difficult to navigate. According to WHO (2020), annually, 1.35 million people around the world die from road accidents.

The New Urban Agenda also underlines the importance of developing “sustainable and efficient transport infrastructure” by generating and using renewable and affordable energy where possible to reduce the financial, environmental and public health costs of inefficient mobility, congestion,

The New Urban Agenda underlines the importance of developing “sustainable and efficient transport infrastructure” by generating and using renewable and affordable energy to reduce the financial, environmental and public health costs of inefficient mobility, congestion, air pollution, urban heat island effects and noise - NUA 54.

Figure 26: Air pollution in Cairo, Egypt.



air pollution, urban heat island effects and noise - **NUA 54**. Many cities around the world are challenged by air pollution, which in part is caused by automobile use (see Figure 26). Transportation is the highest energy consuming sector in 40 per cent of countries worldwide, meaning that it is linked to GHG emissions as well as climate mitigation. Emissions from transportation are set to increase 40 per cent between 2013 and 2040. As such, the development of low-emissions public transportation systems also relates to climate change mitigation. Currently, the sector contributes 23 per cent of global energy related GHG emissions. Beyond GHG emissions, the pollution emitted by vehicles has severe public health impacts for those living near highways and major arterials. For example, a study based in New Delhi estimates that vehicular pollution in the city and outlying areas causes an estimated 7,350 to 16,200 premature deaths and 6 million asthma attacks annually (Goel and Guttikunda 2013).

In accord with the New Urban Agenda, **SDG 11** also relates to this example and air quality concerns around the world. The text of the Goal describes the scale of this public health issue; 9 in 10 individuals living in urban areas breathe in

more particulate matter than recommended by the World Health Organization (United Nations Sustainable Development Goals). As wealth levels increase in developing countries, walking, bicycling and motorbike transport are shifting to car driving, which increases pollution and emissions, encourages development that is difficult to navigate without a personally owned vehicle and reduces overall safety in cities (Hong and others 2015). By 2050, it is expected that the number of motor vehicles worldwide will increase to 2.6 billion, with much of the growth occurring in developing countries such as China and India (Cervero 2013). **SDG Target 11.2** specifically calls for the development of sustainable transit for all, which is important in its own sense, but essential for other SDG goals. For example, the provision of adequate food security - **SDG 2** or education and school attendance - **SDG 4** and others are contingent upon transportation networks (Sustainable Mobility for All 2017). Figure 26 shows traffic build up along a busy street in Dar es Salaam, showing the advantages of the BRT system over the traditional “daldala”.

SDG Target 11.2 specifically calls for the development of sustainable transit for all, which is important in its own sense, but essential for other SDG goals.

Figure 27: Bus Rapit Transit (BRT) system in Dar es Salaam, Tanzania.





Principles

Transportation and connectivity are important for the fulfilment of several other development goals; without the ability to access clustered resources, the agglomeration effects of cities cannot accrue to all residents.

Low-income workers living in the peripheries of cities who are unable to access good transportation cannot experience increases in quality of life due to urbanization. For example, a study of urban peripheries in India concluded that for peri-urban residents to access the resources they need, transportation and connectivity between urban and rural areas needs to be greatly strengthened (Narain and Nischal 2007). A study of peri-urban communities in Altos de Cazucá, outside of Bogotá, describes how residents are extremely limited in transportation options, sacrificing time and safety in order to access essential services via informal transportation. Social exclusion can also result when outlying areas do not have access to economic opportunities and public services closer to the urban core (Hernandez and Titheridge 2016).

The development of economic sectors relates to and follows connectivity options within and between cities. Sector development can be enabled by transportation, and cities should be deliberate about sectoral and economic development when investing in transportation. For example, the development of road networks in Colombia resulted in the development of lighter manufacturing industries; meanwhile in Chinese cities, highways within cities have decentralized the services sector, and railroads have decentralized the industrial sector (Sustainable Mobility for All 2017). Furthermore, developing countries pay 40–70 per cent more to ship internationally per dollar of import (Sustainable Mobility for All 2017). These dynamics also exist in developed countries. For example, in St. Paul–Minneapolis, sectors differ by the types of transportation necessary to access them (Fan and Tilahun 2014).

Land-use planning must accompany the development of transportation networks. Though it is important for cities to make investments in transit, without proper land-use planning, investing

in transit infrastructure may not result in increased connectivity, quality of life and prosperity for all residents of cities. Cities in the developing world are usually denser than their North American and European counterparts, but density levels are falling at a more rapid rate than in the developed world as cities expand, meaning that those in sparsely served areas are even more isolated from resources. Transportation networks need to be even more extensive to cover cities with falling densities (Cervero 2013). Land-use and transportation planning can be considered together, where transportation can be adapted to fit the land-use profile of a city, or land-use changes and densification can occur to suit the needs of new transportation. Four categorizations are helpful to consider: 1) adaptive cities, where cities utilize infill and other densification measures in order to plan for the introduction of transportation infrastructure, 2) adaptive transit, where transportation infrastructure is built considering a city's layout, even in the case of a low-density urban form, 3) strong core cities, where cities develop inner cores for economic primacy and transportation is concentrated in these areas and 4) hybrid models where transit hubs exist in several major dense centres, while accessibility is still available for lower-density suburbs and exurbs (Beatley and Wheeler 2014).

Plan for transit equity, specifically for the needs and experiences of overlooked groups. Transit planning efforts often do not serve groups equally. For example, in Los Angeles, the city had invested in the development of an urban rail system that would connect suburban dwellers with downtown. At the same time, the city's bus services were underfunded; bus riders worked together as a coalition to advocate for funding to improve buses, which were widely used by a poorer class of residents within the urban core (Grengs 2002). Investment in transportation is not a social good for its own sake, and the poorest and most marginalized populations have the most to gain from access to transportation. Cervero (2013) describes how bus systems may be more suited for poorer and otherwise isolated populations compared to investment in rail and tram systems.

Sector development can be enabled by transportation, and cities should be deliberate about sectoral and economic development when investing in transportation.

Urban transportation does not just include transport within cities, but also between them and to rural and suburban areas. Without a larger view of urban-rural linkages, especially in countries that are seeing mass migration to cities, the peripheries of cities will not achieve necessary connectivity. For example, Akkoyunlu (2015) prescribes that rural-urban areas be considered regional administrative units in the context of economic development planning, as this is the means by which trade and knowledge exchange occurs between urban and rural areas. Such activity may be essential in achieving poverty reduction in developing countries.

 **Illustrative Actions**

As cities expand, preserve the right of ways and space for transportation networks. Transportation networks may not expand at the rate that cities are expanding. In the developing world where outward expansion is often informal expansion, right of ways should at least be preserved for the development of public services and future transportation networks.

Master planning and transit corridor planning processes can present an integrated vision of transit investment. Because transportation can serve a number of ends related to economic development and improvements in quality of life, master plans that include stipulations for land use can ensure that the goals of the development are met. For instance, in Jordan, Amman’s master plan of 2008 promotes high-density, mixed-use development through the identification of growth centres, intensification along select corridors across the city and the provision of safe and efficient public transportation (Cervero 2013).

Develop policies that are focused on providing the poor access to transportation, including transit subsidies or caps based on percentage of income. Reduced fare programs or policies that set caps on the cost of transportation can ensure that the poor still have access to essential services. Households

should not have to expend more than 10–15 per cent of overall income on transportation and commuting (Cervero 2011).

Land value capture and transit oriented development can allow for the funding of new infrastructure. In general, public transport, cycling and pedestrian commuting are dependent on high densities to be efficient (Pojani and Stead 2015). Transit oriented development or infill conducted around transit infrastructure is a solution to this, where infrastructural investment is accompanied by land-use changes whose values may be captured by individual municipalities. Transit oriented development has been leveraged in several places. For example, in Hong Kong’s Mass Transit Rail (MTR) rail network, policies leverage the value created by transit investments to fund the expansion of the transit system. The government provides rights to public land at a “before-rail” development price and following the development of transit and developer funded improvements, sells the land at a “post-rail” price, to recoup the costs of transit investment (Hong and others 2015).

Concentrate economic development efforts outside of the urban core to reduce congestion. Cities in the developing world are more often clustered around one centre of employment in the urban core, rather than multiple centres. The former is referred to as monocentric development, while the latter is referred to as polycentric development. As such, transportation to the urban core tends to be highly congested, and transportation is inadequate (Cervero 2013).

Plan for disaster resiliency. Natural disasters cause direct damage to power generation and transport infrastructure, costing about \$18 billion a year in low- and middle-income countries. Transportation systems need to be able to respond to emergencies; their design, financing and maintenance should be aligned with climate adaptation and emergency preparedness systems to ensure their viability.

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2.2.2 Energy

Energy is a sector that is mentioned alongside housing, water, sanitation, education, and transport in the New Urban Agenda. The New Urban Agenda highlights the importance of renewable and affordable energy and the issue of equity in energy distribution. It mentions that the energy needs of all people, “particularly the poor and those living in informal settlements must be considered” - **NUA 54**. Furthermore, it commits to encouraging Governments “to develop sustainable, renewable and affordable energy and energy-efficient buildings and construction modes and to promoting energy conservation and efficiency, which are essential to enable the reduction of greenhouse gas and black carbon emissions, ensure sustainable consumption and production patterns, help create new decent jobs, improve public health and reduce the costs of energy supply” - **NUA 75**.

Energy remains an important issue for municipal planners and higher level governments. Energy use within urban areas now accounts for approximately two thirds of overall energy usage worldwide (IRENA 2016). Its governance encompasses several issues within the purview of cities, including zoning, building codes, publicly owned facilities and assets and the involvement of individual businesses and homeowners in energy planning. While an important issue for municipalities, energy also concerns regional and national goals related to reducing emissions, climate adaptation and extreme weather conditions.

Power reliability and the economic and security consequences of inefficient or unreliable systems concern multiple levels of government. Similarly, public health and quality of life issues relate strongly to energy, where pollution and emissions associated with the burning of fossil fuels can pose a major public health threat. Liquid fuel (primarily oil) composes a large part of energy sources globally; in 2019, RFF (2019) estimated that 28–32 per cent of global energy consumption resulted from this source (Aldana, Newell and Raimi

2019). Without ambitious policy goals related to climate mitigation, global energy consumption is slated to increase 20–30 per cent by 2040, with fossil fuel consumption growing most; while energy consumption in Europe and North America has been relatively flat, the rapid development of countries like China and India will increase overall consumption (Aldana, Newell and Raimi 2019). Given this rapid growth in consumption, cities will need to consider their existing and future building stock and the ways in which renewable and clean energy can be incentivized and deployed locally.



Principles

Modeling, data collection, and long-term planning are essential components for energy efficiency and conservation planning.

The work involves multiple sectors that operate with disparate goals and may not necessarily coordinate. Cities that seek to reduce energy usage need to consider usage from a variety of sectors, including housing, major industries and commercial activities, transportation and publicly owned facilities. Cities should conduct analyses to determine pathways for energy reduction within individual sectors. Stepwise pathways can be helpful to ensure that the city is staying on track and able to meet long-term goals. Cities should consider the detail that different analytical scopes encompass. For example, a multisector, comprehensive study would be highly resource intensive, while a more cursory review of multiple sectors would be a more manageable analysis. Cities may also choose to study a single sector or their own internal operations to begin an energy auditing process. There are several resources to support energy audits. For example, the World Bank published the Energy Sector Management Assessment Program (ESMAP) for government, which includes guidance on assessments of various scopes. In choosing sectors to evaluate, governments should also consider the level of influence they have on industry practices and where study and policy intervention may be the most impactful (World Bank 2014a).

The New Urban Agenda highlights the importance of renewable and affordable energy and the issue of equity in energy distribution.

Diagram 21: Energy



HARD MEASURES ENERGY



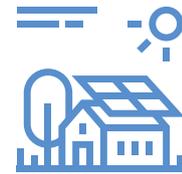
Cities account for 2/3 of all energy use worldwide.



1/3 of global energy consumption is fueled by oil.

Global energy consumption will increase **20-30%**

without ambitious climate mitigation policies.



5% of global energy is supplied by renewables.

Source: IRENA 2016 renewable energy in cities resources for the future (2019) global energy outlook.

PRINCIPLES



Modeling and data

Modelling, data collection, and long-term planning are essential components for energy efficiency and reduction planning.



Energy efficiency

Energy efficiency can benefit those living under the poverty line by reducing energy costs, improving building stock, power reliability and climate resiliency.



Land use

Energy efficiency systems are relative to current and planned land use patterns.



Local governance

Local governance is important for encouraging behavior change among individual residents and industries.

ILLUSTRATIVE ACTIONS



Institutional management

Streamline institutions and clarify responsibilities between local, regional and central governments as it relates to electrification and energy management.



Community energy plans

Develop community energy plans.



Performance standards

Develop green and energy efficient building performance codes and standards.



Retrofits

Develop building retrofit incentive programs.



Municipal renewable energy

Developing financing mechanisms to enable individual municipalities to invest in renewable energy.



Informal areas

In informal areas, improvement programs should include electrification and energy planning.



Public procurement

Develop procurement programs & standards for public properties.

Energy efficiency stands to benefit those living under the poverty line by reducing energy costs and also improving building stock, power reliability and climate resiliency. Energy efficiency measures present an opportunity for cities to save money and reduce their carbon footprint, and also to convey important quality of life benefits to the poorest residents. For example, improving poor building stock to make heating and cooling more efficient can also have indoor air quality and public health benefits for individuals living in older and poorly maintained structures (Bouzarovski 2014). The provision of more reliable power in areas where power is known to be unreliable can improve social relations and increase the hours in which household tasks and studying can be done (Haines and others 2007).

Energy efficiency systems relate to current and planned land-use patterns. Land use and city layout will affect the ability of cities to implement energy efficiency and deploy renewables. For example, a lower-density city may benefit from the financing and placement of distributed energy resources, while a higher-density city would be able to implement more integrated, district wide heating and cooling systems (IRENA 2016).

Local governance is important for encouraging behavior change among individual residents and industries. While cities may not have the ability to govern regional or even national energy generation and transmission systems, they are uniquely able to educate residents and commercial entities regarding energy use, efficiency and renewables within their jurisdictions. Local officials also have more direct relationships with industry players and individual residents and are therefore well positioned to encourage energy efficient behavior. They can also provide education regarding incentive and subsidy programs to implement retrofits and better energy management practices (IRENA 2016).



Illustrative Actions

Streamline institutions and clarify responsibilities among local, regional and central governments as related to electrification and energy management.

Cities and regional governments that are seeking to increase power reliability, energy efficiency and renewables deployment may have shared responsibilities that are not very clear, especially when private utilities are also involved. For example, in the 1990s in Delhi, peri-urban areas were without clear service providers because the government assigned one utility to provide service to rural areas and another to urban areas, without considering peri-urban dwellings outside of this clear demarcation (Singh et al. 2015).

Develop community energy plans. Community or district level energy plans can serve multiple ends. They can allow individual neighbourhoods or communities to have autonomy over energy systems and also allow for cheaper purchasing prices from energy efficiency and renewable energy vendors. Community level plans can also focus on adaptation to extreme weather. For example, neighbourhood level microgrids can allow individual neighbourhoods to save money and also provide backup power in the event of power loss.

Develop green and energy efficient building performance codes and standards. While many cities in the developed world have building codes tailored around energy efficiency and use, building codes in the developing world are not often as strictly enforced, and municipalities do not have the knowledge base or technical expertise to develop codes appropriate for their building stock. Rapid urbanization also implies that a large part of the built environment is currently being added to developing cities and will continue to be added in the future. As such, building with energy efficient practices is immensely important. There are multiple international programs that exist to assist developing cities in this process, including World Resources Institute's Building Efficiency Accelerator Center and the World Bank's City Energy Efficiency Transformation Initiative.

Energy efficiency measures present an opportunity for cities to save money and reduce their carbon footprint, and also to convey important quality of life benefits to the poorest residents.

Develop building retrofit incentive programs.

These programs work by incentivizing homeowners and business owners to retrofit homes and commercial establishments. Retrofit programs can assist individual homeowners and businesses in reducing overall energy usage, while also engaging them in energy efficient practices and behaviors. For low-income residents, retrofits can also improve heating and cooling for overall health and quality of life, especially for those living in poor building stock.

Develop financing mechanisms to enable individual municipalities to invest in renewable energy. One example of such financing tools is a green revolving fund, which is used to promote cost savings. It is called “revolving” because a portion of the savings are used to replenish the fund so it can be reinvested in future energy efficiency projects.

In informal areas, slum improvement programs should include electrification and energy planning. For example, the provision of tenure and land regularization was done in conjunction with electrification in Bangladesh. Governments need to provide benefits to informal dwellers to formally participate in energy utilities, as illegal or informal connections may be cheaper for already impoverished residents (Ackom and others 2015).

Develop public procurement programs and standards for public properties. Procurement policies can be changed to focus on energy efficient purchases, rather than the least cost option.

2.2.3 Solid waste

The New Urban Agenda encourages investing in protective, accessible and sustainable infrastructure and service provision systems for water, sanitation and hygiene, sewage and solid waste management. It declares its support for “decentralized decision-making on waste disposal to promote universal access to sustainable waste management systems” and highlights the importance of producer responsibility schemes that “include waste generators and producers in the financing of urban waste management systems” in order to mitigate the socioeconomic impacts

of waste generation and to promote recycling rates **NUA 122. SDG 11** asserts that cities should pursue environmental sustainability by reducing the adverse impacts of cities through improvements to waste management - **SDG Target 11.6**.

The waste generated by cities is of enormous consequence, and solid waste is a pressing issue for urbanization, as it relates to public health, land use and climate mitigation (see Figure 28). Solid waste generation is set to outpace population growth by more than double by 2050. Worldwide, approximately 2.0 billion tonnes of solid waste is generated annually; of this amount, around a third is not managed sustainably. Solid waste emits 1.6 billion tonnes of carbon dioxide, accounting for 5 per cent of emissions. Low-income developing countries struggle with the management and processing of waste; municipalities spend large shares of their budgets on waste management, approximately five times the share that high-income municipalities expend on average. Additionally, over 90 per cent of waste in low-income countries is openly dumped or burned, rather than being collected and processed formally. Collection in low-income countries has significantly increased from 22 to 39 per cent (Bhada-Tata and others 2018).

However, per capita waste generation is highest in high-income countries. These countries make up 14 per cent of the population but generate 34 per cent of the waste produced globally. Without significant action, per capita waste generation in high-income countries will increase 19 per cent by 2050; this value is growing at a slower rate than is anticipated for developing countries, where per capita generation is expected to increase 40 per cent. Waste generation is growing rapidly in sub-Saharan Africa, South Asia, North Africa and the Middle East. In these regions, half of waste is openly dumped. In high-income countries, around one third of waste is recovered through recycling and composting. Land use is critical to considering solid waste, as cities expend fewer resources on collecting waste from high-density areas. However, cities that are extremely dense must also consider allocating land on which waste can be treated and disposed. Around 37 per cent of waste is disposed in a landfill, and open dumping constitutes around

The New Urban Agenda encourages investing in protective, accessible and sustainable infrastructure and service provision systems for water, sanitation and hygiene, sewage and solid waste management.

Diagram 22: Solid waste

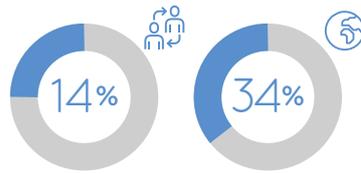


HARD MEASURES SOLID WASTE



1/3 of 2 billion

tons of solid waste generated globally every year is not managed sustainably.



14% of the population **34% of all waste**

Per capita waste is highest in high-income countries who account for 14% of the population but generate 34% of all waste.



90% of waste in low-income countries is dumped or burned.

PRINCIPLES



Awareness

Minimize waste and create awareness for segregating the waste suitable for recycling, reusing and environmentally friendly disposal.



Institutional capacity

Solid waste management requires institutional capacity to manage revenue collections and enforce regulations.



Include waste workers

Make policy inclusive of waste workers and find alternative employment and/or incorporate these workers in the existing institutional arrangements.



Mobilize investments

The local authority should be able to mobilize adequate investments for environmentally sound waste management.

ILLUSTRATIVE ACTIONS



Food loss waste

To prevent food loss waste (FLW), develop industry support networks for agricultural producers, in addition to promoting behavior change.



Variable fees

Consider charging variable fees to reduce waste production for individual households and commercial establishments.



Funding support

Develop national and regional funds to support struggling municipalities with infrastructure development and revenue management.

a third of overall waste disposal; the remainder is either recycled or incinerated (Bhada-Tata and others 2018).

Much of solid waste management in developing countries is carried out by manual scavengers (who are called conservancy workers, rag-pickers or waste pickers). Box 17 describes the work of salvagers in South Africa. These invisible environmental workers are poorly paid, have no social security, are discriminated against by mainstream society, work in unhygienic and unhealthy environmental conditions and have poor self-esteem. There is no information on their distribution worldwide or their contribution to the economy of solid waste management. Waste Pickers Around the World estimates about 410 organizations exist worldwide (Global Alliance of Waste Pickers). Of these, about 27 per cent are in Brazil, 21 per cent in India and 12 per cent in Colombia. Estimates in India reveal about 1.5 to 4.0 million workers as of 2017 (Dandapani 2017). However, these could be underestimates. Brazil estimates that there are about 400 to 500 waste pickers in the country, contributing to about 90 per cent of the waste economy (De Miranda 2016). Some of the activities of these workers need to be banished; others need to be replaced or formalized. Brazil has taken steps to create a policy inclusive of these workers.



Principles

Minimizing waste and creating awareness about segregating waste for recycling, reusing and disposing in an environmentally friendly manner is important. Given the diverse social and cultural diversity in urban regions, residents treat solid waste as a “not-in-my-backyard” issue. Littering waste on roadsides, riverbanks and lakesides is a common disposal practice. It is important to build awareness for minimizing and segregating waste through hygiene campaigns. Such an approach could empower urban communities to play an active and unique role in development initiatives.

Solid waste management requires institutional capacity at either the central or municipal level to manage revenue collections and enforce regulation. Such capacity cannot be outsourced to private-sector actors, as this would require additional monitoring. For example, a review of solid waste collection for municipal areas in Pakistan is revelatory; there appear to be few policies to define solid waste management, and legislation is very lacking (Ahmed and others 2007). A review of solid waste management in Malaysia and India reveals that while policies and legislation are in place to regulate the collection and open dumping of waste, they are not well followed by local stakeholders,

Solid waste management requires institutional capacity at either the central or municipal level to manage revenue collections and enforce regulation.

Figure 28: A solid waste dumping site (left), waste segregation by waste pickers (right) in Cape Coast, Ghana.



Box 17: Salvagers in the Waste Management Process: Odi Mortele Region, South Africa

The North West Province, the Odi Moretele region, encompasses the towns of Temba, Ga-rankuwa, Mabopane and Winterveld, which were dormitory towns during the apartheid period in South Africa. The total population is 149,068 with a growth rate of 3.5 per cent. The total area is 3,566 square kilometres, of which only 30 per cent is urban, where 70 per cent of the people live. The poverty level averages at 45 per cent. There are 32,557 households producing refuse.

Challenges The need for orderly waste disposal was a priority. To achieve this, all the uncontrolled dumping sites had to be identified. The type of waste generated had to be analyzed, including waste volume and source of generation. Current regulations discourage salvagers at waste sites. All regulations and all the technical requirements were adhered to, except the prevention of salvagers.

Action Each uncontrolled dumping site was properly investigated in respect to pollution and its effect on the environment. The Provincial Department's main objective was to establish registered waste disposal sites and manage them effectively and, in the process, accommodate the salvagers. The Provincial Department identified the need for proper waste management in said towns and provided financial support. A Department engineer was tasked with the facilitation of the process. The consultant provided technical expertise and monitored the process. The municipalities assisted in identifying local problems and provided political support.

In addressing the presence of salvagers, the following steps were taken. 1) A leader was identified among the group. They were to keep order among the salvagers and act as spokesperson with the site operator. 2) Clean drinking water and toilet facilities were provided.

3) Health care and education facilities were provided. Welfare bodies were requested to visit the landfill sites on a regular basis.

Impact Salvagers, mostly discarded by society, were included in the waste management process. The salvagers reduced the waste volume going to the landfill sites and enhanced the process.

Before the upgrading of the uncontrolled waste sites, people were indifferent to the environmental degradation caused by such acts. The waste at these sites was dumped haphazardly and strewn all over. The whole area was a quagmire of filth shared by both humans and animals. The Mabopane site was not only large, it was a smelly and ugly sight. Further, it was polluting a stream running alongside. The town was encroaching on the dumping site.

Now there is systematic collection of household waste, which is disposed of under controlled conditions. This site was closed and turned into a park where children from the surrounding area and those of salvagers play. The area in which the salvagers now work is clean and dry and no longer the quagmire it was. This is a vast improvement in the working environment. As a group, the waste pickers are able to articulate their wishes and concerns and achieve results. They feel accepted by society and have access to safe drinking water, toilets, healthcare and education. They have established a viable market for their goods through regular buyers. The records at the sites from March 1994 to June 1999 show that, per month, the Mabopane transfer received on average 4430 cubic metres of waste, Ga-rankuwa 4270 cubic metres and Temba 2205 cubic metres. Salvagers have managed to reduce this incoming waste volume by 40 per cent. The project has cleaned up the environment and prevented pollution of the river and groundwater. The project is built on partnership between the provincial government, local councils, the private sector and the salvagers.

Source: UN-Habitat

both on the side of enforcement from the public sector and the side of individual commercial actors (Abas and Wee 2014). In Ghana, there are no policies for solid waste management, but a company is established under a PPP to promote waste management. Their outreach and coverage are limited to collection of public containers and disposal, with local authorities responsible for household collection. With limited financial and regulatory roles, the local authorities are not able to fulfil these collections. Beyond the development of policies and laws, and their enforcement and implementation, governments need to have the capability to collect and manage revenue to develop collection and transfer services.

Solid waste management policy should be inclusive of waste workers. Finding alternative employment or incorporating these workers into existing institutional arrangements is important. Most of the tasks of solid waste management are carried out by scavengers or rag-pickers who segregate and recycle waste in an informal market economy.

Local authorities should be able to mobilize adequate investments internally or externally for environmentally sound waste management. Case studies have demonstrated that without adequate financial and institutional decentralization promoting equitable and affordable solid waste

management will be impossible, to the detriment of the public's health and environment. The New Urban Agenda supports decentralized decision-making for waste disposal **NUA 122**; such an approach requires a decentralized institutional arrangement modelled along the lines of success stories.

 **Illustrative Actions**

To prevent food loss waste, develop industry support networks for agricultural producers, in addition to promoting behavior change. In low-income countries, food waste occurs because there are several limitations along the entire supply chain (Bennett, Buzby and Hodges 2011). Smaller scale farmers could be supported with credit to purchase newer infrastructure and technology, while support networks and industry groups are developed to work collectively on the problem.

Consider charging variable fees to reduce waste production for individual households and commercial establishments. In developed countries, cities will have the capability to manage a more sophisticated revenue collection system, where individuals and commercial establishments are charged based on their waste output, rather than a flat user fee. This is practiced in Korea and also in some developing nations (Lah and Park 2015).

The New Urban Agenda supports decentralized decision-making for waste disposal - NUA122

Figure 29: Residents of Harar, Ethiopia, line up for water.



Develop national and regional funds to support struggling municipalities with infrastructure development and revenue management.

Worldwide, solid waste remains an issue of local control because many smaller municipalities may not have the capability to raise funds themselves or issue their own debt to finance waste management infrastructure. They also may not have the institutional capacity to manage revenue or conduct long-term planning and make procurement decisions. Larger funds set up at the national level and fortified with technical assistance in addition to financial assistance can help municipalities develop the capacity to manage their solid waste output. For example, India's Swachh Bharat Mission has provided funding to over 4,000 municipalities (Ghosh 2016).

2.2.4 Water and sanitation

On the water and sanitation front, the New Urban Agenda underscores the importance of "protective, accessible and sustainable infrastructure and service provision systems for water, sanitation and hygiene, sewage, solid waste management, urban drainage, reduction of air pollution and stormwater management, in order to improve safety in the event of water-related disasters, improve health, ensure universal and equitable access to safe and affordable drinking water for all, as well as access to adequate and equitable sanitation and hygiene for all and end open defecation, with special attention to the needs and safety of women and girls and those in vulnerable situations" - **NUA 119**. In managing the water and sanitation sector, the New Urban Agenda commits to building the capacity of public water and sanitation utilities to be able to implement sustainable water management systems (including sustainable maintenance of urban infrastructure services) with the goal of eliminating inequalities and "promoting both universal and equitable access to safe and affordable drinking water for all and adequate and equitable sanitation and hygiene for all" - **NUA 120**. **SDG 11** aligns with this commitment to improved solid waste management in cities - **SDG Target 11.6**.

Progress has occurred; more than a third of the current global population has been able to access safe drinking water sources since 1990, amounting to 2.6 billion individuals (UNICEF and WHO 2015). Currently, around 663 million individuals still utilize unimproved drinking water sources, with a large part living in sub-Saharan Africa and South Asia. Improved access has differed between regions. In urban settings, there are vast inequalities between the peripheries and wealthier core neighbourhoods when it comes to water delivery, water management and sanitation service availability. The estimated cost to close the infrastructural gap to achieve global coverage of water ranges from \$116 to \$229 billion. This cost estimate specifically refers to the fulfilment of **SDG 6** – *Ensure availability and sustainable management of water and sanitation for all*. While many cities are unable to provide basic services to all residents, non-network solutions can be a crucial first step in peri-urban areas until more advanced systems can be financed, planned and implemented. Figure 29 shows residents of Harar Town in Ethiopia catching water from a communal pipe.

Wastewater management has been challenging in many of the developing countries. Only 20 per cent of the wastewater generated worldwide is treated; the rest is disposed into waterways where it creates health, environmental and climate-related hazards (WWAP 2017). About 70 per cent of the municipal and industrial wastewater from high-income countries is treated. This drops to 38 per cent for upper-middle-income countries, 28 per cent in lower-middle-income countries and only 8 per cent in low-income countries.

In Africa, the main challenge related to wastewater treatment is the lack of infrastructure for collection and treatment, resulting in pollution of surface and groundwater resources that are already limited. In Asia and the Pacific region, the municipalities and local governments often lack the human and financial resources necessary to enforce environmental regulations. As a result, maintenance of water treatment infrastructure and services is a problem. In India, 78 per cent of sewage remains untreated (Down to Earth 2016). The report recommends more support to municipal and local governments in managing urban wastewater and capturing its resource benefits.

In managing the water and sanitation sector, the New Urban Agenda commits to building the capacity of public water and sanitation utilities to be able to implement sustainable water management systems with the goal of eliminating inequalities and "promoting both universal and equitable access to safe and affordable drinking water for all and adequate and equitable sanitation and hygiene for all" - NUA 120.

Diagram 23: Water and sanitation



HARD MEASURES WATER AND SANITATION



1/3 of the global population has gained access to safe drinking water since 1990.

**\$116-\$229
billion**

to cover the infrastructure gap for global access to water.



Only 20% of the wastewater generated worldwide is treated.

Source: irena2016 renewable energy in cities; resources for the future (2019) global energy outlook.

PRINCIPLES



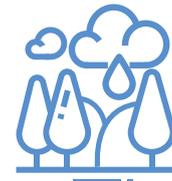
Investment

Significant investment is needed to ensure full coverage of drinking water, sanitation, and sewage management.



Public engagement

Water and sanitation are not only infrastructural investments, but also systems where multiple stakeholders must be engaged.



Land use

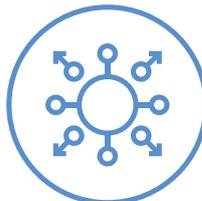
The planning of water resources is linked to land use.

ILLUSTRATIVE ACTIONS



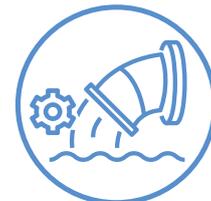
Gender inclusion

Include women in water and sanitation planning efforts.



Decentralized systems

Decentralized systems can provide services, but should be carefully considered in the long term.



Decentralized treatment

Create integrated system for decentralized treatment methods.



Integrated management

Integrated water management entails the sustainable treatment of water in tandem with land use planning and ecological principles.



Reuse

Consider different types of reuse that are appropriate to the individual municipality and the water resources it relies on.



Principles

Significant investment is needed to ensure full coverage of drinking water, sanitation and sewage management. Mobilizing funds from national and international agencies should be adequately supported through the user pays principle and private-sector involvement. Political will and commitment from national Governments is of utmost importance. See Box 18 for an example of a water and sanitation project in Sri Lanka.

Water and sanitation are not simply infrastructural investments, but rather involved systems where multiple stakeholders must be engaged. In addition to financing, governments need to carefully consider institutional arrangements around water provision to ensure that the most vulnerable are not left out. Currently, in most urban regions, engineering departments oversee drinking water, and often sanitation and sewage are tertiary or even not part of the system. It is important that systematic administrative structures are evolved for monitoring and implementing these in urban centres.

The planning of water resources is linked to land use. Water system planning should consider industrial, commercial and residential land uses, as well as the potential impacts of industry on water sources. Water system planning should also consider ecological parameters, such as green infrastructure and the preservation of ecosystems (Brikké and Vairavamoorthy 2016).

Significant awareness campaigns have to be conducted to ensure the social acceptability of sewage and sanitation in developing countries.



Illustrative Actions

Include women in water and sanitation planning efforts. In peri-urban areas, women are often the members of the household responsible for water provision.

Decentralized systems can provide services but should be carefully considered in the long term. Wastewater treatment is an expensive investment,

Box 18: European Union project WASSER – Water and Sanitation for Settlements in Eastern Sri Lanka

Challenges When the tsunami devastated the towns of Batticaloa and Kalmunai on the east coast of Sri Lanka, over 500 metres of infrastructure for water supply and sanitation were destroyed. Basic facilities like clean water and toilets greatly deteriorated from an already under sufficient standard, greatly affecting the urban poor, children, older persons and those who were already sick.

Action Water and Sanitation for Settlements in Eastern Sri Lanka (WASSER) was third in a row of projects focused on improving living conditions as well as capacity training of the local administration. Several measures taken proved to have significant positive effects on the outlook on water and sanitation. First, technology was inclusively integrated across all administrators, even when facilities were limited and only locally available tools and materials were used. The Batticaloa and Kalmunai administration were included at all levels of introducing new spatial planning and management techniques, creating an up-to-date map of the area and also an atlas to support facts-based planning on environmental and health topics. A second measure reinforced participation and created a sense of ownership for beneficiaries. Including local personnel's perspectives and those of minority groups allowed for engagement and patriotism in the collaboration with local government as well as positive feedback.

Impact The programme created self-employment opportunities by providing training in well drilling, rainwater harvesting and sanitation techniques. This enabled the creation of more than 500 rainwater harvesting tanks, more than 50 toilets, the construction of new tap water supply for 400 families and facilities to support more than 1,500 families. Capacity training enabled the municipal council, and also the well drillers, to pursue a livelihood opportunity.

Source: UN-Habitat

one that municipalities may not have funding or financing for. Decentralized treatment systems can serve the needs of individual communities; however, they should be pursued with caution because decentralized, ad hoc solutions are not as easily monitored and still require centralized oversight (Massoud, Nasr and Tarhini 2009).

Create integrated systems for decentralized treatment methods. Integrated systems can be used for a number of purposes, including the supply of water for agricultural uses in addition to drinking water.

Take on integrated water management, which is a process by which water is treated sustainably and in tandem with land-use planning, with

ecological principles in mind. Contamination and limited water resources are issues often faced in developing cities and peri-urban areas. Ecological design principles and sound land management can lead to more holistic treatment and conveyance of water (Global Water Partnership 2011).

Consider different types of reuse that are appropriate to the individual municipality and the water resources it relies on. There are several types of potential reuse such as irrigation for agricultural services, reuse for industrial purposes or reuse for groundwater recharging. Individual communities will have their own needs, and these needs should be considered in the planning process (Capodaglio 2017). Box 19 explains efforts to upgrade the water supply system in Jiaxing, China.

Take on integrated water management, a process by which water is treated sustainably and in tandem with land-use planning, with ecological principles in mind.



Box 19: Shijiazhuang ecological wetland for safe drinking water, China

Jiaxing city is located in the heartland of China's Yangtze River Delta and in the river network of the Taihu Lake river basin plain.

Action Jiaxing city government made great efforts to upgrade its water supply technology, focusing on research to improve water quality. Its approach to pollution control shifted from an engineering orientation to an ecological orientation. Thus, in China, Jiaxing took the lead in promoting the practice of building artificial ecological wetlands to improve water source quality. In the project, aquatic plants in the wetlands play a main role in effectively removing pollutants, bringing purified water quality from the wetlands up to national standards. Innovative practices in Jiaxing ensure drinking water safety for residents and promote continuous improvement in ecological and residential environments. This approach also provides a meaningful solution for cities around the world facing similar problems with micro-pollution in drinking water.

In 2006, the Chinese Academy of Sciences developed a technical programme for the project on the basis of a thorough survey of upstream pollution in the water source and water quality, featuring the innovative technology of source water control, combining multi-level interception and biological root-hole purification. The Jiaxing Economic Development Zone management committee provided land for construction free of charge. In January 2007, construction on the Shijiazhuang Ecological Wetlands project commenced in Jiaxing. The project occupies an area of 1087 square kilometres upstream of the water intake, on a planned wedge-shaped green area in the north-west part of the city. The main component in the project simulates an artificial/natural wetland, including three functional zones of biological pre-treatment, root-hole purification and in-depth purification. Contaminants in the water are degraded and absorbed by plants and soil root holes under the influence of water level changes in the wetland site. At the end of 2007, earth modelling had been completed. Between 2008 and April 2009, all supporting projects, including planting aquatic plants, were completed.

In June 2009, the project was fully completed and put into operation. In December 2011, the project was honoured with the China Award for Best Practices to Improve the Living Environment by the China Ministry of Housing and Urban-Rural Development. At the same time, the project underwent expert review organized by the Ministry and became a national level water demonstration project.

Total investment for the project was \$10.79 million, of which \$1.19 million was from the China Central People's Government, accounting for 11 per cent. \$4.76 million came from the Zhejiang provincial government, accounting for 44 per cent. \$4.84 million was given by the Jiaxing Municipal People's Government, accounting for approximately 45 per cent. The Jiaxing Economic Development Zone management committee provided land amounting to 1.1 square kilometres, free of charge for project construction. The Jiaxing Administrative Committee of Urban-Rural Planning and Development, Jiaxing Bureau of Water Resources and Jiaxing Environmental Protection Agency provided full guidance for administrative and technical aspects.

Impact There are various results and impacts of the Shijiazhuang Ecological Wetlands project, both in Jiaxing and in its outskirts and neighbouring districts. Safe drinking water is available in 100 per cent of Jiaxing municipality's rural areas. Furthermore, the project improved ecological and residential environments in the project area and surrounding land, promoted real estate development and increased land value.

Meanwhile, five towns and districts within the Jiaxing municipality are very active in learning lessons from the Shijiazhuang project. They are preparing to develop ecological wetlands with the aim of further strengthening their capacity for sustainable development.

Ecological wetlands for safe source drinking water have been integrated into all Jiaxing city planning, and they will be sustainably used and benefit future generations. The process of public participation in wetland construction and management further has enhanced public awareness of ecological and environmental protection and strengthened determination to protect the mother river in Jiaxing.

The municipality has also made further amendments and improvements to regulations on source water protection. This shows that Chinese authorities are developing an awareness of water as a valuable and scarce resource.

Source: UN-Habitat

2.3 Soft measures

2.3.1 Culture

In the first effort of its kind, **SDG11** calls on Governments “to protect and safeguard the world’s cultural and natural heritage”, in part by measuring the total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of government, expenditure and private funding - **SDG 11.4**.

Similarly, the New Urban Agenda acknowledges culture as a source of “enrichment for humankind” that contributes to the sustainable development of cities, human settlements and communities and empowers them to play an active and unique role in development initiatives. Therefore, the New Urban Agenda suggests that culture should be taken into account in “the promotion and implementation of new sustainable consumption and production patterns that contribute to the responsible use of resources and address the adverse impact of climate change” - **NUA 10**. The New Urban Agenda includes culture as a priority of urban plans and strategies for the adoption of planning instruments, including master plans, zoning guidelines, building codes, coastal management policies and strategic development - **NUA 124**. The New Urban Agenda promotes innovative and sustainable use of architectural monuments and sites, with the intention of value creation, through respectful restoration and adaptation. In addition to addressing monuments and historic buildings, it engages “indigenous peoples and local communities in the promotion and dissemination of knowledge of tangible and intangible cultural heritage and protection of traditional expressions and languages, including through the use of new technologies and techniques” - **NUA 125**.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines cultural heritage as “the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in

the present and bestowed for the benefit of future generations” (UNESCO). This definition includes “objects”, “sites” and “buildings” in addition to intangible cultural heritage, which ensures cultural diversity for generations.

Beyond these definitions, a new source of cultural vibrancy is the creative industries. While there are still debates on what constitutes a creative industry, UNESCO defines creative industries as “creation, production and distribution of creative content”. These include museums and collections, performing arts, visual arts and photography, film, TV and radio, design and publishing, architecture, newspapers and magazines, gaming and books. The United Nations Conference on Trade and Development (UNCTAD) includes digital fabrication and new media as separate categories in addition to those named in these other reports. Globally, the market for creative goods is estimated to be \$508 billion as of 2015. Around the world, the top three generative industries are television, visual arts and media. Internationally, in 2013, creative industries around the world generated revenues of \$2,250 billion and employed 29 million people (UNCTAD 2019).

Within the urban space, culture and cultural development are ready opportunities on several fronts. First, many cities in the developing world possess physical cultural assets in the form of historic urban cores. These historic cores are sources of culture and history within the city, and they must be saved for the benefit of future generations. They usually include a rich stock of historic housing, monuments and public spaces, along with unique urban design patterns that weave them together. But despite these assets, the historic areas of cities in the developing world are usually deteriorated and home to poor and informal households. The common underlying causes for this deterioration are changes in demographics, intra-urban migration, transportation patterns, lack of efficient land-use plans and lack of public investment in the maintenance of historic structures and neighbourhoods. In designing and developing cities for the coming centuries, the role of culture must be recognized and strengthened.

The New Urban Agenda acknowledges culture as a source of “enrichment for humankind” that contributes to the sustainable development of cities, human settlements and communities and empowers them to play an active and unique role in development initiatives.

Diagram 24: Culture



SOFT MEASURES CULTURE

Globally, the market for creative goods in 2015 was estimated to be

\$508 billion.

Internationally in 2013, creative industries around the world generated **\$2,250 billion** in revenues and

employed **29 million**

Top three generative industries are:



Television



Vision arts



Media

Source: UNCTD (2019) creative economy outlook trends in international trade in creative industries.

PRINCIPLES



Benefits

The role of culture in improving social bonds, enhancing the image of a locality, and producing better economic jobs must be recognized.



Local know-how

Culture is a fundamental element of urban development and is a primary source of know-how and identity of a given locality.



Conservation

On the city level, conservation of historic urban cores has evident economic benefits.



Historic structures

In most climates, historic structures have lower operating energy than new construction.



Stakeholder mapping

Stakeholder mapping and engagement should be a fundamental component of any cultural project.



Conflict resolution

Culture can have a fundamental role in conflict resolution.

ILLUSTRATIVE ACTIONS



Cultural resources

Identify all types of cultural resources in the urban community.



Awareness

Pay attention to attention-raising and informing the public about culture and heritage.



Sectoral integration

Undertake cultural development and conservation projects by integrating them with other sectors.



Human rights

Mainstream human rights through an integrated and spatially based approach, recognizing gendered experiences of urban deprivation and foster inclusive and culturally sustainable economic development.



Skill mix

In structuring teams, include an appropriate skill mix of engineering, social science and SME expertise.

Principles

The role of culture in improving social bonds, enhancing the image of a locality and producing better economic benefits and jobs must be recognized. Culture contributes to the asset base of any city and is a direct input for development through cultural and creative industries and tourism.

Beyond its economic and environmental roles, culture is a fundamental element of urban development in that it reflects the people and places that are its source and it is a primary source of know-how and identity of a given locality. Cities are a cultural construct, where built structures and open spaces closely relate to social fabrics (World Bank 2018).

On the city level, conservation of historic urban cores has evident economic benefits. Historic urban cores can act as catalysts for socioeconomic development of cities through improved urban environment, better infrastructure, higher property values, and cultural activities and tourism. Conservation of historic cores can vastly benefit the local population by creating jobs, increasing private-sector investment and enhancing the urban environment and liveability. Historic cores can attract new businesses and the “creative class” resulting in development of competitive clusters.

According to UNESCO’s Global Report “Culture: Urban Future” (2016) a culture-based approach to urban development is needed. This approach is built on the following three propositions: 1) people-centred cities are culture-centred spaces; 2) place-based urban planning incorporates local history and culture; and 3) integrated policies employ culture as a tool for sustainability and resilience. Figure 30 shows the Imam Square in Isfahan, Iran, which is a UNESCO World Heritage Site and attracts thousands of tourists every year.

In most climates, historic structures require less energy to operate than new construction. This situation can be attributed to the absence of heating and cooling systems in historic buildings

and their passive design (when a building uses the natural climate to maintain a comfortable temperature); passive survivability (ability of a structure to maintain critical life-support conditions in the event of extended loss of power, heating fuel or water) and the compactness of the urban form and positioning of the buildings next to one another, which acts as an insulation system. Studies show that building reuse almost always yields fewer environmental impacts than new construction.

Stakeholder mapping and engagement should be a fundamental component of any cultural project. Involving all stakeholders is the key in formulating successful cultural heritage projects in urban cores. Such projects are by nature complex and hard to finance. In many cases, the historic cores present a challenging land tenure system and include informal settlements and renters with different ethnic backgrounds and identities.

Culture can have a fundamental role in conflict resolution. It has been argued that culture can be the reason for conflict among different ethnic or cultural groups. But cultural heritage can restore the bonds between populations by restoring a sense of common ownership of the shared heritage that has been damaged or is a source of conflict. One good example to demonstrate this role is the rebuilding of the Mostar bridge, which became an instrument for encouraging intercommunity dialogue.

Cultural heritage can restore the bonds between populations by restoring a sense of common ownership of the shared heritage that has been damaged or is a source of conflict.

Illustrative Actions

Identify all types of cultural resources in the urban community. Many cities take on a cultural asset mapping project to record and collect information about community cultural resources. In identifying cultural resources, it is important to be cognizant of cultural properties that at first glance may not seem artistically or historically valuable but are worthy of inclusion in the inventory because of “their association with the cultural practices or beliefs of a living community” (FEMA 2005). Cultural asset maps or inventories must include tangible cultural assets that are “immovable” such as monuments (with known architectural or

historic value), structures (such as dams, bridges, tunnels and canals) and sites (such as traditional gardens, battlefields, historic urban landscapes and archeological sites). Moveable assets include archeological collections, artworks, maps, family records, and historic documentation and artefacts housed in libraries, museums and archives. In identifying intangible heritage, collect information on traditional craftsmanship, experiential and performing arts, traditional knowledge and oral traditions, among others. Use site surveys, secondary literature searches, archival research, participatory planning methodologies, mapping and other techniques.

Raise awareness and inform the public about culture and heritage. Cultural development projects will be successful only if the value of heritage is well understood and accepted by the community. Therefore, such projects should include public outreach and participatory planning as part of the project cycle.

Integrate cultural development and conservation projects with other sectors. Successful projects merge physical rehabilitation of historic structures with infrastructure development, solid waste management, enhancement of existing road networks, street lighting, job creation and promotion of creative industries and tourism. This way, it is

ensured that the historic core is accessible, has water and sanitation for its housing stock, provides the community with jobs, is visited by tourists and is not threatened by pollution and vibrations resulting from transport systems.

Mainstream human rights through an integrated and spatially based approach, recognizing gendered experiences of urban deprivation, and foster inclusive and culturally sustainable economic development. To formulate successful heritage projects, planners must pay attention to the link between the preservation of tangible cultural heritage (buildings, sites, urban patterns, and so on) and the preservation of intangible social patterns (residents, commercial activities) at the time of the intervention, which usually constitute part of the richness, culture and identity of the place. Done wrong urban regeneration can lead to gentrification and a deepening of socio-spatial inequalities, as well as destruction of valuable cultural heritage in the name of modernization.

In structuring the team, include an appropriate skill mix of engineering, social science and SME expertise. Cultural heritage projects are multisectoral and complex and structuring them requires a high level of technical savvy in many different fields.

To formulate successful heritage projects, planners must pay attention to the link between the preservation of tangible cultural heritage and the preservation of intangible social patterns.

Figure 30: Imam Square, Isfahan, Iran, a UNESCO World Heritage Site



2.3.2 Education

Education is one of the most vital foundations that allows an individual to improve their quality of life and become a contributor to society. However, wide disparities in accessing education exist across social, economic, gender and regional lines. 50 per cent of out-of-school children of primary school age live in conflict affected areas. The United Nations estimates that 750 million adults still remain illiterate, and two thirds of them are women. The reasons for lack of quality education have also largely to do with poor infrastructural conditions. More than 50 per cent of the schools in sub-Saharan Africa do not have access to basic drinking water, handwashing facilities, the internet and computers.

An educated population increases economic productivity by providing the labour force with access to income-earning opportunities, knowledge, skills and educational facilities that

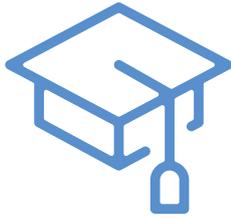
contribute to an innovative and competitive urban economy. One key goal of the New Urban Agenda is the promotion of full and productive employment and decent work and livelihood opportunities in cities and human settlements. The New Urban Agenda also mentions the importance of harnessing “the urban demographic dividend” and promoting access for youth to education, skills development and employment. It sees girls and boys, young women and young men as “key agents of change in creating a better future and when empowered ... to advocate on behalf of themselves and their communities” - **NUA 61**. In accordance with UN Sustainable Development Goal 4 - **SDG 4** – *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all* – this section outlines principles and strategies to ensure inclusive and equitable quality education to promote lifelong learning.

The New Urban Agenda mentions the importance of harnessing “the urban demographic dividend” and promoting access for youth to education, skills development and employment.



School students going to school in Djibouti. © Hiren Ranpara / Shutterstock.com

Diagram 25: Education



SOFT MEASURES EDUCATION

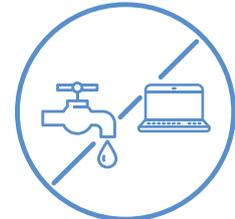


50%
of out-of-school children of primary school age live in conflict-affected areas.



750 million adults

still remain illiterate, 2/3 are women.



50%+ of the schools in Sub-Saharan Africa do not have drinking water, handwashing facilities, the internet, and computers.

PRINCIPLES



Universal rights

Education is a universal right and should be treated as a public good.



Equitable education

Access to education is an equity issue shaped by financial means, social status and stability of a region.



Learning environment

Quality of education is linked to the environment for learning.



Gender equality

Focus on gender equality is needed to significantly advance educational progress.

ILLUSTRATIVE ACTIONS



Quality

Invest in providing quality education.



Subsidies

Subsidize primary and secondary education to ensure universal access.



Vocational education

Focus on vocational learning that is relevant to the job market.



Equitable allocation

Allocate resources more equitable across under-resourced areas.

Principles

Education is a universal right and should be treated as a public good. Education should be a full right that leaves no one behind, and it should aim at the full development of the human personality to promote mutual understanding, tolerance and peace

Access to education is an equity issue. The provision of quality, affordable primary and secondary education should be a universal right. However, barriers to education are heavily dictated by financial means, social status and stability of a region, factors that must be recognized in any intervention.

Quality of education is linked to the learning environment. The condition of a school is just as important as education itself. Poor building infrastructure, high teacher absenteeism or the lack of a developed curriculum are uncondusive factors to learning.

Focus on gender equality is needed to significantly advance educational progress. Girls are disproportionately affected in acquiring education due to a host of discriminatory and exclusionary forces, affecting their upward mobility and decision-making potential.

Illustrative Actions

Invest in providing quality education. The World Education Forum in 2015 in Incheon declared an international and regional benchmark of allocating at least 4–6 per cent of GDP or at least 15–20 per cent of total public expenditure to public education (UNESCO 2015). Budget investments could include educational scholarships, teacher training, workshops, school building and improvement of water and electricity access to schools.

Subsidize primary and secondary education. Money is one of the biggest deterrents to education for poor families who have to weigh the opportunity costs of sending their children to school versus

having them work. Governments should put in place policies and legislation that guarantees 12 years of free, publicly funded, inclusive, equitable and quality primary and secondary education where nine years are compulsory for all children (Education 2030 Framework for Action-FPA, 37).

Focus on vocational learning that is relevant to the job market. Increase access to relevant quality technical and vocational education that leads to opportune pathways, validation, recognition and accreditation. For instance, information and communication technology skills should be emphasized and integrated into the curriculum. Devise clear policies and benchmarks that transition educational skills to the labour market, and monitor ongoing professional development, conditions and status.

Allocate resources more equitably across under-resourced areas. Allocate resources according to a place-based approach, paying special attention to the poorest and most disadvantaged areas, including a rigorous assessment of policies and programmes to improve quality.

Allocate resources according to a place-based approach, paying special attention to the poorest and most disadvantaged areas.

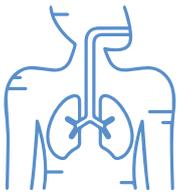
2.3.3 Health

SDG 3 aims to reduce global maternal mortality; end preventable premature mortality; end the epidemics of AIDS, tuberculosis and malaria; and provide universal access to sexual and reproductive health care. While **SDG 3** is targeted towards reduction of measurable health conditions, it also acknowledges the relationship between the environment and health. **SDG Target 3.9** seeks to “substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination”. The causes of death in a city are often influenced by environmental conditions. From raw data returned by major global cities around the world, WHO estimates that the biggest contributor to death across cities is disease related to circulation and respiratory diseases (WHO 2015). These are health factors that can be accounted for in urban planning.

Diagram 26: Health



SOFT MEASURES HEALTH



Biggest contributor to death across cities was **disease related to circulation and respiratory diseases** according to WHO.



The World Bank estimates that COVID-19, a global pandemic, will push more than

100 million people into poverty.



The New Urban Agenda also links health to planning, land use and open spaces.

PRINCIPLES



Environmental design

Health outcomes, environmental and urban design should be closed linked.



Preventative

Preventative measures significantly reduce fatal deaths.



Gender-based risks

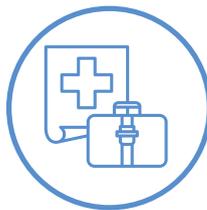
Adolescent girls and young women face gender-based inequalities that make them especially vulnerable to health risks.

ILLUSTRATIVE ACTIONS



Building codes

Set regulatory building codes and standards as to be compliant with health outcomes.



Health indicators

Set health indicators in urban planning and measure impacts.



Research & development

Fund and support the research and development for vaccines and medicines.



Universal health

Fund universal health coverage.



Risk management

Strengthen capacity for early warning, risk education, and management of global health risk through simulation.

The 2020 COVID-19 pandemic is an illustrative example of how cities and communities across the globe are impacted by a public health crisis. What is evident is that the pandemic not only endangered the health of urban residents, but it also threatened livelihoods and the social fabric of cities. The hardest hit are the informal settlements and the urban poor, who do not have the luxury of social distancing, are crowded into small homes and use communal facilities for services such as water and sanitation. COVID-19 will likely cause the first increase in global poverty since 1998, the year of the Asian financial crisis (Castaneda Aguilar and others 2020). The World Bank estimates that COVID-19 will push more than 100 million people into poverty (Castaneda Aguilar and others 2020).

Cities must fight COVID-19 in three phases. The first phase is the emergency phase, when cities can focus on preventing disease transmission and caring for the affected. The second phase is the early recovery phase, which requires focusing on mitigating the impact on vulnerable groups, jumpstarting the local economy and planning for the new normal, under fiscally strained conditions. The last phase is the new normal phase, which still carries many uncertainties around the future of work and density, among others (UN-Habitat 2020).

The New Urban Agenda commits to fostering healthy societies by promoting access to quality public services and a clean environment, taking into consideration air quality guidelines. It calls for universal access to sexual and reproductive health-care services to reduce newborn child and maternal mortality. The New Urban Agenda also links health to planning, land use and open spaces. It specifically commits to “promoting the creation and maintenance of well-connected and well-distributed networks of open, multipurpose, safe, inclusive, accessible, green and quality public spaces”. Lastly, it recognizes important links between resilience and disaster preparedness for the long-term health of communities in coping with the risk of floods, droughts and heat waves. Additionally, it calls for quality of life improvements

for health such as food security and nutrition, physical and mental health, and household and ambient air quality, as well as reducing noise by promoting liveable human settlements and urban landscapes and prioritizing the conservation of endemic species - **NUA 67**. These provisions are in accordance with **SDG 3** which strives to “ensure healthy lives and promote well-being at all ages”, and addresses child and maternal health, HIV/AIDS, malaria and other diseases.



Principles

Health outcomes, environmental and urban design should be closely linked. Cities should recognize that air quality, traffic, green spaces, water quality and other environmental factors significantly affect health. Provisions should be created for infrastructure and buildings to ensure safety, access to healthcare and enable quality air and provision. Box 20 describes a food access program in São Paulo that was established to connect low-income communities to food production.

Preventative measures significantly reduce fatal deaths. Child mortality statistics are strongly dictated by region and poverty. Children born into poverty are almost twice as likely to die before the age of 5 as those from wealthier families (WHO 2015). 4 out of 5 deaths of children under 5 occur in sub-Saharan Africa and South Asia. More than half of early child deaths are preventable by implementing proven interventions such as immunization, nutrition, safe water and food, and access to health care in these areas.

Adolescent girls and young women face gender-based inequalities that make them especially vulnerable to health risks. HIV and AIDS are the leading cause of death for women of reproductive age worldwide (United Nations Sustainable Development Goals). Due to societal stigmas, patriarchy, exclusion and discrimination, girls and young women are especially vulnerable to health risks.

The 2020 COVID-19 pandemic not only endangered the health of urban residents, but it also threatened livelihoods and the social fabric of cities.



Illustrative Actions

Set regulatory building codes and standards to be compliant with health outcomes.

Create a list of measures and standards to ensure proper circulation and aeration in urban areas. Set regulations around the use of dangerous chemicals and fumes, and mandatory disclosures when hazardous substances are in a building (for instance, in the United States, landlords must declare the presence of asbestos in a building).

Set health indicators in urban planning and when measuring impact.

Measure disease outcomes by area against healthy city indicators (green space, quality of buildings, public spaces for exercise, and so on) and keep governance accountable to improving metrics (WHO 2015).

Fund and support the research and development of vaccines and medicines.

Make vaccines accessible everywhere as a public good, and create programmes with community groups, schools and local hospitals that educate the population about the efficacy of vaccinations. Allocate substantial spending towards the research and development of medicines and vaccines.

Fund universal health coverage. Allocate a percentage of annual spending towards providing health coverage for every individual that provides essential health-care services, medicines and vaccines.

Strengthen capacity for early warning, risk reduction and management of global health risks through simulation.

Create preventative plans such as simulating the potential spread of an epidemic or virus spatially. Implement infrared cameras at high-risk areas such as airports or meat packing districts, creating a plan for managing and containing the spread of an epidemic early in a break out.

Box 20: Cities without hunger – Community gardens in São Paulo, Brazil

Challenges Before 2003, São Paulo's East Side was a dense area separated from the rest of the city, deeply afflicted by poverty and violence. The exclusion largely affected teenagers and the middle-aged, many of whom were migrants from poorer regions of Brazil. Yet arriving into São Paulo, immigrants found few opportunities beyond temporary or low-skilled labour. Most of the area's workforce remained unemployed and received food baskets from the city as their only source of nourishment.

Action "Cities without Hunger" was established in 2004 as an intersectional project aiming to connect disadvantaged urban communities with the production of food as a means of livelihood and healthy living. The project developed private and public vacant land into vegetable gardens, generating urban jobs that allowed participants to learn new skills, earn income and create a bridge between communities and the natural environment. The creation and maintenance of the gardens, as well as the production of four crops harvested at different times of the year, created sustainable income to break the welfare cycle for dependent community members. Production strategies that were taught included crop rotation, soil composting, drying and automatic irrigation, and environmental conservation strategies. Furthermore, the process for engaging the communities was highly participatory. The community was invited to form a committee comprising members from public institutions, influential groups, NGOs and representatives of beneficiaries. There were also "chat rooms" on decision making and negotiations with local authorities. Evaluations of projects took place monthly.

Impact The project found healthy profit margins of 58 per cent on each crop, proving a sustainable revenue model. "Cities without Hunger" started 25 community gardens, reached 14,506 children and has guaranteed livelihoods for 650 individuals. It has also organized 48 professional qualification courses where over 1,000 people have qualified for certifications in agriculture or commerce (Cities without Hunger 2018).

Source: UN-Habitat

2.3.4 Urban safety

The New Urban Agenda draws on the importance of urban design and planning for safety by supporting the provision of 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. It considers the human scale as an important factor of urban planning and promotes measures that allow for the best possible commercial use of street-level floors, fostering both formal and informal local markets and commerce, as well as not-for-profit community initiatives, bringing people into public spaces and promoting walkability and cycling with the goal of improving health and well-being **NUA 100**. Additionally, it calls for integrating inclusive measures for urban safety and the prevention of crime and violence, including terrorism and violent extremism conducive to terrorism by engaging relevant local communities and non-governmental actors in developing urban strategies and initiatives - **NUA 103, SDG 11** encourages improvements to urban safety by calling for access to “safe and affordable housing”, “to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport” and to “universal access to safe, inclusive and accessible, green and public spaces” - **SDG Targets 11.1, 11.2, 11.7**.

Principles

Creating “eyes on the street” ensures safety.

Jane Jacobs famously theorized that “eyes on the street” are critical to urban safety: “There must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street. The buildings on a street equipped to handle strangers and to insure the safety of both residents and strangers, must be oriented to the street” (Jacobs 1961). This principle means that the presence of people on city sidewalks, streets, stoops and balconies increases the safety of those spaces, because people naturally look after spaces that they have a stake in. When these quotidian spaces are accessible and inhabited, they facilitate neighbours, shopkeepers and visitors getting to

know each other, which increases social cohesion and safety.

Acknowledge the relationship between crime and systemic marginalization.

Solutions addressing criminal activity should acknowledge systematic and societal questions rather than seeing crime as a result of individual moral failure. Most often, gangs and criminal activity form because a marginalized group lacks the social or financial provisions to thrive within a system. Increasing crime levels are often associated with widening income disparities. Perpetuating the idea that crime is a result of individual moral failure can perpetuate systemic racism, marginalization and the policing of marginalized people and groups.

Increase transit access. Research from the Urban Reform Institute (formerly the Center for Opportunity Urbanism) demonstrates that low-income individuals have greater economic opportunity if they can live in more accessible or multimodal neighbourhoods (Litman 2015). As increasing crime levels can be associated with income disparities, increased access to economic opportunity can help prevent crime.

Create accountability, visibility and due process.

Where weak legal infrastructure exists, a corrupt environment can develop in which crime and informality become culturally accepted. Accountability, visibility, due process, and checks and balances are crucial for an equitable and prosperous society. Governments can model this by creating transparent and accountable public systems of law, property and planning, with ample opportunity for public engagement.

Illustrative Actions

Focus on enhancing sidewalk pedestrian usage.

Follow planning principles to ensure that sidewalks continuously have users on them by designing green, sustainable, bikeable and walkable spaces that are well-connected throughout an entire city. Focus on compact and mixed-use development to attract sidewalk pedestrians (Jacobs 1961). Pedestrian friendly spaces help maintain “eyes on the street” and also enhance accessibility to necessary community amenities.

The New Urban Agenda draws on the importance of urban design and planning for safety by supporting the provision of 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.

Diagram 27: Urban safety



SOFT MEASURES URBAN SAFETY

PRINCIPLES



Safe environment

Creating “Eyes on the street” ensures safety.



Marginalization

Acknowledge the relationship between crime and systemic marginalization.



Transit

Increase transit access.



Accountability

Create accountability, visibility and due process.

ILLUSTRATIVE ACTIONS



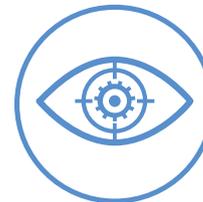
Pedestrian safety

Focus on enhancing sidewalk pedestrian usage.



Equitable access

Bridge income disparities by providing transportation across all levels of income and neighborhoods.



Non-invasive surveillance

Install non-invasive surveillance to reduce risks.



Street vendors

Give legitimacy to street vendors and other informal businesses.



Rehabilitation programs

Provide social programs, rehabilitation and employment for drug addicts, formerly incarcerated persons, and homeless persons.



Highlight role models

Support programs that help risk youth to connect with mentors and role models.

Bridge income disparities by providing transportation connectivity across all levels of income and neighbourhoods. Communities that live in areas that are not well-connected to public transit, or are pocketed-off, face concentrated levels of crime. Medellin went from the “murder capital” of the world to reducing their homicide rate by over 75 per cent after the implementation of the cable car (Vulliamy 2013). The cable car connected low-income communities who lived densely on steep hills and were previously unable to access jobs, education and other city amenities.

Install non-invasive, non-violent surveillance to reduce risks. Provide cameras, emergency devices (such as a panic button) or additional security guards in high-risk areas to reduce crime, vandalism or property damage (Fox 2005). At the same time, surveillance alone will not prevent or eliminate crime in an area that is not well served by transit, economic opportunity, education and other essential services.

Give legitimacy to street vendors and other informal businesses. Recognize street vendors by supporting their businesses through the provision of subsidized leasing space, permitting and licensing, tourism and marketing, and supportive business grants and loans. By legitimizing informal businesses, governments can improve visibility of their activities and compliance with codes, regulations and laws. Be careful to legitimize and recognize informal businesses without imposing overly costly or time-consuming fees, fines and processes that could push vendors further into the informal or black-market sectors.

Provide social programs, rehabilitation and employment for drug addicts, formerly incarcerated persons and homeless persons.

Crime and recidivism persist, in part, when there is inadequate economic opportunity and social inclusion. Panama City's historic district Casco Viejo was once rife with theft, gang activity and narcotic trades. Through a focused rehabilitation and alternative employment scheme targeting former gang members and their families, the historic district has been redeveloped into a thriving hospitality centre (Kahn 2015). Rehabilitation and job training programs must include wraparound social and economic supports to assist people with re-entry to society. Additionally, governments should eliminate or forgive fees, fines and debts that are incurred in relation to drug use, homelessness or incarceration, which are counterproductive to social inclusion and economic opportunity.

Support programs that help at-risk youth to connect with mentors and role models. Fund and focus on community leaders and non-profits that engage at-risk youth as model programmes to provide vocational skills training and education. In the United States, mentoring has been shown to decrease the risk factors that are associated with youth violence such as substance abuse, gang involvement and exposure to violence, and to enhance the protective factors associated with reducing youth violence such as staying engaged in school, connectedness to family and other adults or displaying positive social behaviours. Mentorship can be effective when it is incorporated in programmes with a specific goal or focus, such as academic achievement or career preparation, or when it occurs informally with coaches, teachers or extended family members (Root Cause 2015).

Communities that live in areas that are not well-connected to public transit, or are pocketed-off, face concentrated levels of crime.

2.4 Technology and innovation

In dealing with the tremendous challenges of the twenty-first century, having an innovative approach is necessary. Conventional planning methods are no longer sufficient to tackle the challenges and leverage opportunities brought on us by urbanization. By innovation, we do not only mean “smart cities”, although some of the most groundbreaking innovations are happening in that realm. Both technological and policy innovations will be essential to tackling the challenges of urbanization. In cities around the globe, local planners, engineers, policymakers and financiers are joining forces to implement innovative methods for managing urbanization.

The New Urban Agenda asks urban development actors to commit to innovation across issue areas and sectors. The New Urban Agenda specifically highlights the need for innovation in urban economic development by “building on endogenous potential, competitive advantages, cultural heritage and local resources, as well as resource-efficient and resilient infrastructure, promoting sustainable and inclusive industrial development and sustainable consumption and production patterns and fostering an enabling environment for businesses and innovation, as well as livelihoods” and “leveraging the agglomeration benefits of well-planned urbanization, including high productivity, competitiveness and innovation” - **NUA 14.b, 45**. This commitment includes supporting urban economies in transitioning to high productivity, high-value-added sectors, promoting diversification and technological upgrading, in service of “the creation of quality, decent and productive jobs, including through the promotion of cultural and creative industries, sustainable tourism, performing arts and heritage conservation activities, among others” - **NUA 60**.

The New Urban Agenda calls for the application of innovation to the policy and government arena by promoting “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” - **NUA 156**.

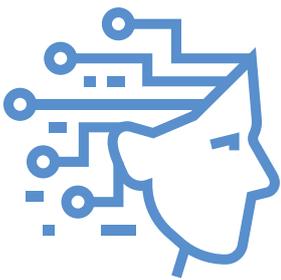
The SDGs also feature the importance of technology and innovation. **SDG 9** calls for Governments to “build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”. In particular, **SDG 9** calls for “increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes”, for supporting “domestic technology development, research and innovation in developing countries”, increasing “access to information and communications technology” and striving “to provide universal and affordable access to the Internet” - **SDG Targets 9.4, 9.B, 9.C**.

As the world becomes more urbanized, solutions to address sustainability, equitable development and urban governance challenges require innovation in technology and policy to be part of a longer-term transition process in how we govern and operate cities. As data becomes increasingly important in the digital society, city leaders need to take action to institute systems and standards to ensure that data is made available to the public, to democratize and accurately analyze urban trends and dynamics. Leaders understand, however, that multiple and sometimes conflicting standards exist in this nascent space. City governments should support the use of open, transparent and interoperable digital platforms and data systems to ensure that stakeholders can understand the goals of smart-city projects currently underway, while instituting appropriate standards for privacy and also for the equitable access and use of this data in city government operations.

Transitioning the city’s operations to smarter and more innovative practices requires flexibility and time. The smart cities concept encompasses many sectors such as transport, energy, food systems, procurement, and so on. Actions for developing smart-city practices involve both technology and policy; they should have a systemic character and be centrally managed by the government. This

As the world becomes more urbanized, solutions to address sustainability, equitable development and urban governance challenges require innovation in technology and policy to be part of a longer-term transition process in how we govern and operate cities.

Diagram 28: Technology and innovation



SOFT MEASURES
**TECHNOLOGY
AND INNOVATION**

PRINCIPLES



Transparency

Open and transparent practices are essential to enable stakeholders and the public to understand the goals of smart city projects.



Capacity building

Using smart technologies in urban development requires national, subnational and local governments to have the capacity to conduct data collection, mapping, analysis and dissemination.



Sensor-based solutions

Cities must have updated governance and financing models to set up shared services across departments integrate data and redesign workflow to fully utilize sensor-based solutions.



New mobility

Appropriate governance frameworks are necessary to manage the disruptive aspects of new mobility technologies.

ILLUSTRATIVE ACTIONS



Emerging mobility

Proactively regulate emerging mobility services to create a level playing field while promoting public transit ridership.



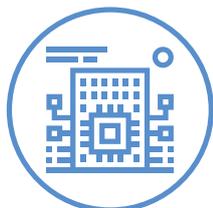
Resilient construction

Promote the construction and retrofitting of sustainable, resilient and resource-efficient buildings.



Track waste

Establish requirements to report for track generation, reuse, recycling or disposal of construction materials.



Mobile sensing

Utilize city assets for data collection such as mobile sensing devices for traffic and environmental monitoring.



Satellite imagery

Identify the utility and value of remote sensing and artificial intelligence tools for image classification to establish evidence-based governance in land use management and environmental monitoring.

section addresses four areas of interest in the New Urban Agenda: a) Technology, b) Transportation, c) Construction and Building Technology and d) Mapping and Spatial Data.

2.4.1 Technology

The New Urban Agenda highlights the connection between sustainability and technology, saying “we commit ourselves to 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” - **NUA 66**. The New Urban Agenda supports increased sharing of information, knowledge and expertise, through “a focus on social, technological, digital and nature-based innovation, robust science-policy interfaces in urban and territorial planning and policy formulation and institutionalized mechanisms for sharing and exchanging information, knowledge and expertise” - **NUA 157**.

The New Urban Agenda calls attention to the need for cooperation and coordination in technology. This includes the need for enhanced cooperation and knowledge exchange on science, technology and innovation in accordance with the processes launched under the 2030 Agenda for Sustainable Development. It also includes the need for development of clear, transparent and accountable contractual relationships, including for data management, between local governments and transport and mobility services; these relationships further protect the public interest and individual privacy and define mutual obligations - **NUA 116, 150**.

The New Urban Agenda affirms that technology should be used to promote the civic engagement and participation of marginalized groups, promoting “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, including women and girls, children and youth, persons with disabilities, older persons and persons in vulnerable situations, to enable them to develop and exercise civic responsibility, broadening participation and fostering responsible governance” - **NUA 156**.

SDG 6 – *Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation* – supports scientific research and technology development by encouraging Governments to “enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including ... increasing the number of research and development workers per 1 million people and public and private research and development spending” and create a conducive policy environment for technology innovation - **SDG Targets 9.5, 9.B**.

2.4.2 Transportation

The transportation sector has a key role in the economic and social development of urban residents and in promoting inclusion by connecting people to schools, hospitals and job opportunities. However, cities must address three key challenges: 1) a third of the world’s rural population lacks access to an all-weather road, 2) a fifth of global GHG emissions come from transport and 3) more than a million people are killed on the world’s roads each year (WRI Ross Center for Sustainable Cities).

As aspirations for mobility continue to rise, new mobility technologies can help ensure that cities connect people to jobs and education while meeting critical climate targets. A key opportunity is investing in low-carbon transport technologies such as electric vehicles and micromobility solutions, which is particularly critical in developing economies where much of the new urban and transport infrastructure is still to be built. Overall, low-carbon transport will require investing in a range of tested opportunities to deliver urban integrated multimodal transport and transit systems, deploying road, rail, maritime and air

New mobility technologies can help ensure that cities connect people to jobs and education while meeting critical climate targets.

transport as well as harnessing disruptive trends, like shared mobility, autonomous driving and electrification. Micromobility services, for example, have begun to resonate with consumers around the world, as evinced by their rapid adoption in major cities. They are celebrated as a way of better connecting people with public transit, reducing reliance on private cars and making the most of limited space in cities by “right-sizing” mobility vehicles, all while reducing GHG emissions – discounting the need to use conventional vans or trucks to collect, charge and reallocate e-scooters and e-bikes.

New mobility services may reduce the number of single occupancy vehicles on the road and improve access to transport, but they can also reduce mass transit use, and when used at mass scales, increase congestion and pollution. To achieve desirable outcomes, it is critical for cities to establish appropriate governance frameworks to manage the disruptive aspects of new mobility technologies. As a result, many governments have already begun to regulate these services to create a level playing field while promoting public transit ridership.

2.4.3 Construction and building technology

The New Urban Agenda emphasizes the role of sustainable use of natural resources and focuses on the resource efficiency of raw and construction materials such as concrete, metals, wood, minerals and land. The New Urban Agenda powerfully asserts “we commit ourselves to encouraging national, subnational and local governments, as appropriate, to develop sustainable, renewable and affordable energy and energy-efficient buildings and construction modes and to promoting energy conservation and efficiency, which are essential to enable the reduction of greenhouse gas and black carbon emissions, ensure sustainable consumption and production patterns, help create new decent jobs, improve public health and reduce the costs of energy supply” - **NUA 75**.

This also must be complemented by establishing safe material recovery and recycling facilities,

and prioritizing the use of local, non-toxic and recycled materials and lead-additive-free paints and coatings - **NUA 76**. **SDG 11** sets the goal of supporting the least developed countries through financial and technical assistance for building sustainable and resilient buildings utilizing local materials. The indicator measuring this goal is the proportion of financial support to least developed countries for the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials. **SDG 12** – *Ensure sustainable consumption and production patterns* – recommends that, by 2030, Governments “achieve the sustainable management and efficient use of natural resources” - **SDG Target 12.2**.

Strategies for construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials will directly increase the use of natural resources and resource efficiency of raw and construction materials (such as concrete, metals, wood, minerals and land). Sustainable sourcing must be complemented by establishing safe material recovery and recycling facilities, and prioritizing the use of local, non-toxic and recycled materials and lead-additive-free paints and coating.

The United Nations operates programs that support and promote sustainable construction. UN Sustainable Buildings and Construction Programme (SBC) serves to improve knowledge of sustainable construction and support and mainstream sustainable building solutions around the world. UN SHERPA is a sustainable housing self-evaluation tool for stakeholders involved in the planning, design, construction and assessment of housing projects that aims to support the transformative commitments of the New Urban Agenda, the 2030 Agenda for Sustainable Development and the Paris Agreement.

Timber, which has made a comeback in new construction in North America and Europe, is one current trend in sustainable building. Mass timber construction is currently increasing, with advocates saying it could revolutionize the building industry and contribute to a climate change solution. While there are criticisms with regards to the

The New Urban Agenda emphasizes the role of sustainable use of natural resources and focuses on the resource efficiency of raw and construction materials.

logging and manufacturing required to produce the new material, the use of mass timber in new construction can sequester considerable amounts of CO₂, if managed sustainably throughout the life cycle through sustainable forestry management. Researchers from interdisciplinary teams including climate scientists, carbon cycle researchers, metallurgists and foresters are in the process of understanding the potential climate impacts of mass timber at scale. According to researchers from The Nature Conservancy, the U.S. Forest Service and other research institutions, CO₂ savings of mass timber can be significant – the substitution of concrete and steel with wood and the long-term carbon storage in mass timber account for about 75 per cent of the savings, and sustainable forestry accounts for about 25 per cent (Robbins 2019).

Reclaiming, reusing and recycling is also becoming more common in the construction and renovation industry. Traditionally, construction and demolition waste has been disposed of in landfills. However, this has a negative environmental impact, contaminating underground water and surrounding habitats. The U.S. National Association of Home Builders estimates that building a 2,000 square foot (about 185 square metre) home creates up to 8,000 pounds (3.6 tons) of waste, 85 per cent of which could be reused or recycled, yet most is ending up in landfills. On a per-ton basis, sorting and processing recyclables can create and sustain 10 times more jobs than landfilling or incineration (Institute for Local Self-Reliance 2002). Further complicating the issue is the fact that construction and demolition materials reuse is a decentralized industry. To support the development of this rather small industry, cities should proactively address the absence of universal requirements to report or track generation, reuse, recycling or disposal of construction materials.

2.4.4 Mapping and spatial data

Data generated must be high-quality, timely and reliable. It should also be disaggregated by income, sex, age, race, ethnicity, migration status, disability, geographic location and other characteristics. However, protective policies should be in place to ensure that the data are not used for discriminatory policies. Availability of city-level data is important for benchmarking progress. Many cities in the developed and developing world lack this data or systems to curate and use data.

The New Urban Agenda seeks to improve the capacity of national, subnational and local governments for data collection, mapping, analysis and dissemination. It also seeks to grow capacity for promoting evidence-based governance, building on a shared knowledge base using both globally comparable as well as locally generated data, including through censuses, household surveys, population registers and community-based monitoring processes - **NUA 159**. To this end, the New Urban Agenda supports that “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” and supports “institutionalized mechanisms for sharing and exchanging information, knowledge and expertise, including 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” - **NUA 157**.

More specifically, the New Urban Agenda promotes compliance with legal requirements through strong, inclusive management frameworks and accountable institutions that deal with land registration and governance, applying transparent and sustainable management and use of land, property registration and sound financial systems. It emphasizes the importance of generating high-

The New Urban Agenda seeks to grow capacity for promoting evidence-based governance, building on a shared knowledge base using both globally comparable as well as locally generated data, including through censuses, household surveys, population registers and community-based monitoring processes - NUA 159.

quality, timely and reliable data, disaggregated by all characteristics relevant in the national context to ensure that these data are not used for discriminatory land-use policies - **NUA 104. SDG 17** – *Strengthen the means of implementation and revitalize the global partnership for sustainable development* – also recommends that Governments enhance capacity building support to developing countries “to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts” - **SDG Target 17.18**. Box 18 describes efforts by the city of São Paulo using mapping and housing information to help protect the most vulnerable population.

As sensor technologies and the internet of things (IoT) become more ubiquitous, it is important that cities identify some of the major impediments to their ability and sustainability to utilize the vast amounts of data being collected more effectively and intentionally to invest wisely in selected priorities. These priorities can include reducing traffic congestion, addressing lack of parking, rehabilitating aging water infrastructure and recovering lost revenue from water leaks, and promoting transit ridership and public safety.

Cities can also benefit from low-cost methods to update their land use and land cover data on a frequent basis to help inform both local and regional level planning processes. Traditionally, city agencies or ministries responsible for environment, forestry and natural resource management use field surveys or analyze satellite images. While carrying out field surveys is more comprehensive and authoritative, it is an expensive project and usually takes a long time to update. With recent developments in the space technology industry and the increased availability of satellite images (both free and commercial) for remote sensing, advances in computing and convolutional neural networks are showing promising results in improving and speeding up land-use classification (ESRI). Machine learning algorithms have proved to be a powerful tool for analyzing satellite imagery and providing nuanced insights. Cities should proactively

Box 21: Housing information and mapping system in São Paulo, Brazil

Action In 2004, the City of São Paulo Department of Housing and Urban Development (SEHAB) launched a housing information and mapping system called HABISP. It is a complete data set that contains information about residents of public housing and informal settlements. It provides a comprehensive record of all settlements in São Paulo and identifies the most vulnerable population groups in order to prioritize interventions on an equitable basis.

Impact Unlike previous record-keeping instruments used by SEHAB, HABISP provides decision makers with updated and comprehensive information on housing and other socioeconomic conditions of the urban poor. Furthermore, HABISP is an easy-to-use information system, which uses standardized indicators to analyze and compare different urban programmes. It allows the municipal staff to constantly monitor and review their working methods and make judicious decisions about activities based on the latest statistics.

HABISP also benefits other stakeholders by allowing them to access the information and actively participate in the conception, implementation and fulfilment of municipal interventions. The HABISP website is an important information source for residents on the policies and plans under development, project progress and budgetary executions. Resident access has led to transparency and accountability.

This online information system has transformed the way São Paulo approaches urban planning. However, it is notable that building such an information and management system requires significant investment in technology and human and financial capacity building.

identify the utility and value of these tools to establish evidence-based governance in land-use management and environmental monitoring. See Box 18 for an example.



Principles

Open and transparent practices are essential to enable stakeholders and the public to understand the goals of smart-city projects. Using a smart-city approach not only enables governments to improve service delivery and accountability to stakeholders, but also provides opportunities and options for urban inhabitants to make more environmentally friendly choices and boost sustainable economic growth. Well-informed citizens are better prepared to participate in civic governance and to contribute to policy making.

Using smart technologies in urban development requires national, subnational and local governments to have the capacity to conduct data collection, mapping, analysis and dissemination. Data collection and analysis is necessary for good governance, specifically in the creation of non-discriminatory housing and land registration and governance systems. Improving the transparency of data on spending and resource allocation can be a tool for assessing progress towards equity and

spatial integration. E-government strategies and citizen-centric digital governance tools can enable citizens, especially those from marginalized groups, to develop and exercise greater civic responsibility, broadening participation and fostering responsible governance.

Cities must have updated governance and financing models to set up shared services across departments, integrate data and redesign workflow to fully utilize sensor-based solutions.

Sustainable and equitable urban development requires metropolitan governance that is inclusive and encompasses legal frameworks and reliable financing mechanisms, including sustainable debt management. Governments should seek to create integrated financing frameworks that are supported by an enabling environment at all levels. Financing should be embedded in coherent policy frameworks when possible.

Appropriate governance frameworks are necessary to manage the disruptive aspects of new mobility technologies. Governments should develop clear, transparent and accountable contractual relationships with transport and mobility service providers, including on data management. This is necessary to protect the public interest and individual privacy and to engage the private sector to provide high quality services.

Governments should develop clear, transparent and accountable contractual relationships with transport and mobility service providers, including on data management.



Illustrative Actions

Proactively regulate emerging mobility services to create a level playing field while promoting public transit ridership. Applying an equity lens to mobility and transit development can enable greater equity in participation in social and economic activities in cities and human settlements, especially for marginalized groups. This can be accomplished by supporting a significant increase in accessible, safe, efficient, affordable and sustainable infrastructure for public transport, walking and cycling. Governments should also prioritize equitable transit oriented development that minimizes displacement and is accompanied by affordable, mixed-income housing and accessible jobs and services.

Promote the construction and retrofitting of sustainable, resilient and resource-efficient buildings. Governments should support the sustainable use of natural resources, with a focus on the resource efficiency of raw and construction materials such as concrete, metals, wood, minerals and land. Additionally, prioritizing smart-grid, district energy systems and community energy plans can improve synergies between renewable energy and energy efficiency.

Establish requirements to report or track the generation, reuse, recycling or disposal of construction materials. Governments can also support the establishment and monitoring of reuse centres for overstocked, discontinued, new and used building materials donated by manufacturers, businesses, contractors and individuals. The systematic reporting, tracking and professional handling of large volumes of salvaged or reusable building materials can reduce waste and materials that are sent to landfills. These activities support the transition to a circular economy while facilitating ecosystem conservation, regeneration, restoration and resilience.

Utilize city assets for data collection, such as installing sensors with GPS trackers on city-owned vehicles, turning them into mobile sensing devices for traffic and environmental monitoring. Use existing data to identify potential hot spots where sensors can be selectively placed, reducing the number of devices needed to monitor sectors such as traffic, transit or water infrastructure. A smart-city approach that makes use of opportunities from digitalization can provide opportunities for urban dwellers around the world to make more environmentally friendly choices, while boosting sustainable economic growth and enabling cities to improve their service delivery.

Identify the utility and value of remote sensing and artificial intelligence tools for image classification to establish evidence-based governance in land-use management and environmental monitoring. These technologies have enabled new approaches to land resource management by classification of satellite imagery to understand land uses and boundaries. Cities can use these technologies to create a base map of land uses and ownership patterns, then update these on an on-demand basis using community input, on the ground surveys and dispute resolution methods.

Identify how recent developments in the space industry and the increased availability of satellite images can benefit land use management and environmental monitoring practices. Cities need to quantify the problem that needs fixing. As smart-city approaches gain traction, government stakeholders should also endeavor to quantify the value that advanced remote sensing tools can bring in order to evaluate or justify investments.

Support the sustainable use of natural resources, with a focus on the resource efficiency of raw and construction materials. Additionally, prioritizing smart-grid, district energy systems and community energy plans can improve synergies between renewable energy and energy efficiency.

Figure 31: Venice, Italy, is surrounded by water. Innovative policies are needed to save this historic city from the impacts of climate change.





03

Governance, monitoring and reporting

This Chapter describes the global governance mechanisms established for the follow-up and review of the New Urban Agenda to achieve the Sustainable Development Goals. It presents ongoing work at the global level to build comprehensive monitoring and reporting frameworks, facilitated by UN-Habitat. This process will guide Member States and partners in the collection and analysis of urban data, and in the identification of actions and results achieved at all levels of governments and stakeholders. The analysis of quantitative and qualitative data from all over the world, and systematization on the Urban Agenda Platform, shall feed into the Quadrennial Report on the New Urban Agenda to the Secretary General of the United Nations, and inform global action and recommendations for urban sustainability.

3.1 Global governance and means of implementation

While the previous chapters described the ways to build urban governance structures **NUA 85-92** and plan and manage urban spatial development **NUA 93-125**, this section provides background to the means of implementations to achieve the **NUA 126-160**.

The complexity of the Agenda requires many actors and various means of implementation, along with an enabling environment at the national, subnational and local levels. Capacity development, cooperation and partnerships, mobilization of financial resources, are all part of the core means.

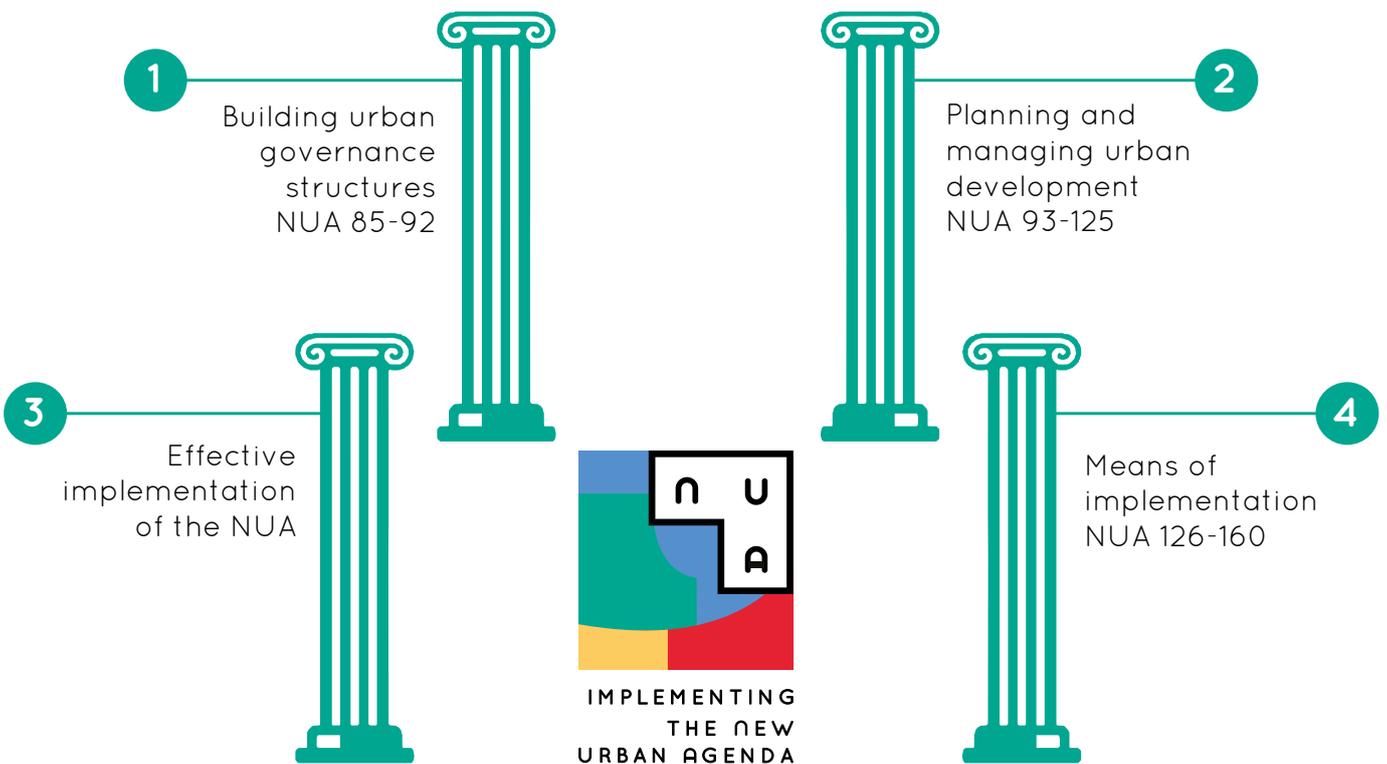
3.1.1 Global governance

Paragraph 127 of the NUA reaffirms the commitments on means of implementation included in the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda, while paragraph 6 recognizes and reiterates leading global agreements.

Among these global agreements, it is salient to highlight the key global development agreements and frameworks adopted in 2015. Besides the Addis Ababa Action Agenda, the year was marked

The Agenda requires many actors and various means of implementation, along with an enabling environment at the national, subnational and local levels

Figure 32: Pillars of the effective implementation of the New Urban Agenda.



by the endorsement of three other landmark UN agreements: the 2030 Agenda for Sustainable Development and the Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction and the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC). The growing recognition of the correlation between urbanization and development is reflected through the adoption of the New Urban Agenda in 2016.

Together and under the umbrella of the 2030 Agenda for Sustainable Development, these documents provide the most comprehensive blueprint with a global framework to inspire national strategies, policies and plans on how to achieve prosperity for all, eliminate inequality and protect the planet.

The 2030 Agenda as well as the New Urban Agenda stress the importance of reinforcing and complementing the global agendas to avoid inefficiencies and reduce or minimize negative interactions (ICSU, 2017). Resources need to be optimized and effectively utilized, which in turn increases positive interactions between the agendas. This can happen when integration takes place across policy and implementation levels, multi-sectoral and multi-stakeholder governance systems are adopted, partnerships are strengthened, and financial resources and technology are leveraged (ICSU, 2017).

The global agreements and frameworks adopted in the post-2015 era underscore the role of the United Nations system-wide coordination. The role and mandate of UN-Habitat in these efforts as the focal point for sustainable urbanization and human settlements is explained in detail in section 3.4.

Serving as important foundations for the integrated mainstreaming of these global agendas are universal concepts such as 'leave no one behind', commitments to human rights and gender equality, principles enshrined in various UN Conventions and Agreements, and the efforts of some national and local governments towards the visioning of the 'right to the city' in their legislation and declarations - **NUA 11**.

3.1.2 Mobilization of financial resources

To finance the implementation of the New Urban Agenda, mobilization of adequate and appropriately directed financial resources needs to take place. This can be done by expanding on the traditional resources, mobilizing innovative revenue sources and putting in place long-term, predictable financing mechanisms.

In the New Urban Agenda, the ways to widen the potential revenue base of municipalities and attract investments and resources are outlined in paragraphs 130-145. The New Urban Agenda promotes fiscal decentralization, coherent policy frameworks, mobilizing endogenous resources and revenues through the capture of benefits of urbanization, private-public partnerships, diversifying fiscal revenues and gains-related fiscal policies and more equitable distribution of national financial resources. It also underlines the need for better debt management through improved local creditworthiness and supports access to different multilateral funds and multilateral financial institutions.

Serving as important foundations for the integrated mainstreaming of these global agendas are universal concepts such as 'leave no one behind', commitments to human rights and gender equality, principles enshrined in various UN Conventions and Agreements.

Box 22: Interlinked global agendas

The NUA emphasizes the importance of strongly interlinking global development agendas NUA 6, 9, 11, 12, 77, 79, 127, 128, and 150. The NUA is an accelerator of the 2030 Agenda for Sustainable Development and the SDGs, the Paris Climate Change Agreement, the Sendai Framework for Disaster Risk Reduction, the Addis Ababa Action Agenda on Financing for Development.

This topic is discussed in detail in section 2.1.6 on Municipal Finance, where it gives a thorough overview of the New Urban Agenda principles for sustainable municipal finance, as well as strategic actions. The section 1.3.3 on Climate Change Mitigation provides additional reading on the funding sources for climate action. The financial and regulatory tools to benefit from land-value capture, a significant gains-related fiscal tool, is covered in section 2.1.2.

The sheer scale of the investments needed to implement the New Urban Agenda can appear daunting – the estimates for the funding needed to close the infrastructure gap with regard to water, sanitation, transportation, energy, irrigation and flood protection can be between 2 to 8 percent of the GDP per year by 2030 (UN, 2019). In this regard, the progress on the 2030 Agenda offers valuable insight into the challenges and opportunities facing national entities and cities in reaching the New

Urban Agenda. A difficult journey lies ahead as only a low number of countries appear to have concrete financing plans for the implementation of the 2030 Agenda. To begin with, assessing the financing landscape and carrying out cost assessments of national implementation of the Goals has been found a useful tool (UN, 2019).

The multilateral climate funds provide the investments for transformative climate-related initiatives. The largest multilateral climate funds are the Climate Investment Funds (CIFs), Green Climate Fund (GCF), Adaptation Fund (AF), and Global Environment Facility (GEF). In 2016, these four funds approved \$2.78 billion of project support. Most multilateral climate funds use a wide range of financing instruments, including grants, debt, equity and risk mitigation options. These are intended to crowd in other sources of finance, whether from domestic governments, other donors or the private sector.

Assessing the financing landscape and carrying out cost assessments of national implementation of the Goals has been found a useful tool (UN, 2019).

Figure 33: Key global agendas post-2015

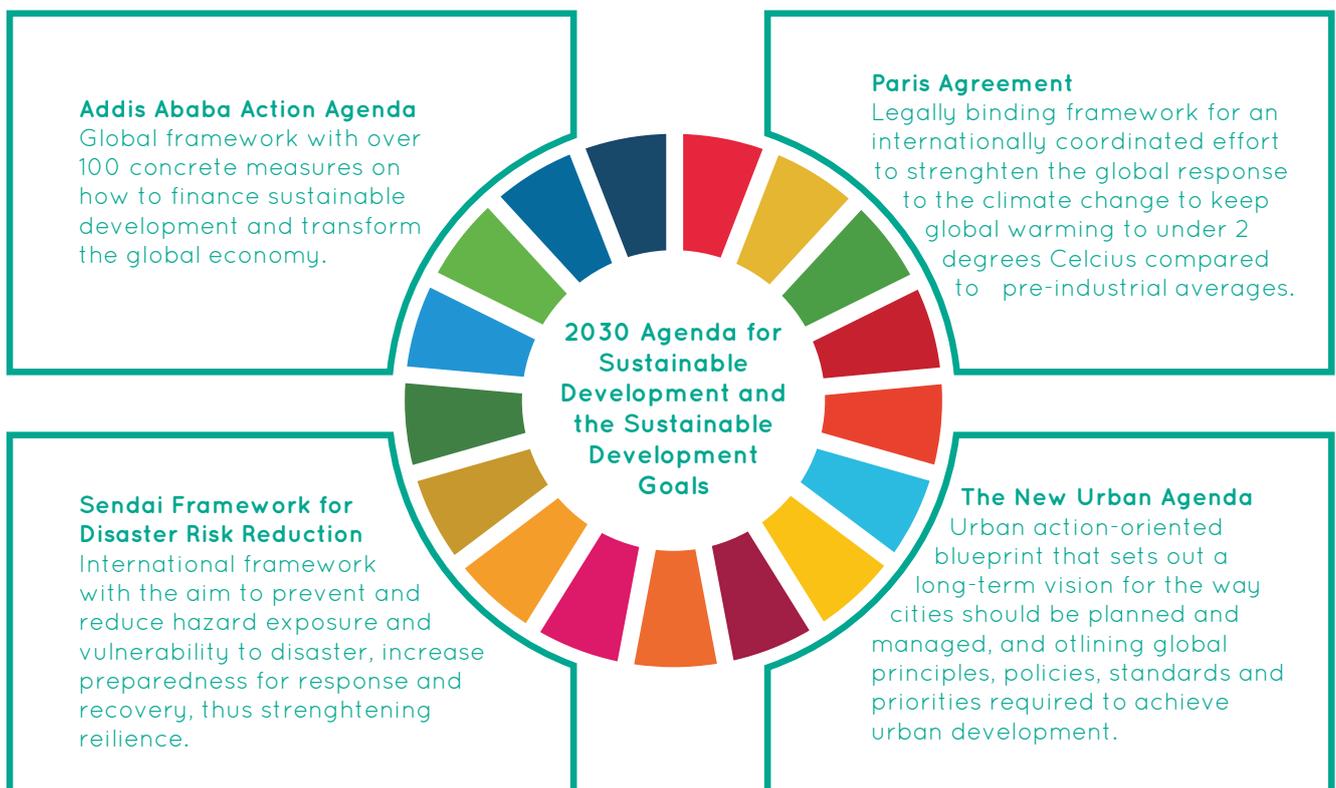
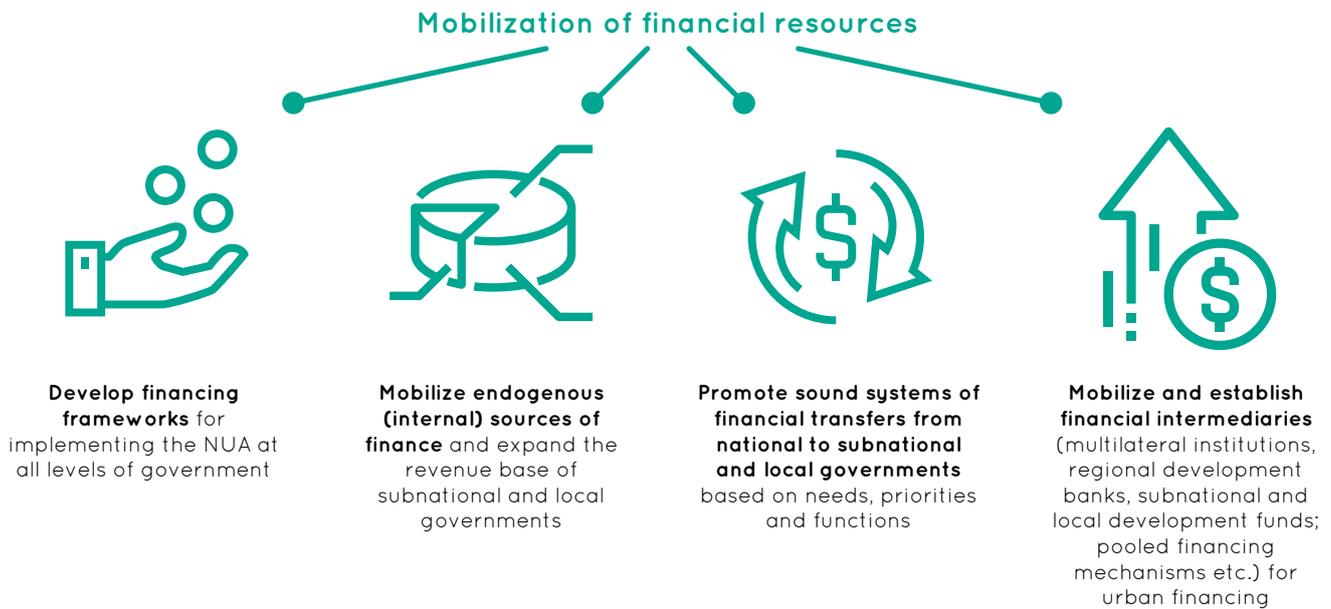


Figure 34: Mobilization of financial resources



Climate finance is “finance that aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts”, as defined by the United Nations Framework Convention on Climate Change (UNFCCC) Standing Committee on Finance.

3.1.3 Capacity development, knowledge exchange and partnerships

This section looks into **NUA 146 to 155** of the New Urban Agenda, which present capacity development, knowledge exchange and cooperation and partnerships as important means of implementation that create an enabling environment conducive to transformative changes. They provide mutually beneficial grounds for the generation and implementation of new policies, initiatives and tools and allow national governments, local governments and urban stakeholders to jointly lead on the implementation of the New Urban Agenda.

Their importance is highlighted in paragraph 146 of the New Urban Agenda, which promotes “opportunities for North-South, South-South and triangular regional and international cooperation, as

well as subnational, decentralized and city-to city cooperation... developing capacities and fostering exchanges of urban solutions and mutual learning”.

Capacity development

Capacity development is well recognized among the international development community and Member States as a critical means of implementation to achieve sustainable urban development and it is a key component of global developmental agendas.

Capacity development is fundamental in improving the human resources, organizational and institutional functioning of the entities and individuals and equipping policy-makers and urban practitioners with the skills and knowledge to understand the complexities underpinning urbanization, make well-informed decisions and be able to monitor and report back on the progress.

Capacity development is fundamental in improving the human resources, organizational and institutional functioning of the entities and individuals and equipping policy-makers and urban practitioners with the necessary skills and knowledge.

Figure 35: Capacity building

Capacity building as the key to unlocking the potential of institutions and individuals

Capacity building strengthens, develops and consolidates the knowledge, skills and abilities of multiple stakeholders and institutions at all levels of governance.



Capacity building is rooted in the NUA and the 2030 Agenda

The NUA refers to capacity development throughout its propositions and recommended implementation mechanisms (81, 90, 102, 117, 120, 129, 146-155). It is also the key focus of the SDG target 17.9 on Partnerships.



Capacity building is a critical pillar for the effective realization of sustainable urban development

As a result of capacity building, individuals and institutions can better formulate, plan, implement, manage, monitor and evaluate public policies towards sustainable urban development.

The need for capacity development, especially on the municipal level, is supported by various studies. While many cities have undergone substantial social, economic, spatial and physical transformations, the human and administrative capacities of municipal and local governments have not kept pace (UNESCAP, 2015). The effectiveness of municipal governments are often stymied by the inadequate capacity of local governments in areas or urban planning and regulatory control, finance, human and administrative capacity and service delivery (Avis, 2016).

Depending on the actual needs, capacity building activities can span all sectors and areas of interest, from improving data collection and policy development to implementation and boosting

stakeholder engagement, and take many forms (trainings, e-learning, on-the-job learning, city-to-city exchange and others). Irrespective of the format, an effective capacity building intervention is rooted in understanding the gaps and needs and in iterative development of the materials and tools based on lessons learned and new knowledge.

Knowledge exchange, cooperation and partnerships

The New Urban Agenda underlines the importance for cities and governments to exchange experiences on policies, programs, lessons learned and best practices in the development of novel urban solutions and tools while generating broader awareness and stimulating political and public discussions on urban development. Some of the platforms facilitated by UN-Habitat that support the sharing of experiences and stimulating cooperation among national entities, cities and urban

The New Urban Agenda underlines the importance for cities and governments to exchange experiences on policies, programs, lessons learned and best practices in the development of novel urban solutions and tools.

stakeholders are illustrated in sections 3.3. on the Urban Agenda Platform and 3.4. on the World Urban Forum and the UN-Habitat Assembly.

The New Urban Agenda - **NUA 150** calls for strengthening of knowledge exchange on science, technology and innovation. Strengthened partnerships and collaboration between urban stakeholders, research and tertiary educational institutions and high-tech industries as well as the establishment of science-policy interface practices can ignite innovative ideas, methods and approaches - **NUA 149**.

In this regard it is useful to highlight partnerships between UN agencies and universities worldwide such as HESI (Higher Education for Sustainability Initiative) and UNI (Habitat University Partnership

Initiatives), which gather large numbers of knowledge-based institutions and provide training and capacity building for various stakeholders, to strengthen their ability to participate in policy design, monitoring and reporting. Universities are increasingly incorporating the New Urban Agenda and the SDGs in their regular education, serving as important vehicles in knowledge generation, dissemination and awareness raising.

The New Urban Agenda - **NUA 153** calls for the promotion of multi-stakeholder partnerships in various urban development processes to establish clear and transparent policies, financial and administrative frameworks and procedures as well as planning guidelines. Section 2.1.4. on Urban Legislation and Regulations provides further background on this.

Strengthened partnerships and collaboration between urban stakeholders, research and tertiary educational institutions and high-tech industries as well as the establishment of science-policy interface practices can ignite innovative ideas, methods and approaches - NUA 149.



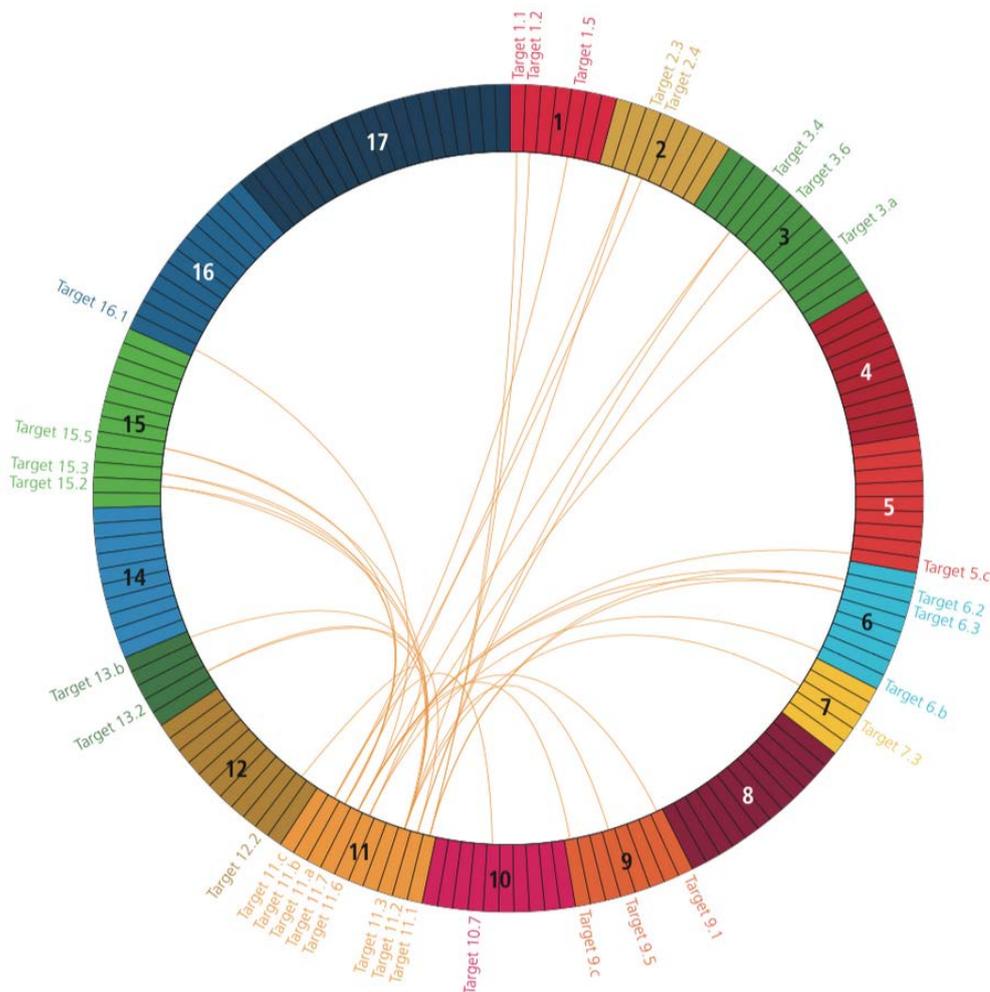
3.2 The New Urban Agenda and the urban dimensions of the SDGs

The past chapters made it clear that the ways cities respond to the needs arising from an increasing concentration of population in urban areas can lead to vastly different outcomes. They can exacerbate challenges to sustainable development, including inequalities, social and economic exclusion and environmental degradation, or provide fertile ground for economic growth, social and cultural development, and efficient use of natural resources.

Entangled in a nexus between the social, economic, environmental, and cultural considerations, the complexity of urbanization underlines the innate interlinkages between what both the New Urban Agenda and the Sustainable Development Goals aim to achieve: an equitable, equal and fair world for the present and future generations, where no one and no place is left behind. An overview of the nexus between the **SDG 11**, other SDGs and the New Urban Agenda is provided in Table 3.

Some of the linkages between the two global agendas are evident, most clearly seen in the inclusion of the historically first stand-alone goal on sustainable cities, the **SDGs 11** to “Make cities and human settlements inclusive, safe, resilient and sustainable”.

Figure 36: Visual representation of the key interlinkages between SDG 11 and other SDGs



The **SDG 11** on sustainable cities and human settlements is intrinsically linked to other SDGs, as shown in Figure 36. The synergies between them underscore that the efforts to achieve the SDGs and the New Urban Agenda must work in tandem, be it by reducing the unauthorized build-up in high-risk areas prone to landslides and floodplains to reduce the number of deaths due to natural disasters - **SDG target 13.1** or improving productivity and access to decent jobs - **SDG target 8.3** through investments in reliable, accessible and affordable public transportation.

Perhaps less obvious but equally salient are urban issues and topics transcending a host of other SDGs. In fact, 11 out of the 17 SDGs include targets with an urban component (see Figure 37). This requires further refined analysis on their linkages and policy interactions, key in ensuring that the policy actions are integrated and mutually reinforcing, without leading to negative, unintended consequences.

Evidence shows that integrated urban planning, access to basic services, slum upgrading, and decent and affordable housing reduce non-communicable diseases and limit environmental impacts, responding to goals on health and wellbeing - **SDG 3**, energy - **SDG 7** and climate - **SDG 13** (ICSU, 2017). Meanwhile, the provision of regional and urban infrastructure, as part of the infrastructure goal - **SDG 9**, boosts markets and value chains, supporting decent work and economic growth - **SDG 8**, sustainable consumption and production - **SDG 12**, and in creating better rural-urban interlinkages, it promotes food security - **SDG 2**, improved nutrition, and sustainable agriculture. Further, UN-Habitat’s 2016 report “Sustainable Urbanization in the Paris Agreement,” found that 113 out of 164 of the submitted nationally determined contributions (NDCs) reflect evident urban references and content, providing clear linkages between sustainable urbanization and climate action (UN-Habitat, 2017).

While the challenges that cities, towns and villages face in different countries are varied, the New Urban Agenda is designed to be universally applicable. Additionally, the New Urban Agenda has a long-term vision

Figure 37: SDGs featuring urban targets (excluding SDG 11)



Table 3: Nexus between SDG 11, other SDGs and the New Urban Agenda

| THE SDG 11 TARGET | LINKAGES TO OTHER SDGs | LINKAGES TO New Urban Agenda PARAGRAPHS |
|---|--|--|
| 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums |        | 31, 32, 33, 34, 46, 61, 70, 99, 107, 108, 110, 112 |
| 11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations... |      | 48, 50, 54, 113, 114, 115 |
| 11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries |  | 29, 39, 40, 41, 42, 92, 149, 155, 156, 157, 160 |
| 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage |      | 38, 63, 66, 121, 122 |
| 11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations |      | 65, 68, 69, 71, 73, 74, 75, 76, 77, 78, 119, 123 |
| 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management |      | 65, 68, 69, 71, 73, 74, 75, 76, 77, 78, 119, 123 |
| 11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities |     | 37, 53, 55, 56, 67, 100, 109 |
| 11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning |   | 87, 88, 89, 90, 91, 158, 159 |
| 11.b By 2020, substantially increase the number of cities ... adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and ... disaster risk management ... |      | 77, 78, 86, 94, 95, 96, 97, 98 |

A National Urban Policy (NUP) is a key instrument for governments to support the implementation of the New Urban Agenda and city-related SDGs. The NUPs are covered in detail in Chapter 2.1.

Institutional and policy implications

Given that urbanization is and will continue to represent a defining phenomenon in the coming decades, viewing the Goals as isolated from the urban reality would be counterproductive to the global efforts. As the New Urban Agenda provides guidance in planning, design, finance, development, governance and management to address both said challenges and opportunities of urbanization, it is a critical lever to accelerate the achievement of the SDGs.

Understanding this symbiosis has implications for domestic institutions, which will need to shift their focus to increasing understanding of the interlinkages between the urban SDGs and the New Urban Agenda.

This includes ensuring that they are properly mainstreamed in their institutional mechanisms, policy tools and budgets. Policy planning and design consequently need to be thoughtful and nuanced so as to navigate between the policy trade-offs and benefits to maximize the possible multiplier effect. If properly integrated, this can guide cities and countries towards coherent action on climate mitigation, sustainable urbanization, and the concurrent realization of the New Urban Agenda and several SDG targets.

Countries have developed action plans for the implementation of the New Urban Agenda and the SDGs but they are not always aligned with the National Urban Policies. Experience from the NUPs show that aligning spatial priorities and

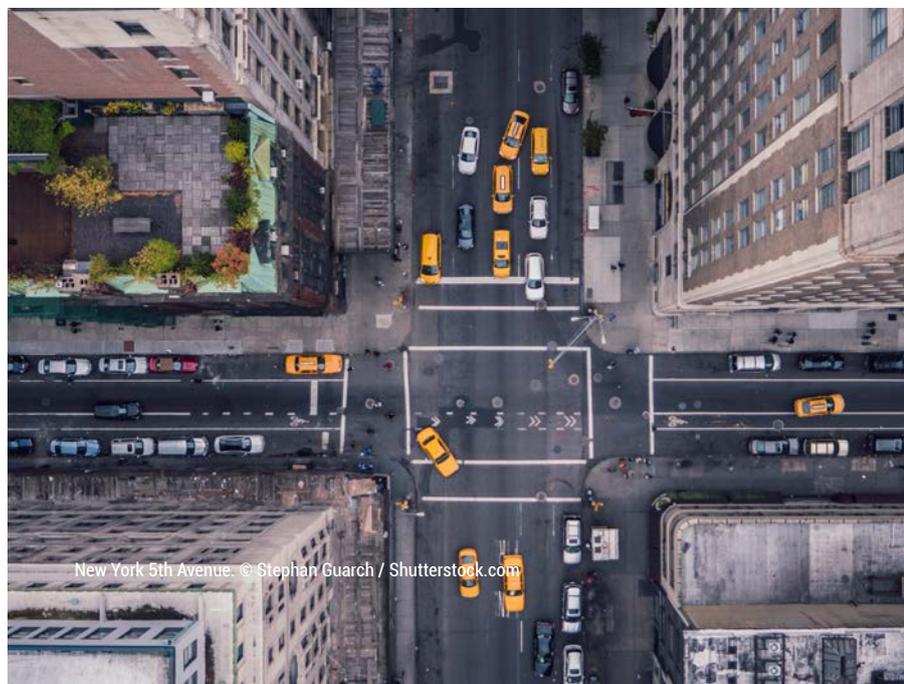
making choices based on explicit objectives and values can give cities the leverage to realize their developmental potential (UN-Habitat, 2014). But as reported in the Global State of National Urban Policy Report prepared by UN-Habitat and OECD, of the 150 countries analyzed regarding urban policy progress, half (76) have adopted explicit NUPs with strong connections to the New Urban Agenda (UN-Habitat and OECD, 2018).

The necessity for policy coherence and integrated policies vis-à-vis the global developmental agendas indeed poses a great challenge to many countries (UN, 2019), therefore to effectively consider the New Urban Agenda in the mix further requires considerable capacity building and awareness interventions, as well adequate financial support.

Strengthened governance coordination systems across the different sectors, plans and strategies (horizontal coherence), and between all levels of government (vertical coherence), with the devolution of appropriate responsibilities, also remains of critical importance in this feat. Likewise, throughout the process, there must be an inclusive stakeholder engagement, including local communities, private partners, and other actors.

With less than a decade before reaching the 2030 milestone, however, whether this will be achieved will critically depend on the sustained political commitment and will at all levels of the government.

Countries have developed action plans for the implementation of the New Urban Agenda and the SDGs but they are not always aligned with the National Urban Policies.



New York 5th Avenue. © Stephan Guarch / Shutterstock.com

3.3 Monitoring and reporting

The follow-up and review of the New Urban Agenda are stipulated in paragraphs **NUA - 161-175**. Encouraging a process that is country-led, inclusive, multilevel and transparent, the agenda gives a prominent role to local governments and reaffirms UN-Habitat as a focal point for sustainable urbanization and human settlements. Quantitative and qualitative analysis, regular assessments, along with meetings and conferences, will support follow-up and review of the New Urban Agenda. The New Urban Agenda reporting process complements and features linkages with the follow-up and review of the 2030 Agenda for Sustainable Development to ensure coordination and coherence in the implementation of the relevant global development agendas.

Understanding the Quadrennial Report of the Secretary General

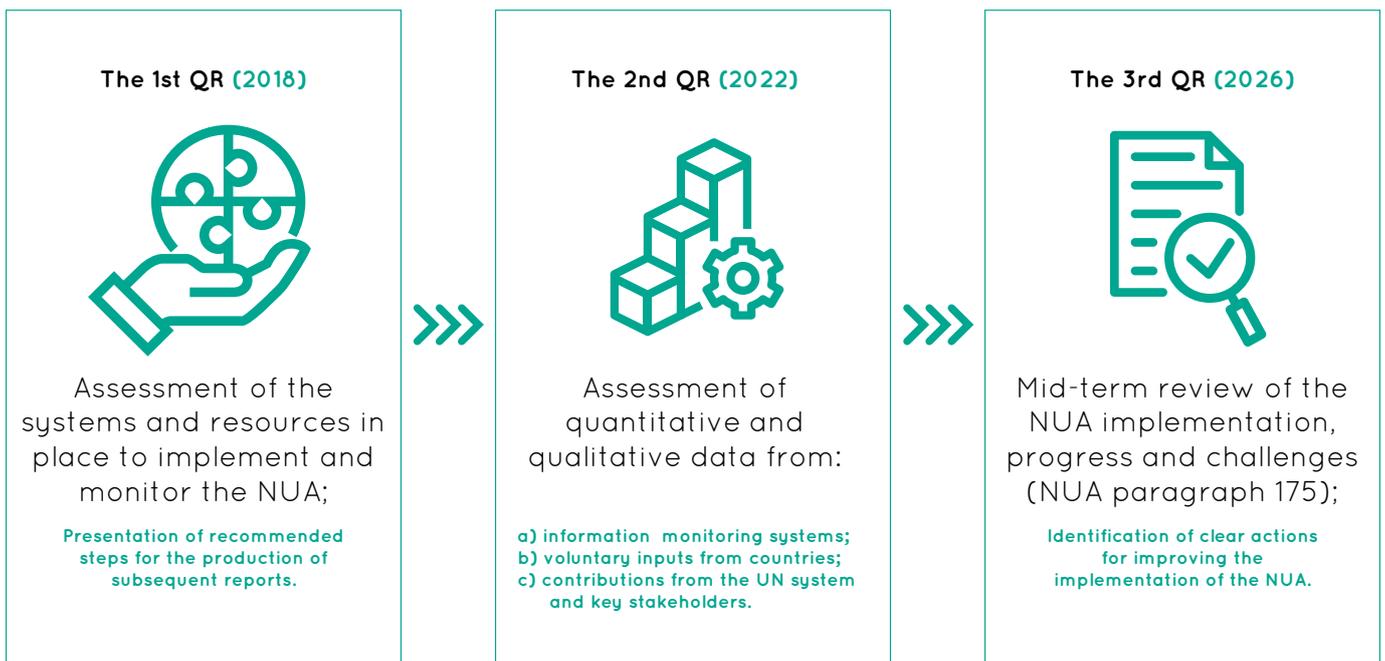
The paragraph 166 also lays the basis for the Quadrennial Report (QR), through which the UN Secretary General presents to the UN Economic and Social Council (ECOSOC) the progress made in the implementation of the New Urban Agenda. A total of five reports will have been produced every four years until 2036. Figure 37 below provides an overview of the first three of such reports, leading up to the mid-term review of the implementation of the New Urban Agenda in 2026.

The follow-up and review of the New Urban Agenda are stipulated in paragraphs NUA 161-175.

Four elements to support the reporting process

An incremental approach to the reporting and monitoring process is based on four interrelated elements shown in Figure 39.

Figure 38: Timeline and objectives of the Quadrennial Reports (2018-2026)



To provide the building blocks, UN-Habitat has developed: a) the New Urban Agenda standardized guidelines for reporting, b) the New Urban Agenda monitoring framework and c) the Urban Agenda Platform, which are explained in more detail in sections 3.3.1-3.3.3 of this chapter.

Interlinked, together they provide the basis for the collection of qualitative and quantitative data, a harmonized approach to analyzing the progress on the NUA, as well as a platform for engagement and sharing impact between Member States and other stakeholders.

Preparatory processes informing the production of the Quadrennial Reports to the Secretary General

The preparatory stages are a mammoth and long-term endeavor. UN-Habitat needs to mobilize stakeholders through its variety of communications and convening channels in order to generate an inclusive and knowledge-rich reporting process.

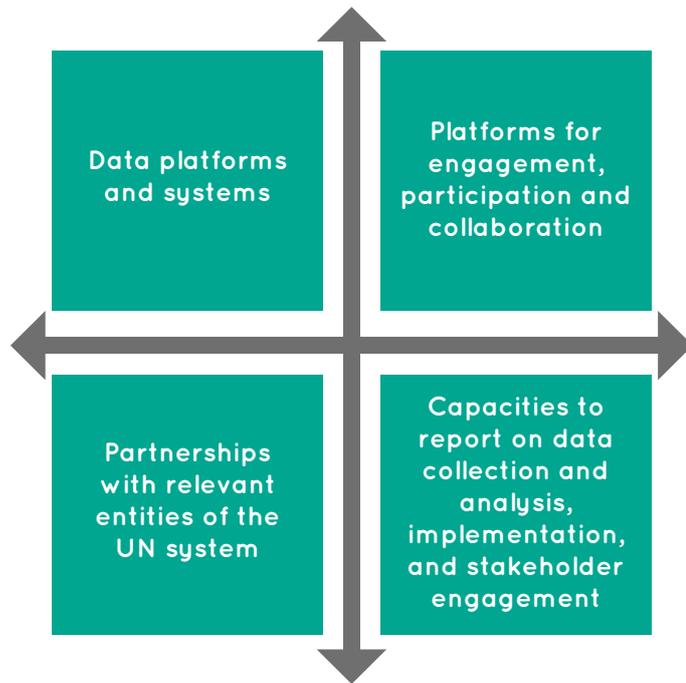
Involvement of a wide range of stakeholders

Paragraph 167 of the New Urban Agenda requires that reporting on the progress be country-led, but also calls for an inclusive process with a wide range of stakeholders involved in the follow up review and implementation processes, including all levels and sectors of government, civil society and the private sector, members of parliament, and national human rights institutions, as well as the UN system.

3.3.1 Guidelines for reporting

UN-Habitat produced the Guidelines for Reporting on the Implementation of the New Urban Agenda to support Member States in preparing their National Reports on the progress in implementing the New Urban Agenda, as well as on the progress made on internationally agreed goals and targets relevant to sustainable urbanization and human settlements.

Figure 39: Four elements supporting the reporting process.

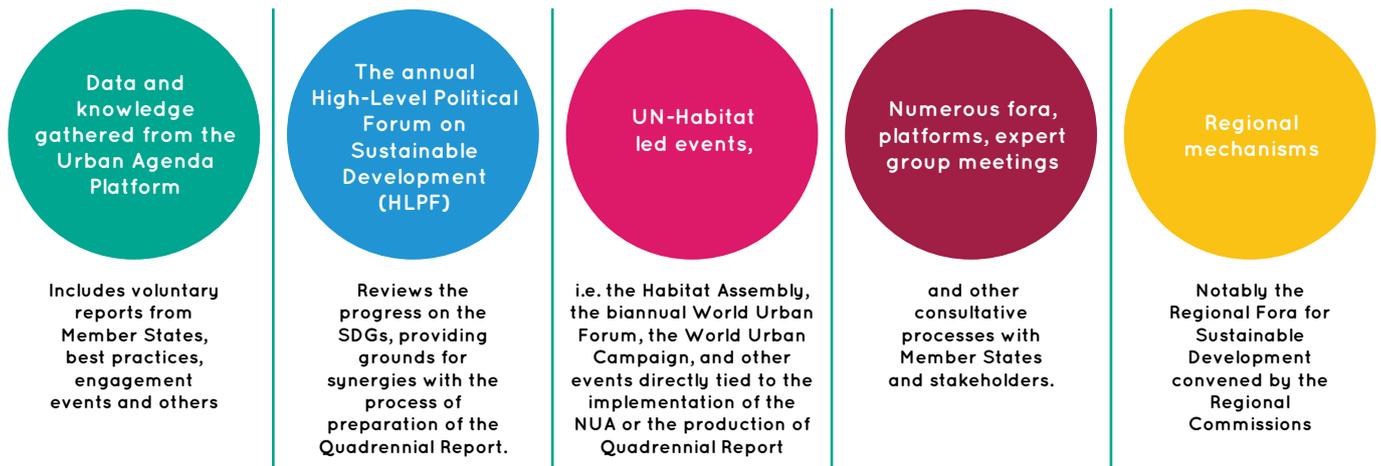


Understanding the National Reports

Using the Guidelines, the preparation of the Report should be led by the key ministry, or a clearly defined consortium of ministries responsible for urbanization matters in the country, with clear lines of responsibility and accountability (see Figure 41). In countries where active National Habitat Committees and National Urban Forums exist, both can play a key role in preparing the National Reports. UN-Habitat will assist in building greater awareness of the reporting guidelines, as well as provide technical assistance to Member States.

The National Reports will provide essential input to the Secretary General's Quadrennial Report. Continuous updates can be made online through the New Urban Agenda Platform (Section 3.3.3).

Figure 40: Overview of consultative channels informing the Quadrennial Report to the Secretary General



Structure of the National Reports

The Reporting Guidelines for Member States are split into two areas: Transformative Commitments and Effective Implementation, with proposed themes. The first part of the report focuses on how the Member States meet the Transformative Commitments of the New Urban Agenda while the second part of the report focuses on policy frameworks at the national level. The New Urban Agenda Monitoring Framework (section 3.3.2) provides the indicators for these categories and themes.

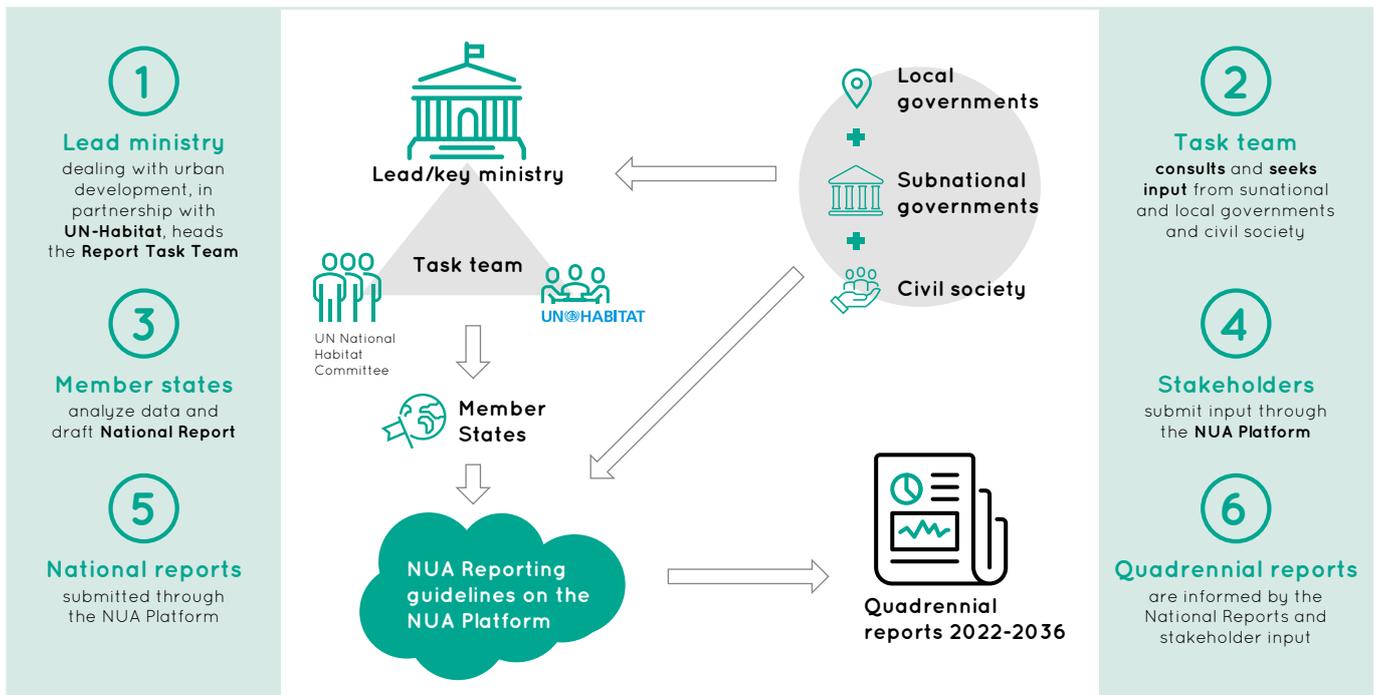
In the follow-up and review section, the report should describe the mechanisms, tools, frameworks and/or methodologies that have been developed by all levels of government and stakeholders to monitor and report on the implementation of the New Urban Agenda. The report should describe the results achieved, challenges experienced, and lessons learned, best practices and case studies.

While it is understood that each Member State will have varying capacities and methodologies for measuring success, the National Reports should include the quantitative or qualitative indicators specified in the New Urban Agenda Monitoring Framework. Publicly accessible (data) platforms, weblinks, maps, tables and other information should also be included as annexes to the report where possible. Each response should incorporate the cross-cutting issue of the inclusion of women and vulnerable groups (youth, older persons, persons with disabilities and migrants).

3.3.2 Monitoring framework

Front-line urban data and statistics compliment urban policy research and knowledge and support UN-Habitat in influencing the strategic policy engagements on sustainable urban development. The agency has contributed to this vision by establishing urban indicators databases, launching urban data observatories in cities globally and

Figure 41: Overview of the New Urban Agenda implementation reporting procedure



publishing data-driven urban reports and position papers. To further support the efforts to track progress on the New Urban Agenda, UN-Habitat has developed the New Urban Agenda Monitoring Framework.

Understanding the New Urban Agenda monitoring framework

The New Urban Agenda Monitoring Framework provides a set of 78 indicators that all national and local governments and partners can use to uniformly collect comparable data to track progress on the implementation of New Urban Agenda commitments. This framework is essential for assessing impact. It also allows the residents of a city or country to hold local and central governments accountable for implementation of the New Urban Agenda.

UN-Habitat has worked in close collaboration with United Nations system entities and the Statistics Division to create an incremental approach to designing the reporting on the implementation of the New Urban Agenda.

In accordance with the General Assembly resolution 71/235, the monitoring framework is to be used in national and subnational monitoring, and will guide the drafting of national reports, city reports and the Quadrennial Report to the General Assembly.

In the follow-up and review section, the report should describe the mechanisms, tools, frameworks and / or methodologies that have been developed by all levels of government and stakeholders to monitor and report on the implementation of the New Urban Agenda.

The complexities of monitoring urban dimensions and progress in cities represent a methodological challenge for many statisticians and economists. Some of the challenges include a lack of harmonized definitions on cities and urban areas, variations in understanding of indicators across ministries and municipalities, and the need to monitor and track results at the city level, while reporting progress at the national level. Some countries also have many cities and urban centres, bringing about challenges in how to most effectively monitor and report on them.

The New Urban Agenda Monitoring Framework aims to redress these challenges. The Framework contains harmonized urban concepts and operational definitions of cities and urban areas, thus supporting Member States in producing and providing comparable indicators for monitoring progress and impact. UN-Habitat has also developed a national sample of cities as a solution for monitoring a representative set of cities that would allow reporting progress at the national level with limited selection bias.

Alignment with the urban dimensions of the SDGs

The Framework is designed to contribute directly to understanding and enhancing the urban dimensions of the SDG related indicators. The New Urban Agenda recognizes the effective linkages and synergies between self-monitoring and the 2030 Agenda for Sustainable Development, to ensure coherence in their implementation **NUA 164** and monitoring. Nearly a third of the indicators of the Monitoring Framework mirror the urban-focused SDG indicators, thus allowing Member States and cities to monitor progress in a way that maintains alignment with the 2030 Agenda for Sustainable Development.

This framework builds on the SDG monitoring framework by including specific components of the NUA that are not covered by existing indicators linked to the SDG Goals and targets. As the NUA articulates “the how”, “with whom” and “the means of achieving sustainable urban development”, it brings additional layers of urban dimensions and

The New Urban Agenda Monitoring Framework includes specific components of the New Urban Agenda that are not covered by existing indicators linked to the SDG Goals and targets.



Ulaanbaatar, Mongolia. © Michal Vit / Shutterstock.com

goes beyond the core urban indicators of the SDGs. It is in that context that the framework fills this gap as nearly half of indicators of the New Urban Agenda Monitoring Framework are unique. Many SDG indicators also focus on quantitative statistical measures. UN-Habitat has proposed various additional New Urban Agenda measures to balance the integration of a range of qualitative, quantitative and spatial measures to complement the SDG indicators.

3.3.3 Urban Agenda online Platform

This global and interactive platform facilitated by UN-Habitat for information sharing and systematic reporting will be instrumental in collating actions, best practices, case studies, lessons learned and other valuable inputs from Member States and other New Urban Agenda partners.

The Urban Agenda Platform is a global network platform that brings together the UN system, national, regional and local governments, the private sector, civil society, academia, and other stakeholders to facilitate monitoring, reporting and knowledge-sharing on progress, and thereby accelerate the implementation of the New Urban Agenda and SDGs. The Platform builds on the initial Quito Implementation Platform, designed for Habitat III, which content has migrated to the Urban Agenda Platform.

The Platform responds to the need to enhance access and exchange of information on progress being made on the implementation of the New Urban Agenda by creating a virtual space of knowledge exchange and analysis. Key lessons are emerging in terms of innovation, sustainability, efficiency, and engagement that need to be effectively harnessed, shared and learned from.

The Reporting Guidelines and the Platform will provide the necessary basis required for the preparations of the UN Secretary General's Quadrennial Report on the Implementation of the New Urban Agenda in 2022 and beyond.

Box 23: Main features of the Urban Agenda Platform

1. **National Reporting:** A centralized, virtual reporting mechanism based on the Reporting Guidelines accessible to the Member States that will facilitate the preparation of National Reports.
2. **Knowledge management:** Leveraging on the collective experience and knowledge of partners, it will facilitate knowledge generation and sharing in support of New Urban Agenda and SDGs implementation.
 - a) **Urban Data:** Linkage to Global Urban Indicators database platform; provide an interactive mechanism to visualize data from progress and demonstrate impact of the implementation of the New Urban Agenda and SDGs.
 - b) **Urban Best Practice Database:** Hosting and management of best practices from different award schemes, with advanced search functions to encourage sharing and knowledge uptake. The database facilitates sharing of inspiring breakthroughs and success stories, demonstrating results and impacts and identifying practices that can be scaled-up.
 - c) **Linkages with global, regional and thematic knowledge platforms:** to reinforce collaboration and coherence of thematic areas and with global and regional-level platforms developed through the UN DESA and the UN Regional Commissions.
3. **Learning and Capacity Development:** Support evidence-informed country-level action for impact on through capacity development and curated, state of the art knowledge. Providing a complementary set of webinars, e-learning, workshops, and technical support and expanding resources and publications.
4. **Sharing Action:** Initiatives shared by different stakeholders to report their progress in implementing the New Urban Agenda.
5. **Engagement and Participation:** Accelerating networking globally and fostering a global community for collective action through podcasts, e-groups, videos, events and more.
6. **Advocacy and Partnership:** Leverage collaborations to scale up action and collective response.

3.4 UN-Habitat's role in driving the New Urban Agenda

The origins and basis upon which UN-Habitat was founded, the earliest traces dating back to the 1940s, show the evolution in the organizational form and thematic focus that reflect the changing realities of the urban, demographic, environmental, spatial and socioeconomic trends and resulting needs. Over time, the agency has expanded its thematic scope and rose in relevance as the world was fast urbanizing and the majority of the world's population was increasingly residing in urban areas.

Naturally, the process leading up to the adoption of the Sustainable Development Goals and the New Urban Agenda saw the agency's involvement to ensure that the role of urbanization in sustainable development is reflected in the post-2015 global agendas. In achieving these global agendas, the agency has developed critical normative and knowledge tools to support the coherent reporting and monitoring on the implementation of the New Urban Agenda and the urban components of the SDGs. This was described in detail in the preceding section.

Indeed, as the focal point on sustainable urbanization and human settlements, UN-Habitat's role, mandate, and normative and technical expertise is reaffirmed in the New Urban Agenda in various paragraphs - **NUA 165;171**.

The subsequent section gives an overview of two large stakeholder gatherings organized by UN-Habitat, responding to the paragraph 167 of the New Urban Agenda to draw from the experiences and inputs of stakeholder platforms in monitoring and reporting on the New Urban Agenda. Understanding that there is a plethora of initiatives and events supporting the New Urban Agenda, this section in particular draws attention to the advocacy, knowledge and stakeholder platform known as the World Urban Forum (section 3.4.1) and the governance structure of the Habitat

Assembly (section 3.4.2) and wider UN-Habitat, given their reach and strategic importance.

3.4.1 UN-Habitat Assembly and governance structure

This section gives a brief overview of the governance structure of UN-Habitat and specifically focuses on the UN-Habitat Assembly, the agency's main decision-making body, given its integral role for the implementation of the New Urban Agenda.

UN-Habitat governance structure

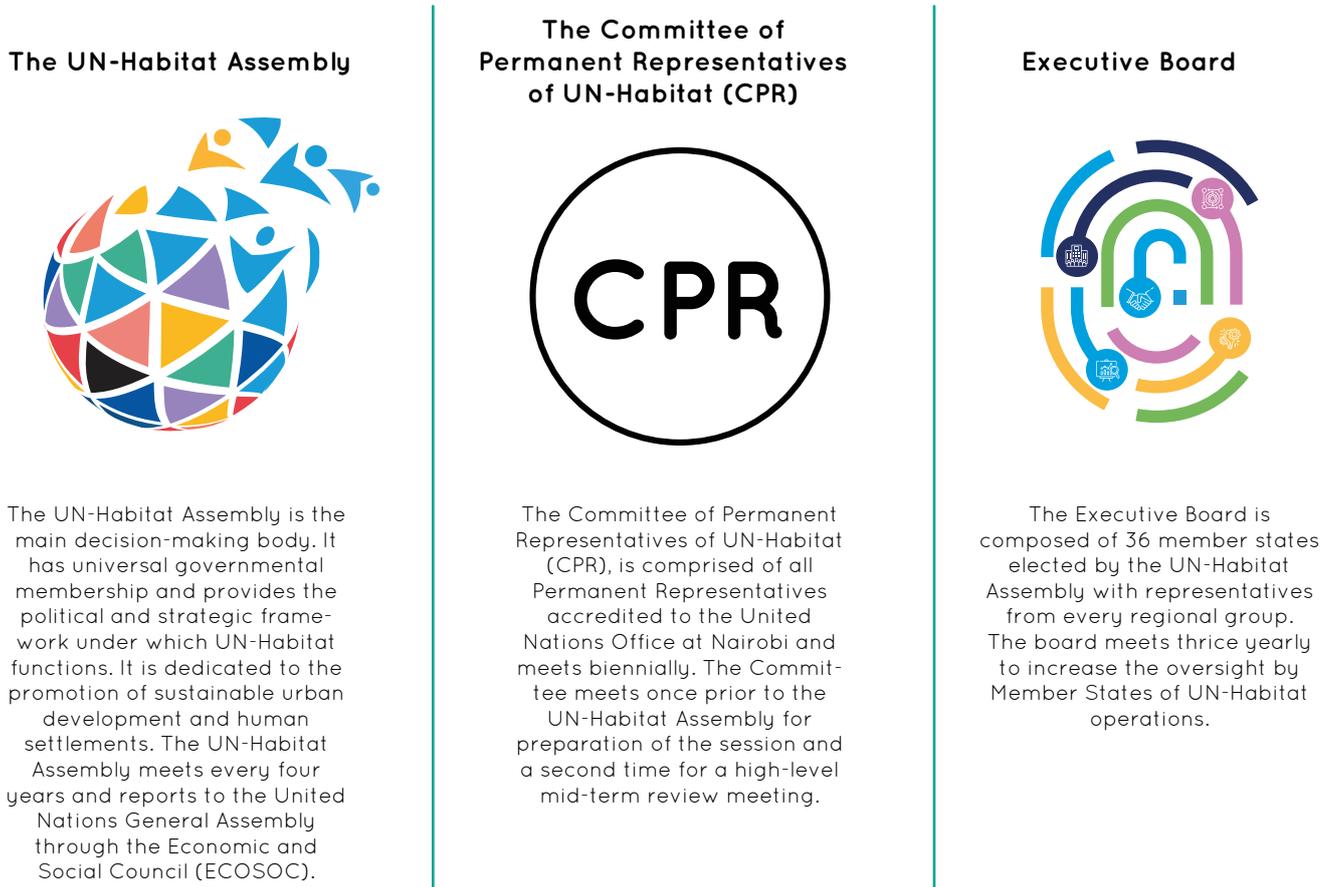
UN-Habitat's governing structure is made up of three decision-making bodies; the UN-Habitat Assembly, the Executive Board and the Committee of Permanent Representatives. Together, these three governing bodies strengthen UN-Habitat's accountability and transparency and provide an effective oversight mechanism for UN-Habitat to enhance its normative and operational activities.

UN-Habitat Assembly

The UN-Habitat Assembly is a high-level decision-making body focused on sustainable human settlements and urbanization. It is a universal body, composed of the 193 Member States of the United Nations, which convenes every four years at the Headquarters of UN-Habitat in Nairobi. It brings together Member States, other UN agencies, private sector and civil society, academia and other urban stakeholders.

The UN-Habitat Assembly convened following UN General Assembly Resolution 73/239, which dissolved the UN-Habitat Governing Council as a subsidiary organ of the General Assembly. Serving as the main governing body, the establishment of the UN-Habitat Assembly aimed at strengthening the organization through its organizational structure. By doing so, it responds to the paragraph 172 of the New Urban Agenda, which requested the review of the governance structure of the UN-Habitat and making the membership in it universal.

Figure 42: UN-Habitat’s governance structure



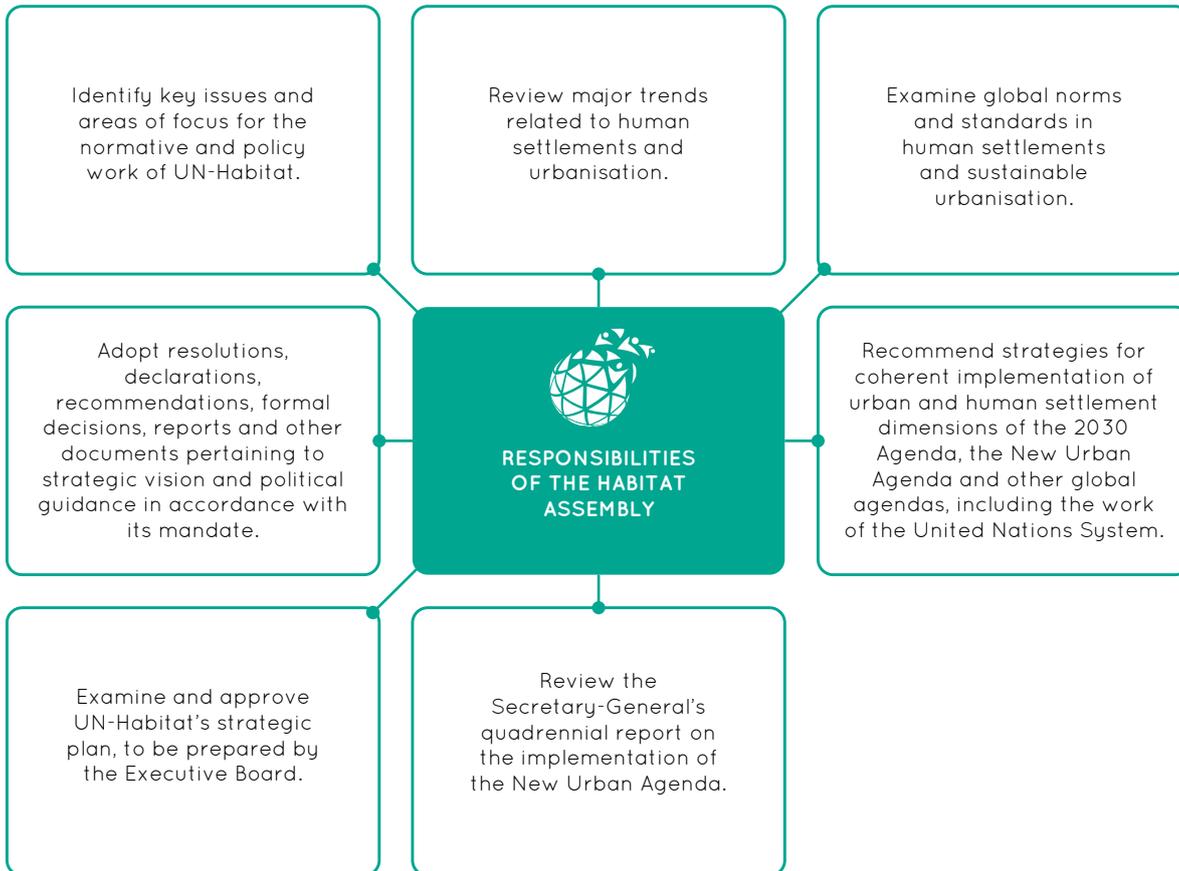
Responsibilities of the UN-Habitat Assembly

The UN-Habitat Assembly convenes in Nairobi for a five-day period every four years to undertake the following responsibilities:

In addition, the Assembly should also ensure the active engagement of local authorities and other stakeholders in the Assembly, its subsidiary bodies and in inter-sessional meetings.

UN-Habitat Assembly and the New Urban Agenda

The UN-Habitat Assembly has important linkages with the New Urban Agenda as this convening platform will be informed by, and simultaneously inform, the development of the Quadrennial Report on the progress and impact of the New Urban Agenda. The Assembly plays a key role in validating and reinforcing the messaging of Quadrennial Reports with outcomes of its dialogues, deliberations and side events providing seed for future reports.

Figure 43: Responsibilities of the UN-Habitat Assembly

Furthermore, the Assembly represents an opportune place to follow-up on the recommendations of past Quadrennial Reports and to bring to the fore innovative and cutting-edge practices in cities and their progress in implementing the New Urban Agenda to inspire increased engagement of Member States through exhibition spaces and focused events.

Likewise, the Assembly can bring together other roundtable dialogues with civil society to discuss the New Urban Agenda and SDG achievements. Future Habitat Assemblies will advise the implementation of the SDGs and the New Urban

Agenda. The timing of the Assembly has also been aligned to correspond with the quadrennial comprehensive policy review process.

Lastly, the Assembly will also provide the chance to further showcase the applications of the New Urban Agenda Platform (explained in section 3.3.3), increasing awareness on the need for evidence-based reporting from different stakeholders. The preparation of the Quadrennial Report will therefore feed from a plethora of sources and, in tandem with many partners, ensure a truly inclusive process in a system-based approach to reporting on the New Urban Agenda.

The Assembly represents an opportune place to follow-up on the recommendations of past Quadrennial Reports and to bring to the fore innovative and cutting-edge practices in cities and their progress in implementing the New Urban Agenda.

3.4.2 The World Urban Forum

The World Urban Forum (WUF) is the world's largest platform for dialogue on sustainable urban development. It is a non-legislative technical forum, convened every two years by the Executive

Director of UN-Habitat. Established by the United Nations in 2001 with the First Session of the WUF in Nairobi, Kenya, in 2002, the Forum examines rapid urbanization and its impact on communities, economies, climate change and related policies.

The UN General Assembly recognizes the WUF as the foremost global arena for interaction among policymakers, local government leaders, non-governmental organizations and expert practitioners in the field of sustainable urban development.

The World Urban Forum is the world's premier conference for exchanging views and experiences on urban challenges and issues.

It is the key platform to discuss the implementation of the New Urban Agenda and the urban dimensions of the Sustainable Development Goals.

The WUF has proved to be a vital platform for increasing the awareness and knowledge of sustainable urban development, enhancing the coordinated implementation of the New Urban Agenda among urban actors, while recognizing the diverse commitments and actions for the Secretary General's Decade of Action. It aims to ensure that sustainable urban development is increasingly incorporated in the political and media global agenda.

The UN General Assembly recognizes the WUF as the foremost global arena for interaction among policymakers, local government leaders, non-governmental organizations and expert practitioners in the field of sustainable urban

Figure 44: The Objectives of the World Urban Forum

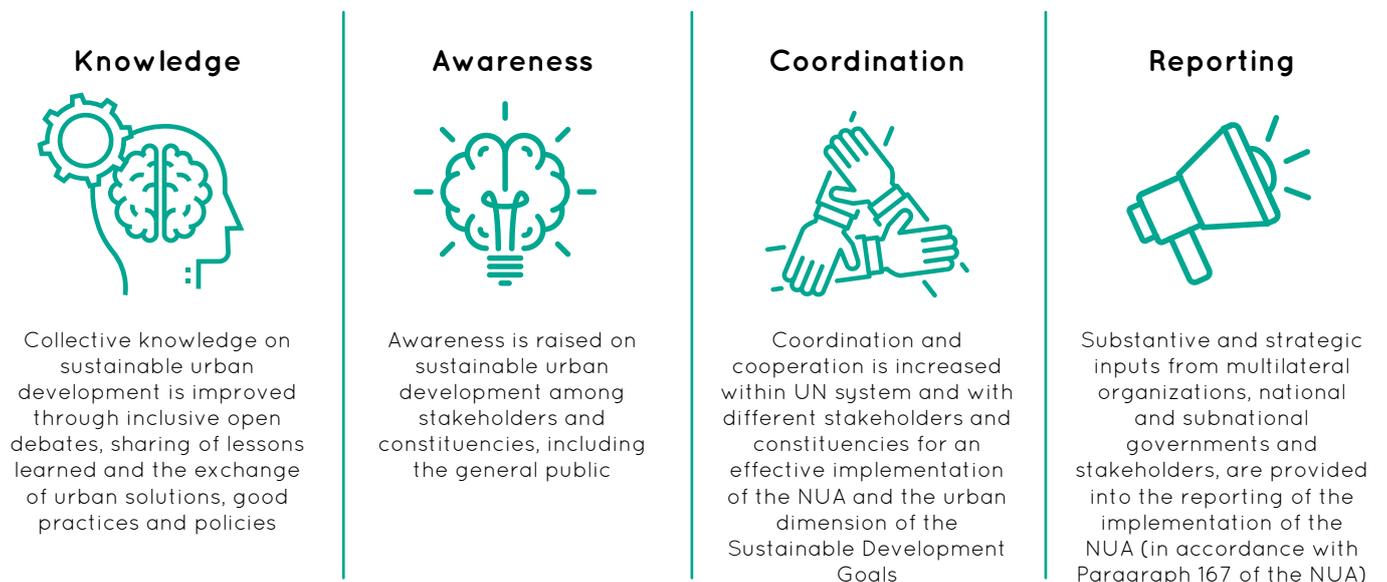
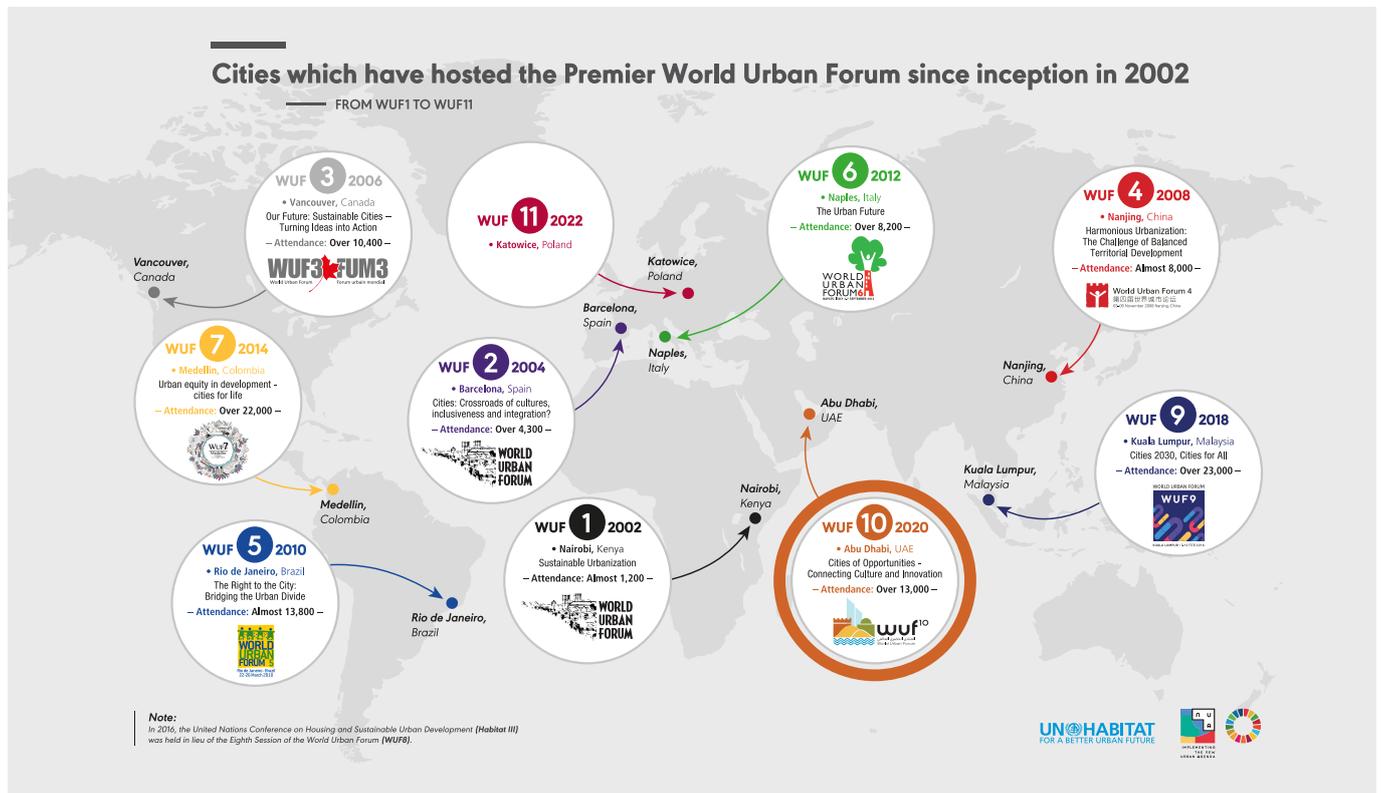


Figure 45: Cities which have hosted the World Urban Forum

development and human settlements. The experts include community-based organizations, professionals, research institutions and academicians, the private sector, development finance institutions and foundations, media, UN organizations and other international agencies.

The World Urban Forum and the New Urban Agenda

The biennial nature of the WUF allows the platform to be a continuing advocacy, partnership and knowledge platform and tool for an inclusive and effective implementation, reporting on and follow-up and review of the New Urban Agenda and the urban dimensions of the Sustainable Development Goals.

Its high-level participation, engagement and promotion, together with innovative formats and effective mechanisms to capture inputs ensure that the outcomes result in an improved implementation and follow up of the New Urban Agenda and the

strategy and work of UN-Habitat.

This is in line with the paragraph 167 of the New Urban Agenda, in which it requests the report on the implementation of the New Urban Agenda to incorporate the inputs of multilateral organizations, civil society, the private sector and academia, and to build on existing platforms and processes such as the WUF.

Since its first session in Nairobi in 2002, the Forum has been held in different cities around the globe: Barcelona (2004), Vancouver (2006), Nanjing (2008), Rio de Janeiro (2010), Naples (2012), Medellin (2014), Kuala Lumpur (2018) and Abu Dhabi (2020). Due to its concurrence with the United Nations Conference on Housing and Sustainable Urban Development (Habitat III), in 2016, the Eighth Session of the WUF was not convened.

Experts at WUF include community-based organizations, professionals, research institutions and academicians, the private sector, development finance institutions and foundations, media, UN organizations and other international agencies.

Final words

No country has ever reached middle-income status without being urbanized. The world is more than 50 per cent urban and by 2030, two billion additional residents will move to cities. Cities have a major impact on prosperity, inclusiveness and resilience. 80 per cent of global economic activity is generated in cities. About 1 billion slum dwellers live in the world in sub-standard conditions and without access to basic services. Urban agglomeration makes populations increasingly vulnerable to natural disasters and social and economic shocks.

Urbanization is a paradox. Cities concentrate prosperity, poor people and risk. The proximity caused by urban agglomeration is a driver for economic development, innovation and prosperity-enhancing ideas, and at the same time, spatial concentration in cities increases vulnerability to natural hazards and climate change impacts, as well as the impacts of major economic or social crises.

The New Urban Agenda is the newest global attempt to grapple with this paradox. It is an overarching document encompassing different concepts and sectors under one umbrella. This handbook illustrates all these ideas to systematically define an urban development approach. This approach helps city-level decision makers develop spatial policies that contribute to compact and dense urban settlements, where all residents have access to good transportation and are close to economic activity and jobs. It will also guide cities in making equitable investments to create jobs, promote innovation, expand services and reduce the cost of doing business.

Using the New Urban Agenda's approach, cities can move towards resiliency by mainstreaming risk management in planning and development and replacing a culture of post-disaster construction with a culture of preparedness and prevention. Lastly, this approach will pave the path to inclusiveness by improving access to basic services, education, housing, transport and health care for poor urban residents.





Glossary

Agglomeration economies – The clustering of services, households and resources. Agglomeration allows workers to live closer to jobs and access educational opportunities, and it permits firms to access suppliers, consumer markets and the labour pool. Through agglomeration, overall productivity increases.

Building code – Codes that dictate the form and specifications of buildings allowed to be constructed in cities. Codes can regulate materials used, ingress and egress, safety standards and minimum requirements for the built form; they may also include standards regarding inspection. The International Code Council defines building codes as “collections of laws regulations, ordinances (or other statutory requirements) adopted by a government legislative authority involved with the physical structure and healthful conditions of buildings and building sites”.

Capital planning – Planning and budgeting for future investments in infrastructure and other capital expenditures. Capital expenditures are payments used to acquire assets or to improve the useful life of existing assets.

Charrette – Sometimes called a “design charrette”; a collaborative design session in which a group of key stakeholders and decision makers collaborate on information sharing, iterative design proposals, feedback and revisions for the development of complex urban projects, designs or policies. Ranging from several days to weeks, charrette work sessions allow professionals and stakeholders to identify options and rapidly prototype and judge solutions. For projects requiring public participation, the charrette method is effective in managing a large audience, encouraging input, producing valuable feedback and saving months of sequential coordination.

Climate change adaptation – A set of actions that prepare a city for tackling the impacts of climate change. Adaption can be defined as “adjustment in natural or human systems in response to actual or expected climatic

stimuli or their effects, which moderates harm or exploits beneficial opportunities”.

Climate change mitigation – A set of actions that aim at slowing down the impacts of climate change by reducing greenhouse gas emissions.

Climate change resilience – Can be defined as the “ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions”. Refers to the summative social, economic and environmental practices that allow for an urban area to weather the effects of changing conditions, including the effects of climate change.

Creative industries – Industries that participate in the creation, production and distribution of creative content, including museums and collections, performing arts, visual arts and photography, film, TV and radio, design and publishing, architecture, newspapers and magazines, gaming, books, digital fabrication and new media.

Cultural heritage – Defined by UNESCO as “the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations”. This definition includes objects, sites and buildings as well as intangible cultural heritage, which can ensure the cultural diversity of future generations.

Densification – Describes the increasing density of people living in urban areas. Urban density can be measured by residential density, population density, employment density or floor area ratio (FAR), among other measures.

Ecosystem services – A method of understanding and quantifying the benefits to humans afforded by healthy ecosystems. Benefits include natural pollination of crops, clean air, extreme weather mitigation, and human mental and physical well-being, among others.

Equity – Fairness through leveling access to political, social and economic resources. The Interaction Institute for Social Change defines equity in process as when “all groups have access to the resources and opportunities necessary to improve the quality of their lives”, and equity as an outcome when “differences in life outcomes cannot be predicted on the basis of race, class or other dimensions of identity”.

Fiscal decentralization – The transfer of financial responsibility from central Governments to local entities, making local entities responsible for financing and delivering infrastructure and services.

Green infrastructure – Sometimes called “green stormwater infrastructure”; an approach to managing wet weather impacts using plant and soil systems that protect, restore or mimic the natural water cycle and provide many other community benefits, such as community safety and improvements to health and well-being.

Housing stock – The total number of housing units in an area. Housing stock can be described based on characteristics including number of units, age of units, architectural characteristics and typology, among others.

Incremental housing – Provides access to serviced land and a minimum core unit, requiring the residents to build and expand on their own according to set standards. Incremental housing usually has three phases: accessing land, building the housing nucleus and making incremental improvements. Many families work on the improvement and extension of their homes throughout an entire family cycle, first to obtain the minimum standards in size and quality, and later to accommodate changes in family structure or to get income from their investment in the house.

Infill development – A method for regenerating low-density cities and urban areas by filling in sparsely developed areas. An alternative to building outwards, infill development refers to the constructing of new housing stock and renovation of existing housing stock in already developed areas, rather than in new areas.

Informal economy/sectors – Economic activities that fall outside official regulation (taxation, monitoring and protection under the law) because the regulations do not apply, because of weak enforcement or because of evasion of regulation. Activities that sometimes fall within the informal economy include street vending, domestic service, home-based enterprises, waste picking and urban agriculture.

Informal settlement – Living conditions characterized by lack of access to basic services including drinking water or sanitation, energy, waste recollection and transportation; low structural quality of shelters; non-compliance with planning and building regulations; overcrowding; dangerous or environmentally sensitive locations; or insecure tenure. Informal settlements may arise as a result of rapid urbanization. Informal settlements can be formed on public or private land and can form naturally or through a broker who organizes a group to occupy a piece of land.

Informality – Sometimes referred to as urban informality; often ascribed to poor cities in the global south, is sometimes associated with illegality and marginalization, and other times associated with the agency and creativity of urban residents.

Internet of things (IoT) – Refers to billions of physical devices (“things” such as sensors and devices) that are connected to the internet and are collecting and sharing data. IoT is enabled by the availability of cheap computer chips and the ubiquity of wireless networks, which allow things to communicate real time data without human interaction or intervention.

Intervention mechanism – The tools and techniques that cities can use and specific actions cities and city stakeholders can take at the national, subnational and local scales to achieve their goals. Intervention mechanisms include methods that cities can use to scope, plan, finance and implement strategies to achieve New Urban Agenda principles and sectoral goals.

Glossary

Joint venture – A public-private partnership (PPP) model. Joint ventures are platforms for cooperation of the government and one or more private parties in the development and maintenance or execution of the project. In joint ventures, public and private sectors share risks and rewards. Joint ventures are created through various institutional and legal structures, such as partnerships, limited partnerships, private limited companies or public limited companies.

Land cadastre – A complete record of land parcels and their dimensions, locations, ownership, history of land use, legal accounts and other information.

Land titling - Sometimes called land tenure regularization; a process by which informal tenure is integrated into a system recognized by public authorities.

Land-use planning – Laws governing the ownership, use and development of land. Historically, land-use planning has been a tool to separate incompatible activities to protect residents from adjacent noxious uses such as industrial or agricultural activities identified as “nuisances” and to make the spatial arrangement of the city more efficient.

Land value capture – Also known as value capture (VC); an umbrella term that includes policies that focus on capturing a percentage of the increase in land value that results from public infrastructure investments or urban population growth.

Marginalized groups – Groups considered marginalized include women, children, LGBTQ+ people, individuals with disabilities, older persons, people with HIV/AIDS and other chronic illnesses, homeless people or occupants of informal dwellings, refugees or new migrants. These groups have different needs, and municipal governments are obligated to provide a number of services to meet the needs of these various groups, in addition to designing social programming and offerings around those needs. “Planning from the margins” is a principle meaning that all residents benefit when the needs of marginalized populations are centred.

Master plan – A long-term strategy that builds a connection between buildings, social settings, economic activities, geography, characterization and culture, to guide future growth in a city. The master plan serves as a high-level framework for urban design and planning and forms the basis for local land-use regulations and zoning ordinances that ensure that urban development is consistent with the community goals and policies expressed in the master plan.

Micromobility – Small, lightweight transportation devices, such as bicycles, e-bikes, electric scooters and skateboards, shared bicycles and dockless bicycles, that enable short distance travel. Sometimes used to connect to other modes of transportation. Micromobility is celebrated for creating connectivity to public transit, reducing reliance on private cars, making efficient use of existing public space and reducing GHG emissions.

Mixed-use development – Incorporates two or more different uses such as residential, commercial, cultural, institutional, and industrial uses in a single real estate development, space, commercial corridor or neighbourhood. Mixed-use development may be implemented through infill, new construction or a combination of the two.

Monocentric form – A pattern of urban development where a city is centred around one single employment and commercial centre. This can reduce quality of life and efficiency, and cause congestion. *See also* polycentric form.

Participatory budgeting – A deliberative process in which community members decide how to spend part of a public budget.

Participatory planning – An urban planning process that involves the entire community in the strategic and management processes of urban planning, with special attention to involving marginalized groups. Participatory planning aims to achieve community buy-in and prevent conflict between groups. Participatory planning should be learning-oriented and should promote mutual

accountability between community and public officers to ensure the continued participation of the stakeholders. Stakeholders should be engaged at various levels and stages of the planning process including validation.

Peri-urban areas – Areas on the outskirts of urban areas, including formerly rural areas that are undergoing a process of urbanization and are within the economic and social catchment area of a city. Sometimes called a rural-urban transition zone.

Polycentric form – A pattern of urban development where a city is centred around several major centres of employment, instead of a single employment and commercial centre. *See also* monocentric form.

Population density – The ratio of the population to the overall land area of a city or neighbourhood.

Public-private partnership (PPP) – A finance instrument that can be used for urban development when the public sector lacks the necessary funds or institutional and human capacity. In a PPP, the public sector shares the risks and rewards of urban regeneration projects with the private sector. PPPs can be structured in the form of concession (contractual), mixed-income joint ventures (institutionalized), or can fall between the two models. *See also* joint venture.

Secondary city – A term used to refer to the second tier, or level, in the hierarchy of cities. Secondary cities may be considered second tier on the basis of population, size, function and economic status, as well as their relation to neighbouring or distant cities and their socioeconomic status.

Sustainable Development Goal (SDG) – One of 17 Sustainable Development Goals that form the basis of the 2030 Agenda for Sustainable Development, which was adopted by all United Nations Member States in 2015. The SDGs provide a shared blueprint for peace and prosperity for people and the planet.

Smart cities – Defined by the International Data Corporation (IDC) as development that uses technology investments across an entire city, common platforms that increase efficiency, data shared across systems and IT investments tied to smart missions.

Social capital – Social relationships that contribute to individual and collective well-being and productivity. Social capital refers to the value of social networks, bonds and trust.

Spatial capital – Refers to how conducive an urban layout's form is to the provision of public goods and social interactions. The connectivity and density of high spatial capital cities allow optimal location of amenities such as social services, education, health, recreation, safety and security. In these cities, spatial capital redefines the relation between the public and the private, creating more harmonious development.

Stakeholder – People, groups, communities, agencies and other organized units that are impacted by a certain issue or project.

Transit connectivity – An indicator of a user's ability to use more than one transit system for a single trip. "Good" connectivity reduces travel times, makes connections more reliable and ensures that transfers and payments are easy and safe. "Poor" connectivity creates barriers for people to travel to school, work, home, shopping and government centres in an efficient and affordable manner.

Transit oriented development (TOD) – Defined by the Transit Oriented Development Institute as "the creation of compact, walkable, pedestrian-oriented and mixed-use communities centred around high quality train systems".

Upzoning – A tool that permits a private-sector developer to increase the maximum allowable development on a site in exchange for either funds or defined policy goals. Through upzoning, cities can allow development in restricted zones, higher-density, or higher-value land use (for example, from industrial to residential or commercial).

Glossary

Urban growth boundary – A geographic limit on how far cities can expand, put in place to protect the natural, agricultural or open land surrounding the city.

Urban heat island effect – Describes developed areas that are hotter than nearby rural areas, or particular neighbourhoods that are hotter than the rest of a city. Heat islands can result in summertime peak energy demand, high air conditioning costs, air pollution, high GHG emissions, heat-related illness and mortality, and water pollution.

Urban sprawl – Also called sprawl or suburban sprawl; the rapid expansion of the geographic extent of urban settlements, characterized by low-density housing. Urban sprawl can be caused by the need to accommodate a rising urban population or a desire for increased living space and other residential amenities. It is generally more expensive to finance and construct infrastructure and connect individual residents to employment centres and essential services or amenities in low density, sprawling cities.

Value chain – A business management concept referring to the full range of activities that are involved in bringing a product or service from conception to delivery.

Zoning – The bedrock of urban design regulations that not only regulates the use of land by parcel, but also determines the density and height of structures built. Zoning can delineate physical limitations including setbacks, frontages, open space and parking requirements, which are essential tools of urban design to shape built form.

Zoning overlay – Provides more specialized control for specific land features such as vegetation, heritage or buildings. Examples of zoning overlays include heritage overlays and neighbourhood character protection, environmental and landscape overlays protecting natural features and resources, and land management overlays helping protect valuable agricultural or cultivatable land at risk of urbanization.





References

100 Resilient Cities (2016). How to Develop a Resilience Strategy. Accessed on 18 December 2019.

Abas, M.A., and Wee, S.T. (2014). The issues of policy implementation on solid waste management in Malaysia. *International Journal of Conception on Management and Social Sciences*, vol., 2 No. 3, pp. 12–17.

Abreu-Lastra, Raúl, and others (2011). Housing Finance in Mexico: Current State and Future Sustainability. IDB Working Paper, No. IDB-TN-287. Washington, D.C.: Inter-American Development Bank.

Ackom, E.K., and others (2015). Electricity (in) accessibility to the urban poor in developing countries. *Wiley Interdisciplinary Reviews: Energy and Environment*, vol. 4, No. 4, pp. 339–353.

Ahmed, T., and others (2007). Review and analysis of current solid waste management situation in urban areas of Pakistan. *Proceedings of the International Conference on Sustainable Solid Waste Management*, vol. 8, (September), p. 36.

Akkoyunlu, S. (2015). The potential of rural-urban linkages for sustainable development and trade. *International Journal of Sustainable Development & World Policy*, vol. 4, No. 2, pp. 20–40.

Aldana, Gloria, Richard G. Newell and Daniel Raimi (2019). *Global Energy Outlook 2019: The Next Generation of Energy*. Washington, D.C.: Resources for the Future.

Amirtahmasebi, Rana, and others (2016). *Regenerating Urban Land: A Practitioner's Guide to Leveraging Private Investment*. Washington, D.C.: World Bank.

Andersson, F., S. Burgess and J.I. Lane (2007). Cities, matching and the productivity gains of agglomeration. *Journal of Urban Economics*, vol. 61, No. 1, pp. 112–128.

Angel, Shlomo (2012). *Planet of Cities*. Cambridge, Massachusetts: Lincoln Institute of Land Policy.

_____ (2018). The New Urban Peripheries, 1990–2014: Selected Findings from a Global Sample of Cities. Working Paper, No. 40 (June). New York City: NYU Marron Institute of Urban Management.

Arfvidsson, H., and others (2017). Engaging with and measuring informality in the proposed Urban Sustainable Development Goal. *African Geographical Review*, vol. 36, No. 1, pp. 100–114.

Arup and Ellen MacArthur Foundation (2019), *Circular Economies in Cities: Planning for Compact, Connected Cities*. Cowes, UK: Ellen MacArthur Foundation.

Augustinraj, Rajah, and others (2018). Why Countries Need New Job Creation Strategies. Boston Consulting Group, 11 May. Available at <https://www.bcg.com/publications/2018/new-globalization-why-countries-need-new-job-creation-strategies.aspx>.

Avis, W. R. (2016). *Urban Governance (Topic Guide)*. Birmingham, UK: GSDRC, University of Birmingham. Available at: https://gsdrc.org/wp-content/uploads/2016/11/UrbanGov_GSDRC.pdf

Avlonitis, Georgina, and others (2012). *Local biodiversity strategy and action plan guidelines: an aid to municipal planning and biodiversity conservation*. Bonn: ICLEI – Local Governments for Sustainability; Tokyo: United Nations University Institute of Advanced Studies; Montreal: Secretariat of the Convention on Biological Diversity.

Bakalian, Alexander E. and others (2013). Harnessing urbanization to end poverty and boost prosperity in Africa: an action agenda for transformation. Africa region sustainable development series. Washington D.C.: World Bank.

Beatley, T. and S.M. Wheeler, eds. (2014). *Sustainable urban development reader*. New York: Routledge.

Bennett, B., J.C. Buzby, and R.J. Hodges (2011). Postharvest losses and waste in developed and less developed countries: opportunities to improve resource use. *The*

Journal of Agricultural Science, vol. 149 No. S1, pp. 37–45.

Bertaud, A. (2004). The spatial organization of cities: deliberate outcome or unforeseen consequence? Washington, D.C.: World Bank.

Bhada-Tata, Perinaz, and others (2018). *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*. Urban Development series. Washington, D.C.: World Bank.

Bonet, Florence, Joann Vanek and Martha Chen (2019). *Women and Men in the Informal Economy – A Statistical Brief*. Manchester, UK: WIEGO.

Borelli, Simone, and others (2016). Guidelines on urban and peri-urban forestry. FAO Forestry Paper, No. 178. Rome: Food and Agriculture Organization of the United Nations.

Borrero Ochoa, Oscar (2011). Betterment Levy in Colombia: Relevance, Procedures, and Social Acceptability. Cambridge, Massachusetts: Lincoln Institute of Land Policy.

Bourdic, Loeiz, Marco Kamiya and Serge Salat (2017). Economic Foundations for Sustainable Urbanization: A Study on Three-Pronged Approach. Nairobi: United Nations Human Settlements Programme.

Bouzarovski, Stephan (2014). Energy poverty in the European Union: landscapes of vulnerability. *Wiley Interdisciplinary Reviews: Energy and Environment*, vol. 3, No. 3, pp. 276–289.

Brikké, F., and K. Vairavamoorthy (2016). Managing change to implement integrated urban water management in African cities. *Aquatic Procedia*, vol. 6, pp. 3–14.

Bult-Spiering, Mirjam, and Geert Dewulf (2006). *Strategic Issues in Public-Private Partnerships: An International Perspective*. Oxford, UK: Wiley-Blackwell.

Caccia, Lara and Luísa Zottis (2015). How Affordable Housing and TOD Are Coming Together in Brazil. *TheCityFix*, 1 July. Available at <https://thecityfix.com/blog/nossa-cidade-how-affordable-housing-tod-coming-together-brazil-luisa-zottis-lara-caccia>.

Capodaglio, A. (2017). Integrated, decentralized wastewater management for resource recovery in rural and peri-urban areas. *Resources*, vol. 6, No. 2, p. 22.

Castaneda Aguilar, R. Andres, and others (2020). The impact of COVID-19 (Coronavirus) on global poverty: Why Sub-Saharan Africa might be the region hardest hit. *World Bank Blogs*, 20 April. Available at <https://blogs.world-bank.org/opendata/impact-covid-19-coronavirus-global-poverty-why-sub-saharan-africa-might-be-region-hardest>.

Cervero, R. (2011). State roles in providing affordable mass transport services for low-income residents. International Transport Forum Discussion paper. Leipzig, May.

_____ (2013). Linking urban transport and land use in developing countries. *Journal of Transport and Land Use*, vol. 6, No. 1, pp. 7–24.

_____ (2016). Public transport and sustainable urbanism: global lessons. In *Transit Oriented Development: Making it Happen*, Carey Curtis, John L. Renne and Luca Bertolini, eds. (pp. 43-56). Abingdon: Routledge.

Chant, S. (2013). Cities through a "gender lens": a golden "urban age" for women in the global South? *Environment and Urbanization*, vol. 25, No. 1, pp. 9–29.

Chauvin, J.P., and others (2017). What is different about urbanization in rich and poor countries? Cities in Brazil, China, India and the United States. *Journal of Urban Economics*, vol. 98, pp. 17–49.

Chen, G., Chaolin Gu and Fulong Wu (2004). Spatial analysis of urban poverty in Nanjing. *Scientia Geographica Sinica*, vol. 24, No. 5, pp. 542–549.

References

- Chen, J., and others (2016). Spatial determinants of urban land expansion in globalizing Nanjing, China. *Sustainability*, vol. 8 No. 9, p. 868.
- Cheung-Ming Chang, Alfred, and Cao Ting (2015). Age-Friendly Neighbourhoods as Civic Participation. *Journal of Social Work Practice*, vol. 29, pp. 53–68.
- Chunyan, W. (2011). The study on social integration status of migrant workers and countermeasures. *Energy Procedia*, vol. 5, pp. 2082–2086.
- Cineas, Grace, and others (2017). Cities in Europe and Central Asia: a shifting story of urban growth and decline. Washington, D.C.: World Bank Group.
- Cities Alliance and UN-Habitat (2014). *The Evolution of National Urban Policies: A Global Overview*. Nairobi: UN-Habitat.
- Cities without Hunger (2018). Jobs, Income, Providing Food: Everything Starts with a Garden. Available at <https://ciudadessemfome.org/en/>.
- City of Los Angeles (2019). L.A.'s Green New Deal: Sustainable City pLAn. Los Angeles.
- City of New York (2017). Housing New York 2.0. New York.
- Convention on Biological Diversity (n.d.). What is an NBSAP? Available at <https://www.cbd.int/nbsap/introduction.shtml>. Accessed on 29 July 2019.
- Corfee-Morlot, J., B. Guay, and K. Larsen (2009). Financing Climate Change Mitigation. Paris: OECD/IEA.
- Dandapani, Swetha (2017). Unpaid and Undervalued, How India's Waste Pickers Fight Apathy to Keep Our Cities Clean. *The News Minute*, 30 November.
- De Miranda, Flavio (2016). From Informal to Providers: A São Paulo State Perspective for Waste Pickers at Brazilian Solid Waste Policy. Sao Paulo State Environmental Agency, presentation for the International Workshop on Extended Producer Responsibility in India. New Delhi, May. Available at http://www.oecd.org/environment/waste/Session_2-Part_1-From-informal-to-providers-Flavio-de-Miranda-Ribeiro-CETESB-Brazil.pdf.
- Down to Earth (2016). 78% of Sewage Generated in India Remains Untreated, April 6. Available at <https://www.downtoearth.org.in/news/waste/-78-of-sewage-generated-in-india-remains-untreated--53444>.
- Dutton, M., C. Lindsay and R.W. McQuaid (2007). New approaches to employability in the UK: combining 'Human Capital Development' and 'Work First' strategies? *Journal of Social Policy*, vol. 36, No. 4, pp. 539–560.
- Edenhofer, O., and others, eds. (2011). *Renewable energy sources and climate change mitigation: Special report of the intergovernmental panel on climate change*. Cambridge, UK: Cambridge University Press.
- Ellis, Peter, and Mark Roberts (2016). *Leveraging Urbanization in South Asia: Managing Spatial Transformation for Prosperity and Livability*. Washington, D.C.: World Bank.
- Eparque Urban Strategies (2019). Draft Local Assessment Report: Cape Coast.
- Eparque Urban Strategies (2019). Draft Local Assessment Report: Agona Swedru.
- Ezquiaga Arquitectura, Sociedad y Territorio S.L. (2015). The Experience of Latin America and the Caribbean in Urbanization: Knowledge Sharing Forum on Development Experiences: Comparative Experiences of Korea and Latin America and the Caribbean. Washington, D.C.: Inter-American Development Bank.
- Fan, Y., and N. Tilahun (2014). Transit and job accessibility: an empirical study of access to competitive clusters and regional growth strategies for enhancing transit accessibility. *Transport Policy*, vol. 33, pp. 17–25.

- Farvacque-Vitkovic, Catherine, and Mihaly Kopanyi (2014). *Municipal Finances: A Handbook for Local Governments*. Washington, D.C.: World Bank.
- FEMA (2005). Integrating Historic Property and Cultural Resource Considerations Into Hazard Mitigation Planning: State and Local Mitigation Planning how-to guide. Washington, D.C.: Federal Emergency Management Agency (FEMA).
- Ferreira, Maria Marta, and Mark Roberts (2018). *Raising the Bar for Productive Cities in Latin America and the Caribbean*. *Latin America and Caribbean Studies*. Washington, D.C.: World Bank.
- Field, C. B., and others, eds. (2012). *Managing the risks of extreme events and disasters to advance climate change adaptation: special report of the intergovernmental panel on climate change*. Cambridge, UK: Cambridge University Press.
- Folorunsho, R., and others (2009). Framework for city climate risk assessment. Paper presented at the Fifth Urban Research Symposium. Marseille, June.
- Forman, A. (2014). Caution Ahead: Overdue Investments for New York's Aging Infrastructure. New York: Center for an Urban Future.
- Foster, Vivien, and Cecilia Briceno-Garmendia (2010). *Africa's Infrastructure: A Time for Transformation*. Africa Development Forum. Washington, D.C.: World Bank.
- Fox, Catherine J. (2005). *Tripartite Partnerships: Recognizing the Third Sector*. Washington, D.C.: Inter-American Development Bank.
- Frese, M., and others (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, vol. 26, No. 3, pp. 341–358.
- Garemo, Nicklas, and others (2016). Bridging global infrastructure gaps. New York: McKinsey & Company.
- Gebhardt, Dick (2014). *Building Inclusive Cities: Challenges in the Multilevel Governance of Immigrant Integration in Europe*. Washington, D.C.: Migration Policy Institute.
- Ghosh, S.K. (2016). Swachhaa Bharat Mission (SBM) – a paradigm shift in waste management and cleanliness in India. *Procedia Environmental Sciences*, vol. 35, pp. 15–27.
- Gill, Maninder, and Anna Wellenstein (2019). Making Infrastructure Work for Both Women and Men. *World Bank Blog*, August 28. Available at <https://blogs.worldbank.org/voices/making-infrastructure-work-both-women-and-men>.
- GIZ (2012). *Financing Local Infrastructure – Linking Local Governments and Financial Markets*. Bonn: GIZ.
- Glaeser, E.L., and W. Xiong (2017). Urban productivity in the developing world. *Oxford Review of Economic Policy*, vol. 33, No. 3, pp. 373–404.
- Global Alliance of Waste Pickers (n.d.). Stats: Waste pickers Around the World (WAW). Available at <https://globalrec.org/waw/stats/?continent=all>. Accessed on 20 October 2019.
- Global Center on Adaptation and World Resources Institute (2019). *Adapt Now: A Global Call for Leadership on Climate Resilience*. Rotterdam: Global Center on Adaptation; Washington, D.C.: World Resources Institute. Available at https://cdn.gca.org/assets/2019-09/Global-Commission_Report_FINAL.pdf. Accessed October 2019.
- Global Water Partnership (2011). What is IWRM? July 12. Available at <https://www.gwp.org/en/GWP-CEE/about/why/what-is-iwrm/>. Accessed on 19 September 2019.
- Goel, R., and S.K. Guttikunda (2013). Health impacts of particulate pollution in a megacity—Delhi, India. *Environmental Development*, vol. 6, pp. 8–20.
- Goldin, Nicole (2016). A tale of twin demographics: Youth in cities. *World Bank Blog*, October 20. Available at <https://blogs.worldbank.org/jobs/tale-twin-demographics-youth-cities>.

References

- Goswami, Arti Grover, and Somik V. Lall (2016). Jobs in the City: Explaining Urban Spatial Structure in Kampala. Policy Research Working Paper, No. 7655. Washington, D.C.: World Bank.
- Graham, D.J., P.C. Melo and R.B. Noland (2009). A meta-analysis of estimates of urban agglomeration economies. *Regional Science and Urban Economics*, vol. 39, No. 3, pp. 332–342.
- Grannis, J. (2011). Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise. Washington, D.C.: Georgetown Climate Center.
- Greater London Authority (2018). Zero carbon London: A 1.5°C compatible plan. Accessed on 29 July 2019. London.
- Greene, Margarita, and Eduardo Rojas (2010). Incremental Construction: A Strategy to Facilitate Access to Housing. *Environment & Urbanization*, vol. 20, No. 1, pp. 89–108.
- Grengs, J. (2002). Community-based planning as a source of political change: The transit equity movement of Los Angeles' Bus Riders Union. *Journal of the American Planning Association*, vol. 68, No. 2, pp. 165–178.
- Grover, A., and Somik V. Lall (2015). Jobs and land use within cities: a survey of theory, evidence, and policy. Policy Research Working Paper, No. 7453. Washington, D.C.: World Bank.
- _____ and R.B. Singh (2015). Sustainable Urban Environment in Delhi Mega City: Emerging Problems and Prospects for Innovative Solutions. UN-Habitat Brief for GSDR.
- Haines, A., and others (2007). A global perspective on energy: health effects and injustices. *The Lancet*, vol. 370, No. 9591, pp. 965–978.
- Hernandez, D.O. and H. Titheridge (2016). Mobilities of the periphery: Informality, access and social exclusion in the urban fringe in Colombia. *Journal of Transport Geography*, vol. 55, pp. 152–164.
- Herst, Rebecca and David L. Levy (2018). Financing Climate Resilience: Mobilizing Resources and Incentives to Protect Boston from Climate Risks. Boston: Sustainable Solutions Lab, UMass Boston.
- Hommann, Kirsten, and Somik V. Lall (2019). Which Way to Livable and Productive Cities? A Road Map for Sub-Saharan Africa. International Development in Focus series. Washington, D.C.: World Bank.
- Hong, Yuhung, and others (2015). Financing transit-oriented development with land values: adapting land value capture in developing countries – overview. Urban Development series. Washington, D.C.: World Bank Group.
- Hoverter, Sara P. (2012). Adapting to Urban Heat: A Tool Kit for Local Governments. Washington, D.C.: Georgetown Climate Center.
- Huang, C.-W., R.I. McDonald and K.C. Seto (2018). The importance of land governance for biodiversity conservation in an era of global urban expansion. *Landscape and Urban Planning*, vol. 173, pp. 44–50.
- Hughes, K., and E. Wickeri (2010). A Home in the City: Women's Struggle to Secure Adequate Housing in Urban Tanzania. *Fordham International Law Journal*, vol. 34, p. 788.
- Inchauste, Gabriela, and others (2018). *Living and Leaving, Housing, Mobility and Welfare in the European Union*. Washington, D.C.: World Bank.
- Institute for Local Self-Reliance (2002). Recycling Means Business, 1 February. Available at <https://ilsr.org/recycling-means-business/>.
- Inter-American Development Bank (2011). IDB to Support Expansion of CEMEX Microfinance Program for Low-Income Families. News Release. 28 June. Available

at <https://www.iadb.org/en/news/idb-support-expansion-cemex-microfinance-program-low-income-families>

International Council for Science (ICSU), (2017) A Guide to SDG Interactions: From Science to Implementation, Griggs D.J., Nilsson M., Stevance A., McCollum, eds. Paris

IRENA (2016). Renewable Energy in Cities. Abu Dhabi: International Renewable Energy Agency.

_____ (2018). Scaling Up Renewables in Cities: Opportunities for Municipal Governments. Abu Dhabi: International Renewable Energy Agency.

_____ (2019). Climate Change and Renewable Energy: National Policies and the Role of Communities, Cities and Regions. Abu Dhabi: International Renewable Energy Agency.

Jacobs, Jane (1961). *The Death and Life of Great American Cities*. New York: Random House.

Jones, C., and D.M. Kammen (2014). Spatial distribution of US household carbon footprints reveals suburbanization undermines greenhouse gas benefits of urban population density. *Environmental Science & Technology*, vol. 48, No. 2, pp. 895–902.

Kahn, Carrie (2015). In Panama, Restoring Streets And Reforming Gangs At The Same Time. *National Public Radio*, April 18. Available at <https://www.npr.org/sections/parallels/2015/04/18/400573672/in-panama-restoring-streets-and-street-gangs-at-the-same-time>.

Kinossian, N. (2018). Planning strategies and practices in non-core regions: a critical response. *European Planning Studies*, vol. 26, No. 22, pp. 365–375.

Korsu, E., and S. Wenglenski (2010). Job accessibility, residential segregation and risk of long-term unemployment in the Paris region. *Urban Studies*, vol. 47, No. 11, pp. 2279–2324.

Kuah, Adrian T. H. (2002). Cluster Theory and Practice: Advantages for the Small Business Locating in a Vibrant Cluster. *Journal of Research in Marketing and Entrepreneurship*, vol. 4, No. 3, pp. 206–28.

Lah, T.J., and S. Park (2015). Analyzing the success of the volume-based waste fee system in South Korea. *Waste Management*, vol. 43, pp. 533–538.

LEED (n.d.). Why LEED. Leadership in Energy and Environmental Design (LEED). Available at <https://www.usgbc.org/leed/why-leed>.

Litman, Todd (2015). Smart Planning for Economic Opportunity. Planetizen, 20 August. Available at <https://www.planetizen.com/node/80431/smart-planning-economic-opportunity>.

Lozano-Gracia, Nancy, Alexandra Panman and Taimur Samad (2012). *Colombia Urbanization Review: Amplifying the Gains from the Urban Transition*. Directions in Development series. Washington, DC: World Bank.

Mabala, R., and C. Tacoli (2010). Exploring mobility and migration in the context of rural–urban linkages: why gender and generation matter. *Environment and Urbanization*, vol. 22, No. 2, pp. 389–395.

Maestas, N., K.J. Mullen and D. Powell (2016). The effect of population aging on economic growth, the labor force and productivity. Working Paper No. w22452. Santa Monica: RAND Corporation.

Maimbo, S.M., and D. Ratha, eds. (2005). Remittances: Development impact and future prospects. Washington, D.C.: World Bank.

Making Cents International (2015). Cities of Opportunity: Drivers and Priorities for Urban Youth Economic Inclusion. Washington, D.C.: Making Cents International.

Martin, R., and P. Sunley (2003). Deconstructing clusters: chaotic concept or policy panacea? *Journal of Economic Geography*, vol. 3, No. 1, pp. 5–35.

References

- Massoud, M.A., J.A. Nasr and A. Tarhini (2009). Decentralized approaches to wastewater treatment and management: applicability in developing countries. *Journal of Environmental Management*, vol. 90, No. 1, pp. 652–659.
- McKinsey Global Institute (2017). *Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation*. New York: McKinsey & Company.
- Meaux, A., and W. Osofisan (2016). A review of context analysis tools for urban humanitarian response. Working Paper. London: IIED. Available at <http://pubs.iied.org/10797IIED/>.
- Narain, V., and S. Nischal (2007). The peri-urban interface in Shahpur Khurd and Karnera, India. *Environment and Urbanization*, vol. 19, No. 1, pp. 261–273.
- New Climate Economy (2014). *Better Growth, Better Climate: The New Climate Economy Report*. Washington DC: World Resources Institute. Available at <https://newclimateeconomy.report/2014/>.
- ODI (2015). *Climate Finance for Cities*. Working Paper No. 419. London: Overseas Development Institute.
- OECD (2010). *Climate Change: Helping Poor Countries to Adapt*. In *Development Co-operation Report 2010*. Paris: OECD Publishing.
- _____ (2015). *Aging in Cities: Policy Brief*. Paris: OECD.
- _____ (2018). *Rethinking Urban Sprawl: Moving Towards Sustainable Cities*. Paris: OECD Publishing.
- Pigato, M.A., ed. (2018). *Fiscal Policies for Development and Climate Action*. Washington, D.C.: World Bank.
- Pitarch-Garrido, Maria (2015). Social sustainability through accessibility and equity. UN-Habitat Brief for GSDR.
- Pojani, D., and D. Stead (2015). Sustainable urban transport in the developing world: beyond megacities. *Sustainability*, vol. 7, No. 6, pp. 7784–7805.
- Rivera, R.L.K. (2007). Culture, gender, transport: Contentious planning issues. *Transport and Communications Bulletin for Asia and the Pacific*, vol. 76, pp. 1–20.
- Robbins, Jim (2019). As Mass Timber Takes Off, How Green Is This New Building Material? *Yale Environment 360*, 9 April. Available at <https://e360.yale.edu/features/as-mass-timber-takes-off-how-green-is-this-new-building-material>.
- Roberts, B.H. (2014). *Managing systems of secondary cities: Policy responses in international development*. Brussels: Cities Alliance – Cities without Slums.
- Root Cause (2015). *Mentoring: An Investment in Reducing Youth Violence*. Boston: Root Cause. Available at <https://www.mentoring.org/new-site/wp-content/uploads/2015/12/Youth-Violence-Report-Online.pdf>.
- Salman, Saba (2018). What would a truly disabled-accessible city look like? *The Guardian*, 14 February. Available at <https://www.theguardian.com/cities/2018/feb/14/what-disability-accessible-city-look-like>.
- Satterthwaite, David (2017). Addressing the needs of vulnerable populations in urban areas. IIED, 26 April. Available at <https://www.iied.org/addressing-needs-vulnerable-groups-urban-areas>. Accessed on 7 September 2019.
- _____ and C. Tacoli (2013). Gender and urban change. *Environment and Urbanization*, vol. 25, No. 1, pp. 3–8.
- Smart Cities Dive (n.d.). Do Urban Growth Boundaries Work to Prevent Sprawl? Available at <https://www.smartcitiesdive.com/ex/sustainablecitiescollective/do-urban-growth-boundaries-work/1070356/>. Accessed on 23 August 2019.

Smart Growth America (2013). *Building Better Budgets*. Washington, D.C.: Smart Growth America.

Sustainable Mobility for All (2017) *Global Mobility Report 2017: Tracking Sector Performance*. Washington, D.C.: World Bank. Available at <http://sum4all.org/publications/global-mobility-report-2017>.

Tacoli, C. (2012). *Urbanization, gender and urban poverty: paid work and unpaid carework in the city*. Urbanization and Emerging Populations Issues Working Paper 7. London: Human Settlements Group, IIED; New York: Populations and Development Branch, UNFPA.

Torres, H. (2008). Social and environmental aspects of peri-urban growth in Latin American megacities. Paper presented at United Nations Expert Group Meeting on Population Distribution, Urbanization, Internal Migration and Development. New York, January. UN/POP/EGM-URB/2008/10.

Tsai, K.S. (2000). Banquet banking: Gender and rotating savings and credit associations in South China. *The China Quarterly*, vol. 161, pp. 142–170.

United Nations (2019) E/2019/68. Report of the Secretary General on the progress towards the Sustainable Development Goals at the High-level political forum on sustainable development. Available at <https://undocs.org/E/2019/68>

UN Women (n.d.). Facts and Figures: Economic Empowerment. Available at <https://www.unwomen.org/en/what-we-do/economic-empowerment/facts-and-figures>. Accessed on 8 September 2019.

UNCTAD (2019). *Creative Economy Outlook: Trends in international trade in creative industries*. United Nations. UNCTAD/DITC/TED/2018/3

UNDP (2016). *Sustainable Urbanization Strategy*. New York: United Nations Development Programme.

UNDP Green Climate Fund (2017). *Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam*. New York: United Nations Development Programme. Available at <https://www.gcfprojects-undp.org/tp/project/5708>.

UNDRR (2017). *Build Back Better*. Accessed 30 July 2019 at https://www.unisdr.org/files/53213_bbb.pdf.

_____ (2019a). *Global Assessment Report on Disaster Risk Reduction*. Geneva: United Nations Office for Disaster Risk Reduction.

_____ (2019b). *Sendai Framework for Disaster Risk Reduction*. Geneva: United Nations Office for Disaster Risk Reduction.

UNEP (2014). *Green Infrastructure Guide for Water Management: Ecosystem-based management approaches for water-related infrastructure projects*. Nairobi: United Nations Environment Programme.

_____ (2016). *Unlocking the Sustainable Potential of Land Resources: Evaluation Systems, Strategies and Tools*. Nairobi: United Nations Environment Programme. DTI/2002/PA.

UNESCAP (2015). *Economic and Social Survey of Asia and the Pacific 2015: Making Growth More Inclusive for Sustainable Development*. New York: UNESCAP. Available at <http://www.unescap.org/sites/default/files/Economic%20and%20Social%20Survey%20of%20Asia%20and%20the%20Pacific%202015.pdf>

UNESCO (n.d.). What is meant by "cultural heritage?" Available at <http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of-cultural-property/unesco-database-of-national-cultural-heritage-laws/frequently-asked-questions/definition-of-the-cultural-heritage/>.

_____ (2015). *Education 2030: Incheon Declaration and Framework for Action*. Paris: United Nations Educational, Scientific and Cultural Organization. ED-2016/WS/28.

References

_____ (2016a). *Cities Welcoming Refugees and Migrants*. Inclusive and Sustainable CITIES series. Paris: United Nations Educational, Scientific and Cultural Organization.

_____ (2016b). *Culture: Urban Future; Global Report on Culture for Sustainable Urban Development*. Paris: United National Educational, Scientific and Cultural Organization.

UNFCCC (n.d.). Fact sheet: The need for adaptation. Available at https://unfccc.int/files/press/backgrounders/application/pdf/press_factsh_adaptation.pdf.

UN-Habitat (2009). *Background Paper on Participatory Urban Planning*. Global Report on Human Settlements. Available at <https://unhabitat.org/wp-content/uploads/2010/07/bg5.pdf>.

_____ (2013). *State of the World's Cities 2012/2013: Prosperity of Cities*. New York: Routledge.

_____ (2013). *State of Women in Cities 2012-2013: Gender and the Prosperity of Cities*. Nairobi: United Nations Human Settlements Programme. HS/015/13E.

_____ (2014). *The Evolution of National Urban Policies: A Global Overview*.

_____ (2015). *International Guidelines on Urban and Territorial Planning*. Nairobi: United Nations Human Settlements Programme. HS/059/15E.

_____ (2017). *Sustainable Urbanization in the Paris Agreement*. Available at <https://unhabitat.org/books/sustainable-urbanization-in-the-paris-agreement/>

_____ (2018). *The Spatial Capital of Wuhan | City Prosperity Initiative (CPI)*. Nairobi: United Nations Human Settlements Programme.

_____ and OECD (2018). *Global State of National Urban Policy*, p.21.

_____ (2019). *Gender and Safety and Security in Cities Fact Sheet*. Nairobi: United Nations Human Settlements Programme. Available at <http://mirror.unhabitat.org/downloads/docs/GenderandSafetyandSecurityinCitiesfactsheet.pdf>.

_____ (2020). *Cities are on the front lines of COVID-19*. UN-Habitat, 12 May. Available at <https://unhabitat.org/cities-are-on-the-front-lines-of-covid-19>.

----- (2020) *Global State of Metropolis 2020 – Population Data Booklet*. UN-Habitat. <https://unhabitat.org/sites/default/files/2020/07/gsm-population-data-booklet-2020.pdf>

UNHCR (2019). *Refugee Statistics*. Available at <https://www.unrefugees.org/refugee-facts/statistics/>. Accessed on 10 September 2019.

UNICEF and WHO (2015). *Progress on Sanitation and Drinking Water: 2015 Update and MDG Assessment*. New York: United Nations International Children's Fund.

UNISDR and WMO (2012). *UN System Task Team on the Post-2015 UN Development Agenda: Disaster Risk and Resilience*. Geneva: United Nations Office of Disaster Risk Reduction; Geneva: World Meteorological Organization.

United Nations (2017). *New Urban Agenda (NUA)*. Available at <http://habitat3.org/wp-content/uploads/NUA-English.pdf>. A/RES/71/256*

United Nations (n.d.). *Sustainable Development Goal 11*. Available at <https://sustainabledevelopment.un.org/SDG11>. Accessed on 23 September 2019.

United Nations Department of Economic and Social Affairs (2016). *Good Practices of Accessible Urban Development*. New York: United Nations. ST/ESA/364.

United Nations Department of Economic and Social Affairs (2018). *Promoting Inclusion through Social Protection: Report on the World Social Situation 2018*. New York: United Nations. Sales No. E.17.IV.2.

- United Nations Population Division (n.d.). World Urbanization Prospects: 2018 Revision. Accessed via World Bank at <https://data.worldbank.org/indicator/sp.urb.totl.in.zs>.
- United Nations Sustainable Development Goals (n.d.). Transforming our world: the 2030 Agenda for Sustainable Development. Available at <https://sustainabledevelopment.un.org/post2015/transformingourworld>.
- UNU-GCM (2014). Building City Identities in Contexts of Diversity. Policy Brief for Mayoral Forum on Mobility, Migration and Development. Barcelona: United Nations University Institute on Globalization, Culture and Mobility.
- Urban Land Institute (2015). A Guide for Assessing Climate Change Risk. Washington, D.C.: Urban Land Institute.
- Urquiza, Liviane (2017). Resilient youth seize opportunities, build their future. *World Bank Blogs*. Available at <https://blogs.worldbank.org/voices/resilient-youth-seize-opportunities-build-their-future>.
- Verdugo, M. (2003). Programa de repoblamiento comuna de Santiago: Un programa de gestion urbana. *Urbano*, vol. 6, No.8 (September), p. 9.
- Vij, S. (2014). Urbanization, common property resources and gender relations in a peri-urban context. *Vision*, vol. 18, No. 4, pp. 339–347.
- Vollmer, D. (2009). Urban waterfront rehabilitation: can it contribute to environmental improvements in the developing world? *Environmental Research Letters*, vol. 4, No. 2, p. 024003.
- Vulliamy, ed. (2013). Medellín, Colombia: Reinventing the World's Most Dangerous City. *The Observer*, 9 June. Available at <https://www.theguardian.com/world/2013/jun/09/medellin-colombia-worlds-most-dangerous-city>.
- WHO (2015). City Fact Sheets: WHO European Healthy Cities Network. Copenhagen: World Health Organization.
- WHO (2020). Road traffic injuries. World Health Organization, 7 February. Available at <https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries>.
- Wilson, W.J. (2006). The geography of opportunity: Race and housing choice in metropolitan America. Washington, D.C.: Brookings Institution Press.
- World Bank (2010). Cities and Climate Change: An Urgent Agenda. Urban Development series. Knowledge paper No. 10. Washington, D.C.: World Bank.
- World Bank (2011). Guide to Climate Change Adaptation in Cities. Washington, D.C.: World Bank.
- World Bank (2013). Strategic Environmental Assessment. 10 September. Available at <https://www.worldbank.org/en/topic/environment/brief/strategic-environmental-assessment>.
- World Bank (2014a). City Energy Efficiency Assessments. Washington, D.C.: World Bank Energy Sector Management Assessment Program (ESMAP).
- World Bank (2014b). Investing in natural capital for eradicating poverty and boosting shared prosperity. Working Paper No. 88753. Washington, D.C.: World Bank.
- World Bank (2015). *Rising through cities in Ghana: urbanization review – overview report*. Washington, D.C.: World Bank Group.
- World Bank (2019a). Disability Inclusion. Available at <https://www.worldbank.org/en/topic/disability>. Accessed on 8 September 2019.
- World Bank (2019b). Structural Transformation Can Turn Cities into Engines of Prosperity, April 17. Available at <https://www.worldbank.org/en/news/feature/2019/04/17/structural-transformation-can-turn-cities-into-engines-of-prosperity>. Accessed on 17 August 2019.

References

World Bank (n.d.). City Creditworthiness Initiative: A Partnership to Deliver Municipal Finance. Available at <https://www.worldbank.org/en/topic/urbandevelopment/brief/city-creditworthiness-initiative>. Accessed on 29 July 2019.

World Bank, Development Research Center of the State Council, the People's Republic of China (2014). Urban China: Toward Efficient, Inclusive, and Sustainable Urbanization. Washington, D.C.: World Bank.

World Bank Group (2015a). East Asia's Changing Urban Landscape: Measuring a Decade of Spatial Growth. Urban Development series. Washington, D.C.: World Bank.

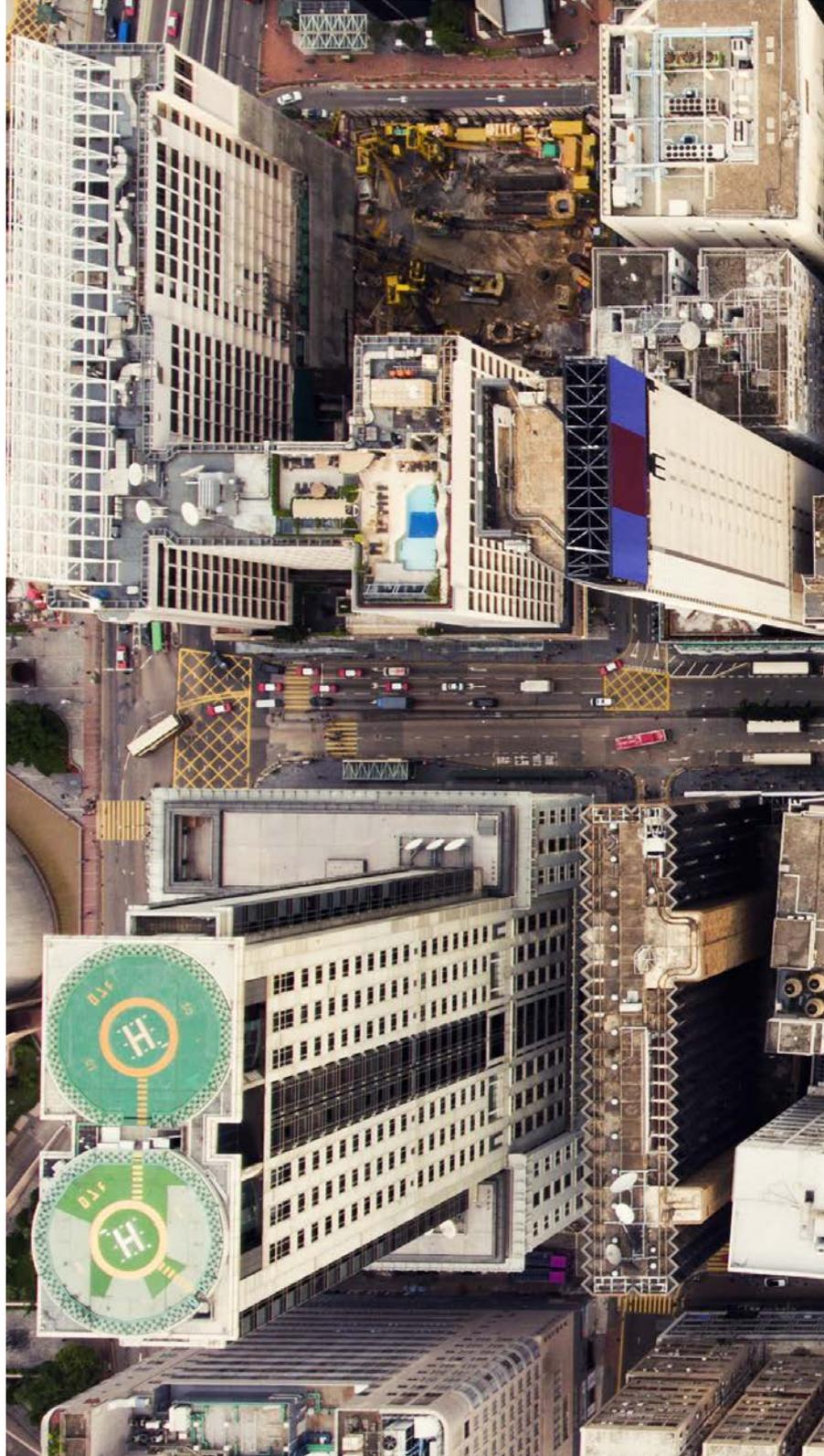
World Bank Group (2015b). Competitive Cities for Jobs and Growth: What, Who, and How. Washington, D.C.: World Bank.

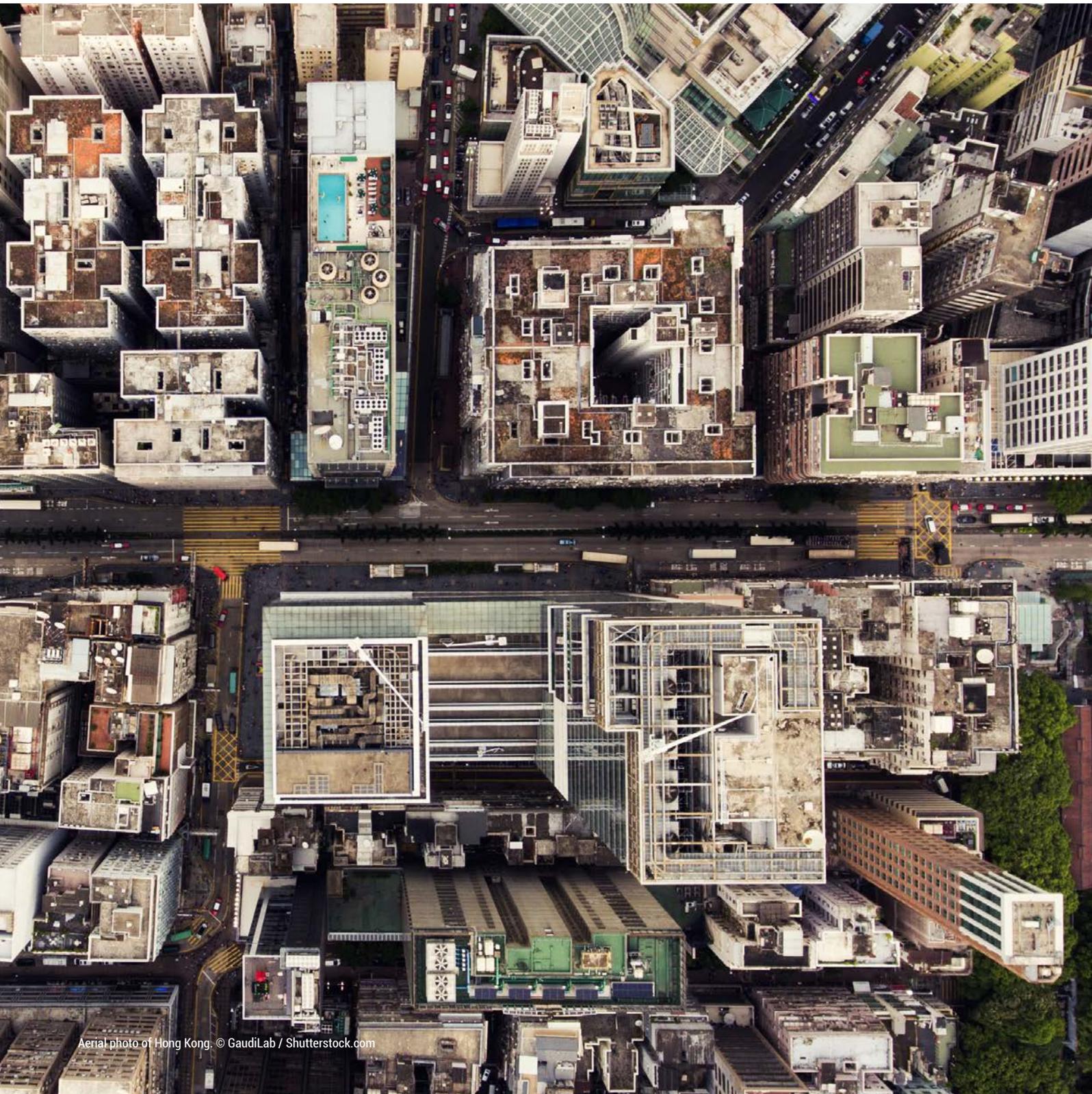
World Bank Group (2018). Urban Wetlands Management in Colombo: A New Model for Resilience. Washington, D.C.: World Bank.

World Resources Institute (2019). Mobility to Access for All: Expanding Urban Transportation Choices in the Global South. Washington, D.C.: World Resources Institute.

World Resources Institute, C40 Cities and ICLEI (2014). Global Protocol for Community-Scale Greenhouse Gas Emissions. Washington, D.C.: World Resources Institute.

WWAP (2017). World Water Development Report 2017: Wastewater: The Untapped Resource. Paris: United Nations Educational, Scientific and Cultural Organization.





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