

Chapter 8

Investing in the Value of Sustainable Urbanization



Significant investments are required to enhance the economic, environmental, social value of urbanization, including the intangible conditions of cities, all of which are critical for realizing sustainable urbanization. Just like all aspects of development, sustainable urbanization requires adequate financing. The extent to which cities and countries attract and leverage the public and private investments required to achieve SDG 11 and the New Urban Agenda is key to enhancing the value of sustainable urbanization. Closing the investment gap requires coordination and co-operation among diverse stakeholders, including all levels of government, the private sector, and bilateral and multilateral development institutions.

Quick facts

1. Adequate investment in urban infrastructure including physical assets, human capital, institutions, effective governance structures and innovative technology is central to enhancing the value of sustainable urbanization.
2. Delivering on the urban dimension of the SDGs will cost US\$38 trillion. The financial resources are available globally, but they are not channelled to areas where they are most needed.
3. The investment needs of cities and countries required to achieve sustainable urbanization vary, and depend on city size, demographic trends, urban configurations, geographic location, the country's level of economic development and the quality of existing urban assets.
4. The COVID-19 pandemic has created an uncertain investment climate as only five per cent of public and private sector leaders believe that investments will "increase significantly" following the pandemic.
5. Local governments still face multiple constraints regarding urban finance. These include insufficient and unpredictable transfers from central government, weak fiscal management, poor revenue generation and legal constraints.

Policy Points

1. Local governments must be empowered to tap their endogenous potential to innovatively increase and diversify own-source revenues, which in the long-run enhances local autonomy and financial sustainability.
2. Policy coherence between global, regional, national and local stakeholders is crucial for meeting urban investment needs to enhance the value of urbanization.
3. A multiplicity of actors and collaborative ventures is required to adequately fund urban infrastructure.
4. Institutions for public investment management should be strengthened to achieve desired outcomes while maintaining quality and efficiency in spending on the city's physical assets.
5. Urban policies and investments to enhance the value of urbanization should be evidence-based and grounded on realistic targets that can be monitored.

The Decade of Action to deliver the SDGs by 2030 represents a defining moment in the global development agenda and in the drive toward sustainable urbanization through the implementation of the New Urban Agenda. This requires significant investment in the economic, environmental, social and intangible conditions of cities, all of which are critical components to realize the value of sustainable urbanization. These investments include the physical assets, human capital, institutions, effective governance structures and innovative technology that are the foundation of sustainable cities.¹

Given the interlinkages of Goal 11 with other SDGs and the NUA, investments in the various dimensions of the value of urbanization as discussed in this Report are necessary to achieve the broader 2030 Agenda for Sustainable Development. For example, investments in adequate and affordable housing, basic services and slum upgrading have direct impacts on at least three-quarters of the SDGs.² Likewise, investment in modern, affordable, reliable, sustainable energy projects helps to achieve SDG 7. Investment in capacity building of local government staff and institutions contributes to SDG 16. Today, however, there is a shortfall in the investments required to achieve the sustainable development objectives of these agendas, including the Paris Agreement on climate change and the Sendai Framework for Disaster Risk Reduction. While the shortfall is global in nature, it is more pronounced in developing regions with insufficient domestic revenues.

Sustained financial commitments to economic, environmental and social infrastructure are key to achieving inclusive urbanization that provides vital public services and social protection for vulnerable urban populations discussed in Chapters 2 and 5. Action by local governments is critical, but on their own, they cannot generate the required financial investments to fully harness the value of sustainable urbanization. Closing the investment gap requires coordination and cooperation among diverse stakeholders, including all levels of government, the private sector, and bilateral and multilateral development institutions. The trends highlighted in Chapter 1 and subsequent chapters of this Report indicate an urgent



Running tram at Bahnhofstrasse Street of Zurich city center, Zurich, Switzerland. © Roman Babakin/Shutterstock

need to address the insufficient investment in sustainable urban development. The COVID-19 pandemic has further amplified the urgency of addressing issues such as poverty, hunger, precarious housing, health systems and climate change through the SDG framework.

As pointed out in this Report, cities generate over 80 per cent of global GDP. However, many rapidly growing cities do not directly benefit from the wealth created within their jurisdictions and continue to struggle with insufficient budgets and accumulating infrastructure deficits. Additionally, as pointed out in Chapter 7, while there is a considerable amount of funds 'available' at the global

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level and increasing investment in global cities, adequate financing is not directed to sustainable urbanization in the cities and territories where resources are needed the most. This skewed distribution is also visible in the investment patterns supporting scientific and technological research underpinning the innovation economy (Chapter 6), as well as investments in monitoring and reporting mechanisms that should underpin policies and actions geared toward sustainable urban development (Chapter 7).

This chapter addresses how cities and countries attract and leverage available public and private financing to create and maintain the investments required to achieve SDG 11 and implement the NUA, so as to enhance the value of sustainable urbanization. While there are no easy answers, the path forward is clear: domestic revenues, official development assistance and private sector investments need to increase. Further, coordination between global, national and local stakeholders must improve to ensure that the financial facilities available are contextually

appropriate so that investments are efficient and directed where they are most needed. While the current investment climate is characterized by uncertainty due to the COVID-19 pandemic, the need remains as critical as ever. The investment decisions made today will determine how cities will look and function tomorrow.

8.1. Urban Investments Demand

Presently, the global development agendas—SDGs, the NUA, the Paris Agreement and the Sendai Framework for Disaster Risk Reduction—are being implemented without financial resources flowing at the speed and scale required to realize their goals.³ Endorsed in 2015 by the United Nations General Assembly, the Addis Ababa Action Agenda (AAAA) provides the framework to finance the collective ambitions for sustainable development. As in the preceding Monterrey Consensus, the AAAA recognizes that financing for the SDGs is not just about more financial flows, but also depends on public policies that strengthen national and international fiscal environments.⁴ Both frameworks call on governments and multi-stakeholder partners, including businesses, foundations and individuals, to mobilize financial resources in a more coordinated manner in pursuit of economic growth that enhances human well-being and preserves the environment, particularly in developing countries.⁵

Notably, five years after the AAAA was established, the promised surge in finances available for countries to achieve the SDGs and related development agendas has not materialized. Globally, government revenues are still the primary source of financing for urban development, but the average in low-income countries remains below the 15 per cent of GDP threshold considered essential for effective state functioning.⁶ The global supply of resources to developing countries, where development goals are

particularly pertinent, declined due to the global economic crash in 2008 and never fully recovered.⁷ Further, in recent years, a retreat from multilateralism, discontent with and distrust of globalization, heightened risk of debt distress and more frequent and severe climate shocks have made sustainable financing more difficult.⁸

While the full impact (economic, social and environmental) of the COVID-19 pandemic will not be known for some time, it is quite clear that the economic and financial shocks associated with the pandemic threaten to further derail SDG implementation.⁹ Due to the ongoing pandemic, there will be a likely increase in development needs with a concomitant decline in funds available for investment, particularly in making cities inclusive, safe, resilient and sustainable. For instance, estimates show that the pandemic will push between 71 and 100 million into extreme poverty.¹⁰ At the same time, revenues for local authorities are predicted to drop between 15 to 25 per cent in 2021.¹¹ This contrast will not only make it difficult for cities to deliver much-needed services, but also constrain the resource base crucial for improving economic, environmental and social conditions for vulnerable populations, such as those living in informal settlements and slums. Given the multidimensional impacts of COVID-19 on both public health and economic output, countries have been forced to reallocate their domestic resources to deal with the immediate needs of the pandemic. Simultaneously, investors have fled emerging markets for safer investments, which has sapped the developing world of necessary revenue to tackle those domestic needs.¹²

Yet, demand remains high for investments in adequate housing, basic services, sustainable transport systems, urban environmental management and other needs that advance sustainable urban development, especially in developing regions with rapidly growing urban populations (Chapter 1). Different countries will have different investment needs depending on their specific characteristics. However, the common underlying factor is that these investments are related to the economic, environmental, social and intangible dimensions required for functioning urban systems (Table 8.1). UN-Habitat estimates the total investments needed for the urban dimension of the SDGs and development of infrastructure at US\$38 trillion for the years 2020–2030 (Box 8.3).¹³



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To leverage the full potential of sustainable urbanization, investments made in hard and soft infrastructure must be compatible with the 2030 Agenda, NUA and other development agendas

To leverage the full potential of sustainable urbanization, *investments made in hard and soft infrastructure must be compatible with the 2030 Agenda, NUA and other development agendas.* The goal should not merely be more spending, but rather more efficient spending while prioritizing sustainability. These investments should be grounded on the integrated and indivisible dimensions

of sustainable development and have the potential to improve quality of life in meaningful, visible and tangible ways.¹⁴

Economically, these investments support countries around the world to capitalize on the full potential of agglomeration economies and structural transformation in cities. Environmentally, these investments have the potential to impact local, regional and global environments by reducing greenhouse gas emissions, improving natural resource efficiency, mitigating the negative impacts of climate change and safeguarding critical ecosystems and biodiversity.¹⁵ Socially, these investments promote inclusion and foster access to equal opportunities. Finally, these investments in the three dimensions of sustainable urbanization are managed by institutions at various levels of government that are well-resourced.

Table 8.1: Investments required to enhance the value of sustainable urbanization

Value of sustainable urbanization	Elements of investments	Example of projects*
Economic	Investments in physical assets, systems, and facilities that support the functioning of the urban economy	Capital projects such as housing, roads, bridges, high-speed railways, water and sanitation, public space and amenities, as well as technologies that contribute to efficient management of cities
Environmental	Investments that protect and improve the urban ecosystem, reduce greenhouse gas emissions and air pollution, improve natural resource efficiency, mitigate the negative impacts of climate change and other natural hazards, safeguard critical ecosystems and biodiversity	Renewable energy projects, retro-fitting buildings, sustainable waste management, sustainable land use, nature-based solutions, biodiversity conservation, sustainable transport and climate adaptation projects
Social	Investments that promote inclusion and are oriented toward ending poverty. These are investments not only aimed at ensuring that cities are just by promoting equal rights and opportunities, they are vital for enhancing integration, liveability, health and well-being in the urban space.	Affordable housing, slum upgrading, local government facilities, human capacity, health care, youth development, employment and training programmes, accessible transport for all, technologies and innovative solutions that improve social cohesion and targeted services to specific population groups (such as children, youth, the elderly, families, women, seniors, migrants, indigenous people, etc.)
Intangible	Investments in good urban governance (that is characterized by the following norms that are interdependent and mutually reinforcing: subsidiarity, equity, efficiency, transparency and accountability, civic engagement, security, promotion and protection of cultural diversity). Investments that leverage culture and cultural diversity for sustainable urban development.	Developing governance structures, institutions, legal and regulatory frameworks, technical capacity, monitoring and reporting systems and network collaboration. Projects that safeguard and promote cultural infrastructures and facilities.

*Notes: Some investments fall in more than one dimension

8.1.1. The diverse nature of cities' investment needs

A range of investments across multiple sectors is needed for sustainable urban development (Table 8.1). The quantum of these investment depends on numerous factors including city size, demographic trends, urban configurations, geographic location, the country's level of economic development, municipal revenue generation and ability to mobilize domestic financial resources, as well as the quality of existing urban assets. This diversity of investment needs based on city and country-specific characteristics is aptly illustrated by a recent pilot study by UN-Habitat and AidData on investments needed for achieving SDG 11 (Box 8.1).

The current needs of cities in most advanced economies, for instance, are the necessary upgrades to modernize or replace ageing and increasingly outdated physical infrastructure such as bridges, power transmission and distribution systems, water and sewerage pipelines, and new investments in sustainable transport infrastructure. Available evidence suggests that only a limited number of countries, such as Australia and Japan, have invested sufficiently over the past several years to meet or exceed their infrastructure needs and will arguably be able to spend less going forward as a share of GDP than they have in the past.¹⁶ In contrast, countries such as Germany, the UK, and the US face major gaps between their current spending commitments and estimated needs.¹⁷

Further, investments in urban transport infrastructure continue to be driven largely by the demands of car culture. In Europe, for example, roads account for more than half of transport infrastructure investment.¹⁸ In recent years, though, there have been shifts towards sustainable mobility by investing in infrastructure and policies to encourage non-motorized transport, digital technologies that enhance efficiency across the whole transport system, shared mobility solutions, clean vehicles and alternative fuel. The region estimates that, by 2025, about one million public recharging and refuelling stations will be needed for the 13 million zero- and low-emission vehicles anticipated on European roads.¹⁹

As pointed out in Chapter 1, there is an urgent need for adequate and affordable housing globally. Established megacities such as London, New York and Paris have seen demand for housing outstrip supply. These cities need

to boost new supply of affordable housing so as to avoid becoming prohibitively expensive to the younger workforce.²⁰ Both public authorities and the real estate sector will have to collaborate (e.g. on regulations and incentives) to drive investment into the housing sector to increase the rate of housing supply. For such cities to maintain their competitive business climate and ensure affordability for new entrants, deliberate and aggressive investments are required in innovative, affordable and flexible office solutions to accommodate growing innovation sectors.²¹

In major cities in emerging economies, such as Bangkok, Delhi, Jakarta, Lagos, Mumbai and São Paulo, a very different set of economic and social infrastructure challenges persists. These cities are experiencing a rising pool of middle-class residents and workers. Although infrastructure systems are the backbone of city competitiveness and long-term success, these cities still have deficits of both hard and soft infrastructure. These cities have an increasing demand for investments in sustainable transport, particularly in well-functioning mass rapid transit systems. Traffic congestion costs Mumbai and Delhi an avoidable cost of US\$4.8 billion and US\$9.6 billion, respectively, while São Paulo residents spend one month per year—or 2.4 hours per day—in traffic.²² São Paulo, for example, is currently making investments to boost the quality of urban transport services through the implementation of Aricanduva BRT corridor project and the phased construction of São Paulo Metro Line—which is already yielding significant travel time gains.²³

Similarly, cities in emerging economies need to enhance environmental sustainability. The Yangtze River Delta Region, the most prosperous region in China but also responsible for a large proportion of Chinese energy consumption and carbon emissions, has strong demand for investment in environmental sectors.²⁴ For 2018–2020, the investment need for environmental protection sectors in the Shanghai Metropolitan Area and surrounding lower-tier cities alone amounts to about US\$41.2 billion.²⁵

Cities in emerging economies also require investments in public amenities and social infrastructure such as affordable housing, child care, schools and health facilities.²⁶ Given the growing transition to a knowledge-based economy, cities in emerging economies also require upfront capital investment in digital and utilities infrastructure. These

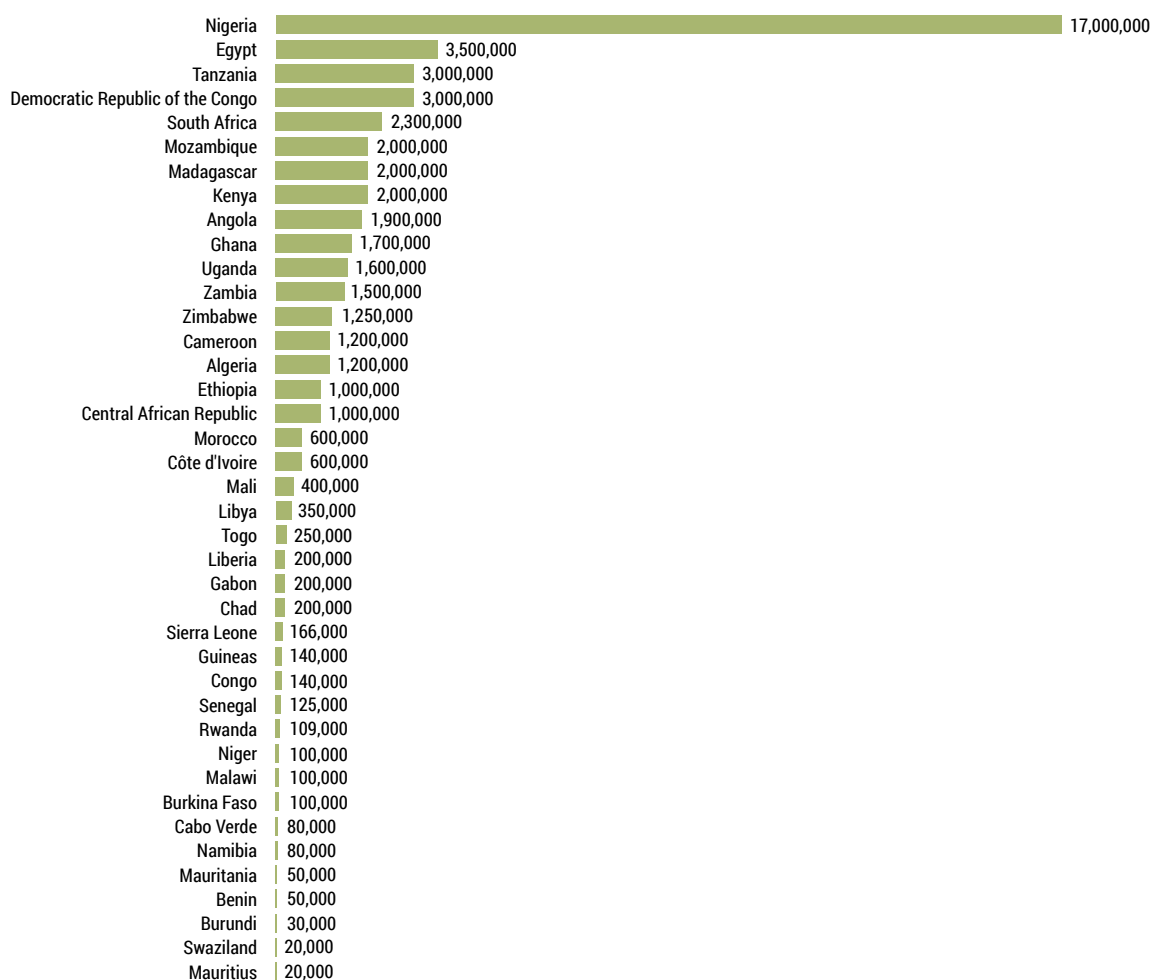
investments enhance competitiveness and efficiency as well as provide a solid platform for future development.²⁷ Investment in research, technology development and innovation are essential for countries and their cities to transition to a green economy.²⁸

On the whole, in developing regions, especially in LDCs, the quality, quantity and accessibility of infrastructure in cities lags significantly behind cities in advanced economies along several fronts: housing; utilities (electricity, water supply, ICT, sewerage and waste management); public works (roads, waterways, ports and airports); institutional capacity and governance structures. Some regions, such as Sub-Saharan Africa, have historically had inadequate

infrastructure, with urban population growth far outpacing capital investment, leading to compounding shortages of all types of infrastructure.²⁹

The need for adequate and affordable housing is even more pronounced in these regions; housing deficits are growing as cities are overstretched to meet the demands of expanding urban populations. Several countries, however, are making strides in addressing affordable housing shortages for low- and middle-income groups in urban areas. In Sri Lanka, the Urban Development Authority plans to construct 50,000 units.³⁰ Kenya's Affordable Housing Programme aims to provide 500,000 EDGE-certified homes in a bid to address the country's two million unit housing deficit (Figure 8.1).³¹

Figure 8.1: Housing deficits in Africa



Source: Bah et al, 2018.

Besides the much-needed hard infrastructure, developing countries also need to invest in building and improving human capacity, effective institutions, technology and innovation, and sound governance structures in order to meet the complex challenges presented by the sustainable urbanization imperative. Several Arab countries, for example, have experienced not only the loss of urban assets due to destruction but also loss the skilled human resources in government institutions due to violence and migration.³²

Given the diverse investment needs of cities, adequate internal coordination is imperative so that shared priorities and consistent objectives are established between the

various levels of government. Multilevel governance should ensure coherence between the sectoral priorities of national government departments and those of local and regional governments (Chapter 7). In addition, enabling metropolitan governance, where appropriate, also ensures a more integrated and efficient approach to territorial development through cooperation of various municipalities who jointly assess their needs.³³ Evidence-based decision-making is essential to prioritize investment needs (Box 8.2). It is also vital to assess the direct and indirect impacts of investments (both short-term and long-term) so as to ensure that there is a wider benefit—that is, ensuring inclusive prosperity and opportunities for all.



Aerial shot of a public mass housing Neighbourhood in Lagos Nigeria. © Tayvay/Shutterstock

Box 8.1: Financing Sustainable Urbanization: Counting the Costs

To fill the knowledge gap on investments for achieving SDG 11, UN-Habitat and AidData devised a two-phase effort to develop a systematic, replicable and scalable approach to capture both the “hard” and “soft” costs to support sustainable cities in run-up to 2030. This calculation takes a city-centric view of the costs of urban sustainability, as opposed to previous studies that have looked at costs on the national and global scale. The costing methodology takes into account both physical and institutional infrastructure needs (e.g. city planning capacity and citizen engagement). It assesses the anticipated costs of realizing SDG 11 targets related to five thematic areas: housing, transport, waste management, public spaces, and urban governance and planning.

The study undertook to establish the average annual cost of achieving SDG 11 from 2019–2030 for six pilot countries: Cote d'Ivoire, India, Malaysia, Colombia, Bolivia and Sweden. However, estimates were realized for only four countries in the sample (Bolivia, India, Malaysia and Colombia). These results should be interpreted keeping in mind that the sample size is small for this costing estimation. In total, 129 cities of varying scale are included in the final sample. Results from the four sampled countries show that the total average annual cost for small cities to achieve SDG 11 ranges from US\$18 million in Malaysia to US\$54 million in Bolivia. For medium-sized cities, the total average annual cost ranges from US\$144 million in India to US\$516 million in Malaysia. For the large cities sampled, the total annual averages range from US\$645 million in Bolivia to about US\$5.29 billion in Malaysia.

Table A: Estimated Average Annual Cost for Achieving SDG 11 in Small Cities (<100k Inhabitants). Millions of USD.

Country	Sample Size	Housing - Public Cost (US\$ m)	Transport (US\$ m)	Solid Waste (US\$ m)	Public Space (US\$ m)	Governance and Planning (US\$ m)	Total (US\$ m)
Bolivia	8	18.81	29.13	0.63	4.36	1.36	54.29
India	7	4.70	9.38	1.69	17.82	0.84	34.43
Malaysia	7	0.06	16.43	0.18	0.09	1.72	18.48
Colombia	18	15.44	19.26	0.38	2.79	1.09	38.96

Table B: Estimated Average Annual Cost for Achieving SDG 11 in Medium-Sized Cities (100k - 1 Million Inhabitants). Millions of USD.

Country	Sample Size	Housing - Public Cost (US\$ m)	Transport (US\$ m)	Solid Waste (US\$ m)	Public Space (US\$ m)	Governance and Planning (US\$ m)	Total (US\$ m)
Bolivia	11	79.5	62.9	3.49	40.4	4.66	190.95
India	18	16.28	42.74	9.3	72.66	2.81	143.79
Malaysia	12	23.43	424.05	3.69	58.75	5.88	515.8
Colombia	25	107.3	202.17	2.91	26.81	3.71	342.9

Table C: Estimated Average Annual Cost for Achieving SDG 11 in Large Cities. (>1 Million Inhabitants). Millions of USD.

Country	Sample Size	Housing - Public Cost (US\$ m)	Transport (US\$ m)	Solid Waste (US\$ m)	Public Space (US\$ m)	Governance and Planning (US\$ m)	Total (US\$ m)
Bolivia	1	308.73	259.98	14.54	47.81	13.6	644.66
India	17	397.28	626.01	167.26	817.37	8.22	2016.14
Malaysia	1	27.48	1617.58	26.16	3597.22	17.37	5285.81
Colombia	4	1324.57	1503.96	49.68	217.05	10.88	3106.14

This preliminary study shows that different countries will have different investment needs depending on country-specific characteristics. This study, however, indicates that for a small city in a developing country, total average annual costs can be expected in the range of US\$20 million to US\$50 million. For a medium-sized developing city, the costs range from around US\$140 million to more than US\$500 million. Large developing cities can expect an average annual cost from around US\$600 million to over US\$5 billion, with most country average results being in billions of US dollars per city, annually.

Lessons Learned

This study shows that costs are contextual. No one size fits all and translating a standard methodology to different countries requires significant adjustments to which inputs to consider. Secondly, the baselines for least developed, developing and developed countries are very different. This was illustrated by the case of Sweden, where expenditures are geared towards advanced sustainability objectives, such as bike lanes and digital infrastructure for smart cities. In contrast, developing countries are working towards creating basic bus services for their urban residents. Meanwhile, least developed countries lack basic records and data on public services and, therefore, do not have actionable plans to achieve established targets.

Thirdly, the total required investments for achieving SDG 11 rises as cities grow, mainly because of the total population. Many cities in our sample will transition in size from small to medium or medium to large over the next decade. To maximize the economies of scale that sustainable urbanization offers in terms of dollars needed per capita to provide basic services, housing, transport etc., making strategic investments now before cities grow larger is essential.

Source: UN-Habitat, 2020e.

8.1.2. The case for investing in urban infrastructure

Over 70 per cent of the global demand for infrastructure is in urban areas.³⁴ Closing the investment gap will not be easy, but it is necessary, possible and urgent. The economic, environmental and social case for investing in improved and more sustainable urban infrastructure is compelling. Investments in urban infrastructure can unlock endogenous growth potential. Estimates suggest that an additional one per cent of GDP spent on infrastructure investment can have a multiplier effect of 1.0–2.5 on the original investment, and this multiplier effect could be more substantial for emerging and developing economies.³⁵ For instance, in Africa, infrastructure investment is estimated to boost GDP per capita growth by an additional 2.2 per cent a year; no investment impairs growth by two per cent.³⁶ In Latin America, three per cent of GDP is being invested in infrastructure. However, an assessment by the Development Bank for Latin America (CAF) suggests that the region must invest at least five per cent to take the leap toward competitiveness.³⁷ For advanced economies, the IMF estimates that if countries invest an extra one per cent

of GDP in infrastructure, it yields on average a 1.5 per cent increase in GDP within four years.³⁸

By and large, investment in urban infrastructure has tremendous implications for countries at all stages of development. Investment in economic, environmental and social infrastructure in cities is essential to reducing poverty and strengthening resilience to climate change and extreme natural events.³⁹ For developing countries, infrastructure investment is indispensable for economic development and poverty reduction. It provides access to basic services, education and work opportunities that improve quality of life. There are extensive studies that demonstrate public capital spending fosters growth, especially in developing countries with large infrastructure gaps.⁴⁰

With the growing number of people residing in urban and peri-urban areas, providing adequate and affordable housing, sustainable transport, access to electricity and environmental infrastructure such as water, sanitation, drainage and solid waste management are critical to



A market at Dharavi slum during a nationwide lockdown as a preventive measure against the spread of the COVID-19, Mumbai/India. © Manoj Paateel/Shutterstock

building better livelihoods and enhancing quality of life. Investment in sustainable urban infrastructure yields both short- and long-term return. The COVID-19 pandemic has underscored the importance of this type of urban infrastructure, as public health guidelines were almost impossible to implement in informal settlements, especially in developing countries.⁴¹ Basic services can also contribute to climate resilience; a lack of adequate water and sanitation infrastructure is closely linked to disease outbreaks after severe weather events.⁴²

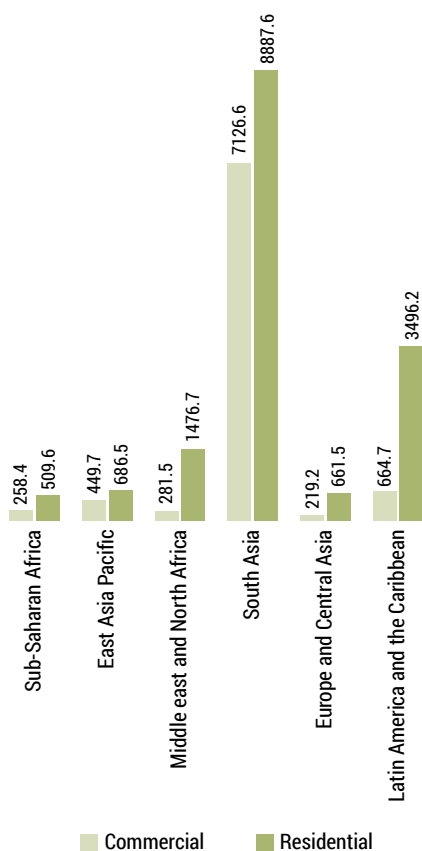
Housing infrastructure is a vital part of the urban economy. Without adequate and affordable housing for all urban dwellers, economic development is inhibited. Investments in housing have been shown to have direct positive effects on employment, income generation, savings, labour productivity and regional development.⁴³ Moreover, as mentioned earlier, investments in adequate, safe and

affordable housing, basic services and slum upgrading have direct impacts on at least three-quarters of the SDGs.

Investments in sustainable transport systems, public spaces and parks that are safe, inclusive and accessible for use by all, regardless of sex, age or disability, improve the attractiveness of the city. The scope of investments, as well as the type and scale of infrastructure, have major implications for environmental sustainability. Despite the uncertainties often associated with the amount of investment needed, estimates should always be considered

Estimates should always be considered alongside the substantial short- and long-term benefits unlocked by sustainable urban infrastructure investment

Figure 8.2: Investment opportunity across regions for green buildings



Source: IFC, 2019

alongside the substantial short- and long-term benefits unlocked by sustainable urban infrastructure investment.

Investments in resilient and resource-efficient infrastructure are central to sustainable urbanization. Today, there is an increasing potential market for green buildings across all regions (Figure 8.2). In advanced economies, studies indicate that retrofitting 20 per cent of buildings over the next five years is projected to reduce CO₂ emissions from heating by around one-fifth.⁴⁴ Similarly, a study by New Climate Economy in 2015 shows that even when high-end incremental investment costs are considered, investing in sustainable urban infrastructure can reduce emissions and generate a global economic opportunity worth approximately US\$17 trillion by 2050 (in net present value terms), based on energy

savings alone, within relatively manageable investment payback periods.⁴⁵ A study by McKinsey Institute also demonstrates that, although green-district technologies may at times cost more than the conventional alternative, their internal rates of return range from 18 to 30 per cent—which translates to a breakeven rate of three to five years, depending on the region and technologies deployed.⁴⁶ In the US, the National Institute of Buildings Sciences also found a national average benefit-cost ratio (BCR) of 4:1 for a variety of common building retrofit measures, a BCR of 4:1 for a select number of utilities and transport infrastructure and a BCR of US\$6 for every US\$1 in grants spent on hazard mitigation.⁴⁷

The combined investment decisions that local, national and international stakeholders take during the Decade of Action regarding urban infrastructure will determine whether the value associated with sustainable urbanization can be realized in all regions. Adequate financing, including overcoming key market and governance failures impacting sustainable urban infrastructure investment, is imperative to the decade's success.⁴⁸ Indeed, the propensity to underinvest in urban infrastructure is not confined to developing regions; cities in both developed and developing countries face a backlog of infrastructure demands. Due to decades of underfunding, developed countries face the challenge of upgrading and replacing ageing and increasingly outdated infrastructure. In less developed regions, degraded neighbourhoods, urban sprawl, growth of slum areas and weak institutions and governance structures are the consequence of, and catalyst for, the ongoing social, economic and environmental costs of inadequate investment.

While there are individual costs for each underfunded sector, these chronic investments deficits compound one another and often lead to exponentially greater human

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and financial costs if not urgently addressed. Delays in investments and ongoing spending inefficiencies create mounting economic, social and environmental pressures, as well as higher mitigation costs to address increasingly degraded environments and disruptions to society and economies.⁴⁹ Since underinvestment in infrastructure produces no immediate negative effects besides distortion of aggregate demand,⁵⁰ oftentimes urban infrastructure continues to be a casualty of fiscal adjustments and austerity. Today, as the world grapples with the ravages of the COVID-19 pandemic, well-structured infrastructure spending should be among priority measures to jumpstart economies. Governments can directly stimulate aggregate demand through infrastructure-based stimulus packages that increase construction activity and employment.⁵¹

While urban infrastructure accounts for a relatively large portion of national investment in most countries, the economic costs of insufficient investment and spending inefficiencies in new infrastructure as well as deficient maintenance of existing infrastructure is high.⁵² Inadequate urban infrastructure increases inequality and often threatens the competitiveness and productivity of cities and national economies. It negatively affects production costs and the overall productivity of firms, potentially leading to decisions to relocate or not scale up their presence.⁵³ Underinvestment in infrastructure, particularly in cities, constrains the national economies in developing countries as indicated above. In addition, poorly maintained infrastructure often leads to economic inefficiencies and has significant financial repercussions in the long run in terms of rehabilitation costs or investments in new facilities, as is the case of large cities in developing countries around the world.

While the need for new capital investments is undeniable and urgent, existing unmet needs in service provision and the

maintenance of existing infrastructure have negative social, economic and environmental impacts if not addressed today. Further, inefficiencies in investments are impacting health outcomes and decreasing educational enrolment in emerging market economies and low-income developing countries.⁵⁴ The lack of service delivery and social infrastructure frays the social contract between residents and their local governments, impacting revenue generation. Without adequate resources, municipal authorities are further unable to deliver services.⁵⁵ This vicious cycle affects urban quality of life and the ability of municipal authorities to attract the investment necessary to improve the city's prospects.

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Station platform full of people unable to get space in an over crowded train, Jodhpur, Rajasthan, India. © Hari Mahidhar/Shutterstock

8.1.3. Investing in human and institutional capacity

Making cities inclusive, safe, resilient and sustainable not only requires physical assets in cities, it also calls for investing in effective urban governance, sound legal and institutional frameworks, and strengthened capacities (individual, societal and institutional) to formulate, enhance, manage, monitor and evaluate the implementation of public policies for sustainable urban development.

The lack of adequate institutional capacity—whether in the form of well-trained personnel, local leadership skills or structures that ensure transparency, accountability and participation—pose immense challenges in advancing sustainable urban development. Institutional fragmentation and bloated bureaucracies, among other issues plaguing urban governance, often translate into missed opportunities, inefficiencies, waste and delays. As discussed in Chapter 7, strong and capable local governments, as well as strong multilevel governance frameworks that facilitate vertical and horizontal collaboration and coordination, are key levers to unleash the value of sustainable urbanization. These create an enabling institutional environment for local action, particularly when there is a consistent implementation of the principle of subsidiarity.

The extent to which local governments can effectively address urban challenges is significantly determined by how well-resourced they are with human capital. Decentralization of responsibilities to local authorities must be accompanied by enhanced capacity in the institutional and technical capacity for effective urban and territorial planning and management. Boosting the personnel capacity for urban administration, for instance, is a prerequisite for sustainable urban development and the successful implementation of transformative processes that unlock the power of cities.⁵⁶ These investments are especially important for institutional capacity in revenue generation, financial management and the structuring of capital investment funding. Investments are also needed to strengthen administrative capacity in order to harness the possibilities offered by advances in digital technology and innovation in urban service delivery and realization of the SDGs. Investments that strengthen the statistical capacities of various levels of governments promote evidence-based urban governance (Box 8.2). Investments are needed to boost cities' capacity for effective policy formulation as

well as to build robust legislative frameworks that support effective urban management and development.

Investment in human capital formation is vital for inclusive and sustainable urban development and aligns with SDG 8 to promote productive employment and decent work for all. These investments help build and strengthen productive capacities, thus enabling the economic value of urbanization to be realized for all (Chapter 4). They also build a healthy labour force with the skills and knowledge to contribute to an innovative and competitive urban economy.⁵⁷ A stronger human capital base adapts faster to technological change and advancement.⁵⁸ It also improves the climate adaptive capacity of a community.⁵⁹ While measuring the returns of human capital is challenging as investments in human capital may not produce economic returns in the short term, targeted investments in the areas of education, health and technological proficiency have a significant impact on future growth.⁶⁰



A stronger human capital base adapts faster to technological change and advancement. It also improves the climate adaptive capacity of a community

Inequalities of opportunity, however, constrain the pool of human capital that makes cities productive and inhibits advancement toward sustainable urban development. It is thus important that gender disparities in education, pay and opportunities as well as discrimination against ethnic minorities, people with disabilities and immigrants be addressed.⁶¹

8.2. The Urban Finance Challenge

Financing sustainable urbanization is an investment in the present and future wellbeing of all nations. With the continuous increase in urban population, local governments all over the world face the daunting task of providing the necessary infrastructure and services to meet the growing demand. However, lack of resources for investment in sustainable urban development poses a serious dilemma for most developing countries, particularly in LDCs. A

Box 8.2: Investing in sustainable urbanization through effective monitoring and reporting

Policies and actions geared toward sustainable urban development should be underpinned by effective monitoring and reporting mechanisms. It is thus necessary to ensure that urban policies at all levels are evidence-based and founded on realistic targets that can be monitored, and that systems are in place to ensure accountability and allow for follow-up from all stakeholders. In this regard, UN-Habitat is at the forefront of providing direct and indirect support to various levels of government (cities, regional and national) across many countries in effective monitoring and reporting of progress toward sustainable urbanization. UN-Habitat—through the Data and Analytics Unit (DAU), formerly Global Urban Observatory (GUO)—has been developing and refining methodologies and tools for supporting data collection and monitoring of sustainable urban development at the local level.

In supporting SDG 11 and other urban-related indicators monitoring, UN-Habitat has been leading and coordinating activities from various partner organizations in developing, refining and disseminating the methodologies that support assessment of progress in implementing the 2030 Agenda for Sustainable Development. In addition, UN-Habitat is providing technical support and capacity development programmes to help countries generate relevant and accurate data for monitoring the SDGs and NUA. Some of these customized trainings are delivered by DAU to countries and cities using a variety of tools that offer step-by-step guides on how to implement different data generation workflows. Today, the Unit oversees 143 urban observatories in Asia, 130 in Latin America and the Caribbean and 101 in Africa.

Besides maintaining a global urban indicators database, UN-Habitat has developed the City Prosperity Index, a data-based framework that allow cities to collect, collate and analyse data on urban prosperity. All these are integral to formulating proper policies, designing and implementing programmes and monitoring progress toward sustainable development at the local level.

Financing sustainable urbanization is an investment in the present and future wellbeing of all nations

survey of about 100 cities globally found that 55 per cent of municipalities cited lack of public funding as a barrier to sustainable urban growth.⁶²

Local governments face multiple constraints regarding urban finance, such as insufficient and unpredictable transfers from central government, weak fiscal management, poor revenue generation and legal constraints. These challenges and other institutional constraints pose enormous barriers. For example, most local governments have restricted access to capital markets based on credit rating criteria (Figure 8.3).⁶³ By improving creditworthiness, cities embed the principles of good financial management and transparency.⁶⁴ Only four per cent of the 500 largest

cities in developing countries are deemed creditworthy by international financial markets, and only 20 per cent are creditworthy in local markets.⁶⁵ In addition, cities face challenges in accessing resources for pre-investment activities such as financial structuring necessary to bring forth bankable projects and pilot projects that demonstrate the capabilities of local government.⁶⁶

8.2.1. Fiscal management

As discussed in Chapter 7, the decentralization of administrative and fiscal authority has been uneven, and intergovernmental systems of financial transfers and jurisdictional cooperation are often plagued with problems. In most developing countries, financial devolution and local share of revenues are woefully inadequate. Poorly functioning transfer systems further disincentivize effective revenue generation and are an impediment to local government expenditures. These hurdles are further compounded by a lack of adequate institutional capacity

Figure 8.3: Sample of rating agency criteria

Notes: Rating agencies often categorize their criteria as being either “institutional framework” or under the “individual credit profile” of a city. Institutional framework includes all those factors that constitute transparent, accountable and predictable government at both the local and national level. Individual credit profile constitutes the set of factors—economic, managerial and performative—that relate to the local authority’s financial capacity to pay its debt obligations.

Source: UN-Habitat, 2017c.

at the local level and overreliance on investment decisions by higher levels of government.

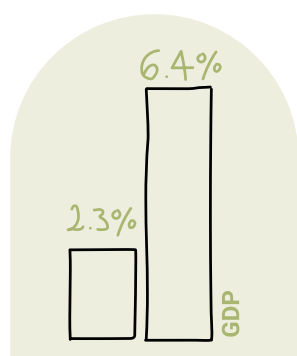
As highlighted in various sections of this Report, strengthening the institutional capacities of local governments is integral to facilitating local financial sustainability. Strengthening financial management frameworks and expertise, for instance, is vital to the efficient allocation and use of public resources. Today, a large portion of investments is lost to inefficiency and addressing this is critical to achieving the SDGs—in other words, there should not only be more spending, but better spending.⁶⁷ Some ways in which this efficiency can be enhanced in urban investments include embracing technology through cost-efficient IT deployment, ensuring that decisions are data-driven and evidence-based, eliminating duplication or overlapping roles and responsibilities in multilevel governance arrangements, engendering transparency and accountability, promoting integrated approaches and

Strengthening the institutional capacities of local governments is integral to facilitating local financial sustainability

reviewing institutional processes to eliminate waste. In 2011, New York City’s Metropolitan Transit Authority launched a strategic procurement initiative aimed at realizing savings of at least US\$100 million.⁶⁸ In South Africa, the cities of Tshwane, Cape Town, Ekurhuleni, Johannesburg and Nelson Mandela Bay Metropolitan Municipality are implementing sustainable public procurement practices that not only achieve value for money but also drive toward sustainability. Several national governments have also launched online portals to enhance transparency and efficiency in procurement processes. In India, for example, the Government e-Marketplace portal provides details of projects, policies, timelines, schemes and spending on infrastructure.⁶⁹

8.2.2. Poor revenue generation

Most cities in developing countries are dependent on transfers from the central government and often have limited financial instruments and mechanisms for revenue generation. In a majority of regions, local governments have low levels of autonomy with regard to revenue sources and financial management.⁷⁰ Oftentimes, the more lucrative sources of revenue potentially suitable for financing urban development, such as income taxes, sales taxes and business taxes, are controlled by central governments—leaving city authorities with lesser revenues derived from property taxation and service charges, which often need strengthening. In addition, the high level of informality in the economy negatively impacts own revenues. As pointed out in Chapter 3, this scenario leaves most cities in developing countries financially constrained as what is annually generated from local government revenue systems ranges from US\$100 to US\$500 per inhabitant, and even much lower (less than US\$50) in smaller cities of Africa and South Asia. In contrast, locally-based revenues exceed US\$3,000 per capita each year in cities of advanced countries such as New York, Stockholm, Seattle and Tokyo.⁷¹ Notably, the subnational taxes in developing countries are approximately 2.3 per cent of GDP compared to 6.4 per cent in advanced countries.⁷² In most low-income countries, the ineffective systems for



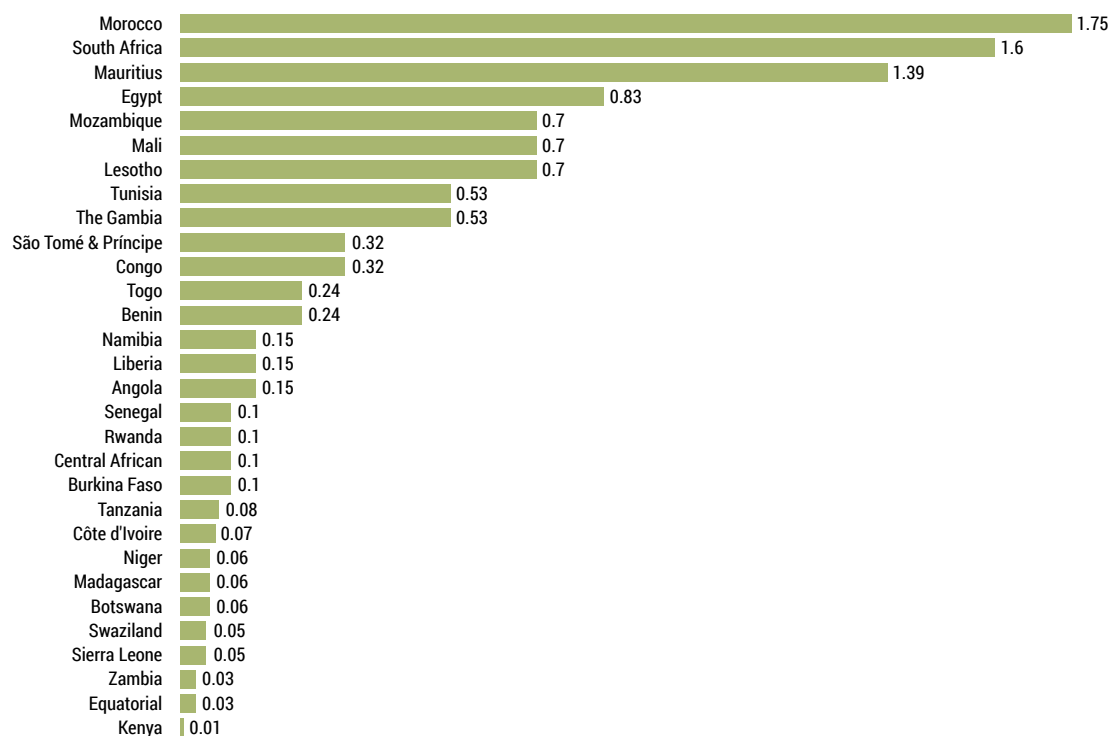
The subnational taxes in developing countries are approximately 2.3 per cent of GDP compared to 6.4 per cent in advanced countries

revenue generation contribute to an inability to develop investment-grade credit ratings.⁷³

A city's ability to maximize its leverage of endogenous resources is subject to appropriate institutional arrangements, as well as its technical capacity for planning, accessing and administering the full range of financing instruments (see examples of land-based instruments in Table 8.2). The scale and efficiency of revenue generation by employing such instruments is largely determined by urban planning and management, the enforcement of land use policy (improved property rights via land registration), productive capacities, political support and commitment to implement instruments, as well as financial management expertise.

A city's ability to maximize its leverage of endogenous resources is subject to appropriate institutional arrangements, as well as its technical capacity for planning, accessing and administering the full range of financing instruments

In most developing countries, property taxes are not efficiently administered and collected as most local governments lack adequate capacities to systematically maintain and coordinate their physical and fiscal cadastre; at times the political will to administer the property tax is lacking across various levels of government. In OECD countries, property taxes constitute about two per cent of GDP, while across African countries the figure averages 0.38 per cent (Figure 8.4).⁷⁴ Across LDCs, high-value properties are sometimes undervalued or absent from city databases. Even when local governments do possess the technical capacity to bring these properties into the tax fold, often the political will to do so is lacking. In addition, some taxes need to be reformed as they do not reflect current circumstances, capabilities or best practice. Several cities that have reformed their property tax regimes have seen an increase in revenues vital for investments in urban infrastructure. In Sierra Leone, the cities of Bo, Kenema and Makeni increased local revenues by 200–450 per cent between 2007 and 2011 by implementing a simplified and transparent system of property valuation.⁷⁵ Similarly, authorities in Bangalore instituted measures to improve

Figure 8.4: Property taxes as a percentage of GDP in selected African countries, (around 2012)

Source: Franzsen and McCluskey, 2017.

the assessment of property tax in 2000, which immediately increased the city's property tax collection by one-third.⁷⁶ Benin has been implementing *Registre Foncier Urbain* (Urban Land Registry) in Cotonou, Porto-Novo, Parakou and in smaller cities; this land information system has positively impacted local finances.⁷⁷

Besides property taxes, many cities across the globe are leveraging their local assets to generate revenue and finance their investment needs. For instance, in Cairo, the auction of 3,100 hectares of desert land for a new town in 2007 raised US\$3.12 billion—an amount 117 times greater than Egypt's total urban property tax collections and about one-tenth the size of national government revenue—to finance internal infrastructure and build a connecting highway to Cairo's ring road. Similarly, Mumbai raised US\$1.2 billion in 2006–2007 by selling 13 hectares of land in the new Bandra-Kurla Complex financial centre to finance urban infrastructure projects identified by the

Metropolitan Transportation Plan. In Istanbul, the 2007 sale of an old bus station and government building raised US\$1.5 billion, an amount more than the city's total 2005 fiscal expenditures and infrastructure investments.⁷⁸ In Shanghai, 46 per cent of urban growth has been funded through land-based financing mechanisms by which the city sold developed land to operators of commercial or industrial zones.⁷⁹ In Saint Lucia, revenue generated from the sale of serviced lots has been used to establish the Sites and Services Revolving Fund (SSRF).⁸⁰

Since the early 2000s, there are many successful examples of cities using land value capture to finance urban projects in Tokyo, Hong Kong, New York, London, Delhi, Nanchang, and São Paulo. In Hong Kong and Tokyo, for instance, land value capture financing schemes have helped them not only to generate funds for transit investment and operational and maintenance costs but also to advance sustainable urban development through transit-oriented development.⁸¹



View of Shibuya Crossing, one of the busiest crosswalks in the world, Tokyo, Japan. © Sean Pavone/Shutterstock

Table 8.2: Land-based finance instruments

Instrument	Description	Timing	Initial incidence	Minimum requirements
Recurring land/building value tax (property tax)	<ul style="list-style-type: none"> Recurring tax based on estimated value of land or building 	<ul style="list-style-type: none"> Assessed annually Can be collected in instalments 	<ul style="list-style-type: none"> Either the landowner or the occupant 	<ul style="list-style-type: none"> Appropriate enabling legal framework Fiscal cadastre (land registry) that includes all taxable land plots Appropriate estimate of taxable value Administrative ability to calculate tax due, deliver bills and collect tax
Betterment levies	<ul style="list-style-type: none"> Charges assessed in connection with specific infrastructure improvements Limited to recovery of actual costs incurred 	<ul style="list-style-type: none"> Assessed and collected as a one-time charge 	<ul style="list-style-type: none"> Existing landholders whose land benefits from the improvements 	<ul style="list-style-type: none"> Appropriate enabling legal framework Identification of all land plots whose value is affected by the improvements Estimated impact of the improvements on the land value of each affected plot Accurate estimate of the cost of the improvements Method for allocating the improvement costs to individual plots based on the share of benefit received Adequate one-time billing and collection system
Special assessments	<ul style="list-style-type: none"> Charges assessed in connection with specific infrastructure improvements Limited to recovery of actual costs incurred 	<ul style="list-style-type: none"> Assessed once Collected over a period, often as a temporary addition to the recurring property tax 	<ul style="list-style-type: none"> Existing landholders whose land benefits from the improvements 	<ul style="list-style-type: none"> All requirements for betterment levies Adequate instalment billing and collection system Agreement of a majority of landowners
Developer exactions	<ul style="list-style-type: none"> Charges assessed in connection with development approval Can be paid in cash, in land or in kind 	<ul style="list-style-type: none"> Assessed once Collected as project is approved and completed 	<ul style="list-style-type: none"> Land developers seeking city approval 	<ul style="list-style-type: none"> Appropriate enabling legal framework Estimate of the impact of the proposed development on existing infrastructure Administrative coordination with city planning functions Method for calculating the amount of exaction due Adequate billing, collection and project monitoring system
Land value increment tax	<ul style="list-style-type: none"> Tax assessed as a percentage of the increase in land value due to public actions or general market trends 	<ul style="list-style-type: none"> Can be assessed when land title transfers or when specific public actions result in increased land values Collected when land title transfers or by special billing 	<ul style="list-style-type: none"> Either the original title holder, the new title holder or both if tied to title transfer Existing landholders if by special billing 	<ul style="list-style-type: none"> Appropriate enabling legal framework Estimate of the "before" and "after" land values Administrative capacity to identify when the tax is due Adequate billing and collection system
Sale of development rights	<ul style="list-style-type: none"> Payments received in exchange for permission to develop or redevelop land at higher density or changed land use Rights can either be sold at auction or at fixed price Rights may be transferable to other locations or resold 	<ul style="list-style-type: none"> Collected once 	<ul style="list-style-type: none"> Purchaser of the development right 	<ul style="list-style-type: none"> Appropriate enabling legal framework Effective control of existing development rights Demand for additional development rights Administrative and planning capacity to determine acceptable amount of additional development Capacity to manage the process of selling additional development rights as well as to monitor use and any resale of rights sold

Instrument	Description	Timing	Initial incidence	Minimum requirements
Sale of public land	<ul style="list-style-type: none"> Payment received in exchange for freehold title to public land 	<ul style="list-style-type: none"> Collected once 	<ul style="list-style-type: none"> Purchaser of the land 	<ul style="list-style-type: none"> Appropriate enabling legal framework Administrative and planning capacity to determine which lands should be privately developed Capacity to manage a transparent and fair sales process as well as to allocate and manage sales proceeds
Lease	<ul style="list-style-type: none"> Payment received in exchange for right to occupy and benefit from public land Permitted land use is specified Terms vary from 2 to 99 years 	<ul style="list-style-type: none"> Assessed and collected once or recurring basis depending on the contract specifications 	<ul style="list-style-type: none"> Purchaser of the leasehold (lease) 	<ul style="list-style-type: none"> Appropriate enabling legal framework Administrative and planning capacity to determine which lands are available for lease Appropriate estimate of market value of land to be leased Administrative capacity to solicit and negotiate leases; monitor leases for the duration of the lease; and to allocate and manage lease proceeds
Transfer taxes and stamp duties	<ul style="list-style-type: none"> Charge assessed for recording the transfer of a land title from one private party to another Can be either a fixed fee or a percentage of the value of the property being transferred 	<ul style="list-style-type: none"> Assessed and collected once 	<ul style="list-style-type: none"> Either the original title holder, the new title holder or both 	<ul style="list-style-type: none"> Appropriate enabling legal framework Effective land registration system Administrative capacity to identify when the tax is due Capacity to estimate taxable value Adequate billing and collection system

Source: Adapted from UN-Habitat, 2016f.

UN-Habitat has been providing technical assistance to local authorities for improving their revenue generating capacity by, among other measures, employing land-based financing mechanisms (Table 8.2). In Afghanistan, for example, UN-Habitat has been strengthening municipal capacities in creation and maintenance of *safayi* tax records. This municipal revenue generation system resulted in a 15 per cent increase in revenue in some cities and 30 per cent for the national government in 11 major cities and municipalities where implemented.⁸² Through the Joint Programme on Local Governance, UN-Habitat has been strengthening capacities for municipal revenue generation in Somalia over the past decade with positive results. Hargeisa Municipality, for instance, saw an increase in

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revenue from US\$1.3 million in 2018 to US\$1.6 million in 2019, which has facilitated the delivery of social and physical infrastructure. Similarly, with increased revenue, Berbera municipality implemented 30 development projects in 2019, including construction of roads and improvements to the health and education sectors. UN-Habitat has also developed a Rapid Own-Source Revenue Analysis (ROSRA) tool, first piloted in Kisumu (Kenya), to support local governments in optimizing their own source revenues. The tool quantifies revenue leakages and deconstructs known bottlenecks to identify root causes and entry points for reform.

Oftentimes, with limited resources generated, local governments tend to spend their existing revenue on recurrent costs, neglecting maintenance of infrastructure and leaving little for capital investments that have the capacity to improve productivity. These types of investments enhance competitiveness, which attracts people and firms—the key elements vital for increasing overall revenue. Yet, cities can improve revenue by endogenous growth. As has been highlighted, urban areas have a tremendous amount of assets that can be unlocked

Urban areas have a tremendous amount of assets that can be unlocked for investments and local economic development. Local authorities must also find ways to link revenue generation with their ongoing activities and with urban growth in order for local finances to be sustainable in the long term

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8.2.3. Legal constraints

Building a strong local revenue base depends on empowering local governments to grow and diversify their own-source revenues to leverage external financial flows. There is a diversity of legal and institutional frameworks across and within countries, which either incentivize or inhibit cities' capacity to increase their local resource base and efficiency. In most developing countries, there is need for national and local reforms to ensure appropriate legal or institutional mechanisms are in place for cities to maximize their leverage of endogenous resources. Also, these frameworks constrain the effective use of exogenous sources of finance as borrowing is prohibited by law. As a result, many local governments are not financially or institutionally empowered for their larger role in service delivery, which is key to achieving the Global Goals.

Equally important is the mandate empowering local governments to spend. Central governments' tight control over spending and conditionalities tied to intergovernmental fiscal transfers often carry the risk of

Central governments' tight control over spending and conditionalities tied to intergovernmental fiscal transfers often carry the risk of forcing local governments to spend funds in ways that do not match local needs, undermining a key objective of decentralization

forcing local governments to spend funds in ways that do not match local needs, undermining a key objective of decentralization.⁸⁴ As pointed out in Chapter 7, countries should ensure an enabling institutional environment for local action through effective decentralization policies to realize the value of sustainable urbanization. The quality of financial decentralization, for instance, significantly impacts the investment capacities of local governments. National governments have to demonstrate the political will to make necessary intergovernmental structural changes and ensure that enabling legal frameworks are in place for cities to be active participants in line with the principle of subsidiarity.

8.3. Mobilizing Financing for Sustainable Urbanization

Investing in sustainable urban development requires mobilization of financial resources from a range of actors. However, a persistent challenge facing most developing countries is how to establish an enabling environment for local governments to mobilize financial resources from a wide array of players. National governments play a pivotal role in determining the fiscal, regulatory, policy, institutional, investment and credit environments in which local governments operate, and consequently the scale of resources raised for sustainable urban development (Figure 8.5). As the vast urban investment need will not be met entirely through the means of the public sector or traditional financing, the path to long-term sustainable financing is to diversify sources using public finances and assets as leverage. Thus, the various dimensions of the private sector must play a critical role in advancing sustainable urbanization. A recent UN-Habitat study shows that while the necessary funding to meet the investment need exists—as the total public and private investment capacity far surpasses the total investment need—this funding is not currently flowing into the right areas (Box 8.3). Local governments therefore need to work harder at understanding the private sector approach to doing business in order to demonstrate how projects will deliver value to both users and investors. Other needed improvements include stronger public financial management, better creditworthiness to access financial markets and more efficient local bureaucracy.

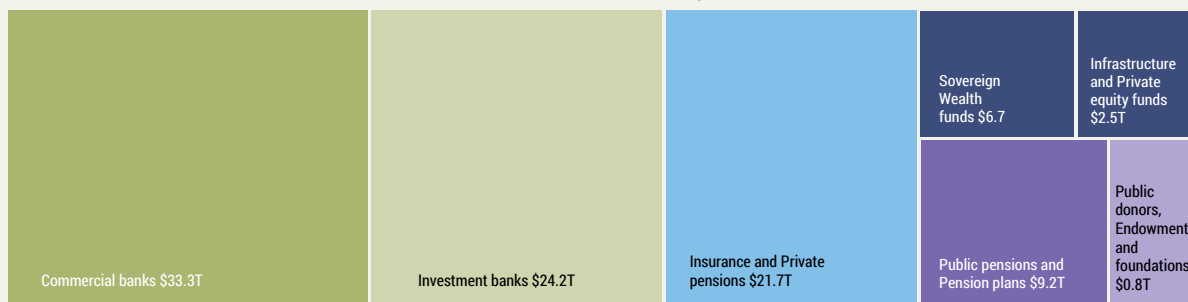
Box 8.3: Cities: Investment need vs. public and private investment capacity

Successful achievement of the development agendas in cities requires substantial investment in urban areas across the world. UN-Habitat estimates the total investment need for infrastructure and the SDGs at US\$38 trillion for the years 2020–2030. Further, estimates based on investment trends from the pre-pandemic period indicated that there would still be an investment gap of US\$5.6 trillion. With COVID-19 effects still unfolding, the gap may widen as the investment trend towards developing countries might take a downturn for some years, leaving the estimated investment gap wider.

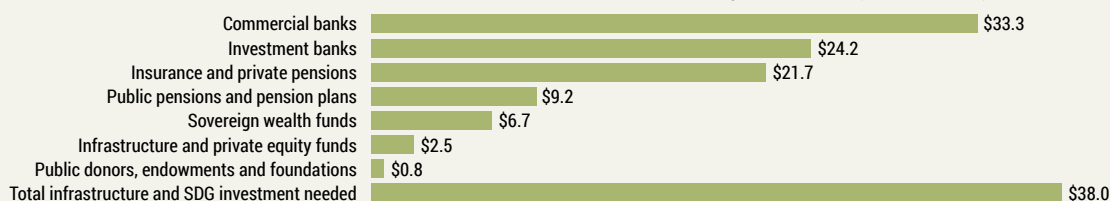
In emerging markets and developing countries, reports show that only about half of SDG investment needs are being covered. The magnitude of the investment need in cities underpins the urgency to utilize innovative mechanisms and new tools to finance development in cities—not just the traditional source of subnational funding, such as taxes, fees and intergovernmental transfers. An evolving landscape of financing offers many opportunities to mobilize resources, including public, private, domestic, international and experimental schemes. New development partners, finance institutions, public-private funds, philanthropic organizations and private impact investors have emerged or expanded their activities in recent years and now work actively alongside traditional donors.

To showcase the full capacity from global financial actors, UN-Habitat also developed an estimation quantifying the total public and private investor assets. While there is a large SDG and infrastructure investment need, results from this estimation show that the total public and private investment capacity—totalling US\$98 trillion—far surpasses the total investment needs. Commercial banks have an investment capacity of more than US\$33 trillion, which is almost as large as the total investment need for 2020–2030. Investment banks manage over US\$24 trillion, while insurance companies and private pensions manage almost US\$22 trillion. The world’s 82 largest sovereign wealth funds jointly manage over US\$6.7 trillion and remain largely underutilized for realizing sustainable development.

Total Public and Private Investment capacity (2020-30) \$98 Trillion



Investment need vs. public and private investment capacity 2020-2030 (US\$ Trillions)



Infrastructure and private equity funds (totalling at US\$2.5 trillion in managed assets) and public donors, endowments, and foundations (US\$0.8 trillion) by themselves lack the capacity to meet this need, or even the gap highlighted above. However, institutional investors manage assets that far exceed the total investment needed.

Traditional financing is not enough to cover the total investment need for infrastructure and the SDGs, but combined institutional investor assets could be sufficient. In other words, while financing capacity indeed does exist, it is currently not flowing into the right areas to meet this need. Redirecting even a part of these assets would make a significant difference, but it is imperative that these assets are matched to infrastructure and SDG projects to close the current investment gap. If investment is put on hold, the yearly needs will continue to grow over time due to a cumulative effect. In other words, there are significant and rising opportunity costs incurred by delaying investments into infrastructure and the SDGs. The onset of the Decade of Action to achieve the SDGs combined with the opportunity to build back better post-COVID-19 constitutes a unique opportunity to invest in sustainable development.

Source: UN-Habitat 2020e.

Improving financing for sustainable urban development also requires a coordinated and coherent approach. One that effectively harnesses various fiscal instruments within the frameworks set by strong national urban policies which have been designed through a collaborative process (Chapter 7 and 9).⁸⁵ This approach should ensure that investment policies are aligned with the global development agendas and funding frameworks. With the growth of potential investment partners including development finance institutions, public-private funds, philanthropic organizations and private impact investors now working alongside the public sector, it is imperative to consider how best to unleash the capacity of these investors by channelling their capital and activities toward achieving sustainable development outcomes in cities.

As discussed in Chapter 2, policy coherence between global, regional, national and local stakeholders is a foundational

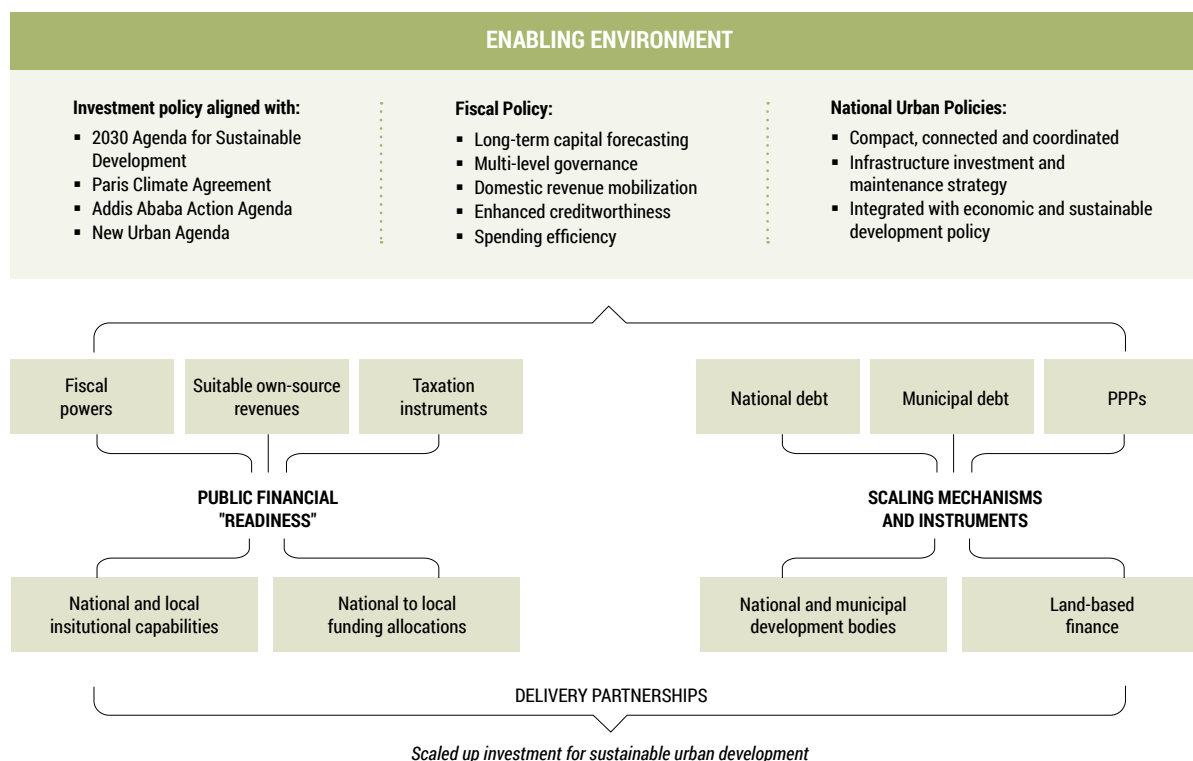
requirement necessary to deliver the needed transformations toward sustainable urbanization. This ensures coordinated actions that leverage collective impact. In financing sustainable development (FSD) systems, for instance, policy coherence ensures alignment of financing for sustainable development with country development strategies as well as with the SDGs, thus bringing better economic, social and environmental returns on each investment.⁸⁶ As the number of actors increases, so does the possible combination of resources and leveraging of each actor's comparative advantage. At the same time, challenges arise. For example, there are discrepancies between project design and available financing, as well as the question of whether impact investments are aligned with sustainability as envisioned by the global development agendas.

To address some of these challenges, UN-Habitat launched the Cities Investment Facility, a technical assistance and matchmaking platform that helps cities structure urban development projects so that they are bankable and attractive to potential investors. In addition, UN-Habitat also developed the SDG Project Assessment Tool, an interactive guide that integrates a comprehensive set of sustainability principles to help align urban projects with the SDGs and the New Urban Agenda. The tool is designed to improve the effectiveness, inclusiveness and sustainability of projects by facilitating dialogues between public and private sector partners.



Policy coherence between global, regional, national and local stakeholders is a foundational requirement necessary to deliver the needed transformations toward sustainable urbanization

Figure 8.5: Creating an enabling environment for scaling-up investment



Source: Adapted from Ahmad et al, 2019.

Sustainable urbanization requires local governments to establish a diverse portfolio of revenue streams and move away from being overly dependent on any given revenue flow, especially national government resources. Local governments must be empowered to tap their endogenous potential to innovatively increase and diversify own-source revenues. This diversity in revenue sources enhances local autonomy and long-term sustainability.⁸⁷ Internally generated revenues ensure that a city's economic base is resilient to external shocks as well as assisting local authorities to develop and meet competing priorities.

Local governments must be empowered to tap their endogenous potential to innovatively increase and diversify own-source revenues

Building a diverse local revenue portfolio to finance sustainable urban development is especially critical in the current economic environment where national and subnational governments are facing enormous budgetary deficits and significant debt levels that may leave them unresponsive to local needs, particularly those of low-income and slum residents across cities who consequently have to seek capital from alternative finance systems to meet needs such as affordable shelter (Box 8.4).

8.3.1. Strengthening public finance systems

Strengthening the various legal, institutional, and procedural elements of public investment management must precede discussions on diversified investors, public debt and/or guarantees.⁸⁸ Domestic revenue mobilization is a critical first step that both requires and demonstrates the reforms necessary to catalyse external investment. Globally, cities receive varying portions of their revenue from central government transfers, and as stated in previous

Box 8.4: Urban poor funds: Leveraging community finance

In recent years, alternative finance systems developed by the urban poor—which revolves around local savings schemes—are challenging traditional development assistance practices. Some development assistance agencies and governments have recognized their potential in mobilizing resources for local development interventions such as land acquisition, basic service provision, new housing and housing improvements.

Today, external finance from donors is blended with such community-based savings to enable more sizeable investments. The Urban Poor Fund International and Asian Coalition for Community Action are two major decentralized funds established to address urban poverty that have enabled organized urban poor communities to improve access to housing and basic services.

The Urban Poor Fund International is a subsidiary of Shack/Slum Dwellers International that provides capital to member national urban poor funds while the Asian Coalition for Community Action fund was set up by the Asian Coalition for Housing Rights.

Source: Walnycki, 2015; Asian Coalition for Housing Rights (<http://www.achr.net/about-whatwedo.php>); Urban Poor Fund International (<http://www.upfi.info/home/>).

sections, these are not always predictable and most often insufficient for delivering infrastructure and services. The share of these funds in local government finance varies between countries and regions. The share is much higher in developing countries, around 70–72 per cent, compared to 38–39 per cent in developed countries. This share has seen a decline in some countries.⁸⁹ In OECD countries, for instance, central government funding as the share of total municipal revenue fell by approximately 12 per cent, on average, between 2010 and 2016.⁹⁰ For urban infrastructure, direct budgetary contributions from national government remains a key source of finance, contributing about 40 per cent of infrastructure investment in developed countries and 60–65 per cent in emerging and developing countries.⁹¹

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Domestic revenue is an essential component of the spending needed to achieve the development agendas in cities. Therefore, strengthening domestic resource mobilization in line with SDG 17 is essential. Approximately half of low-income developing countries and nearly one-third of emerging market economies have a tax-to-GDP ratio of less than 13 per cent, which is considered a threshold for development. It is thus imperative that countries need to own responsibility for achieving the SDGs by building tax capacity through well-designed tax policies.⁹² These revenue optimization strategies should be socially acceptable, have minimal adverse impact on the economy—e.g. not raising the cost of living nor negatively affecting the competitiveness of the city—and be easy to implement.⁹³

Additionally, various levels of government need to strengthen the effectiveness of their tax systems by identifying and closing any existing loopholes. Existing data show diminishing tax contributions from multinational companies. This decline has been attributed to the “race to the bottom” culture of corporate tax policies designed to attract new investments.⁹⁴ For instance, from 2005 to 2017, global corporate tax rates fell from an average of 27.5 per cent to 22.9 per cent.⁹⁵ Meanwhile, the net profits of the world’s top ten global corporations have more than tripled in real terms, generating profits larger than the combined domestic revenues of 180 of the world’s poorest countries.⁹⁶ Along with declining corporate rates, less developed countries have a weak ability to effectively collect taxes.

Corporate tax evasion is further complicated by the prevalence of practices such as profit-shifting and tax havens. Estimates suggest that profit-shifting through creative accounting and transfer pricing with affiliated firms costs host countries upwards of US\$500 billion per year worldwide.⁹⁷ However, development partners are already aiding countries to fix the loopholes in their tax



A covered market in Addis Ababa, Ethiopia. © Andy Wasley/Shutterstock

systems. The Platform for Collaboration on Tax (PCT), launched in 2016 by the IMF, OECD, the United Nations and the World Bank, is supporting countries to achieve the SDGs by strengthening collaboration on domestic resource mobilization.⁹⁸ The Addis Tax Initiative, launched in 2015 at the Third International Conference on Financing for Development in Addis Ababa, is also helping build capacity and foster partner countries' efforts to increase reliance on domestic revenue to fund their development agenda and meet the SDGs by 2030.⁹⁹ Studies show that the LDCs could mobilize around US\$36 billion annually in additional revenues at current corporate tax rates if

The LDCs could mobilize around US\$36 billion annually in additional revenues at current corporate tax rates if properly enforced, and up to US\$50 billion per year if global cooperation also leads to higher corporate tax rates, plus the phaseout of corporate tax havens

properly enforced, and up to US\$50 billion per year if global cooperation also leads to higher corporate tax rates, plus the phaseout of corporate tax havens.¹⁰⁰

While optimizing revenue mobilization matters, improving value for money from investment is equally important. This calls for strengthening institutions for public investment management so as to achieve desired developmental outcomes while, at the same time, achieving quality and efficiency in spending on a city's physical assets. Efficient use of assets is also important, for instance by providing sufficient financial resources for operating and maintaining new and existing infrastructure. In Tanzania, for example, the national government, in collaboration with UNCDF, has trained 177 members of investment committees from 60 local government authorities on public investment management.¹⁰¹ Similarly, the African Development Bank is assisting Dakar, Senegal, to improve financial and administrative management systems as well as helping them to create financial mechanisms to attract new investments for sustainable urban development.¹⁰²

While optimizing revenue mobilization matters, improving value for money from investment is equally important

In the Asia-Pacific region, Cities Development Initiative for Asia (CDIA), a regional initiative conceived by the Asian Development Bank, with financial support from development partners, is providing investment management assistance to medium-sized cities that is key for bridging the gap between their development plans and implementation of their infrastructure investments. The initiative has worked with 125 cities in 17 countries in Asia, providing needed support **from strategic master planning to concrete policies and specific projects**, as well as support for cities to meet the requirements of financial institutions for well-formulated infrastructure projects.¹⁰³

8.3.2. Catalysing private investment

Today, private sector enthusiasm for sustainable development is strong and growing. There is a drive for private sector businesses, philanthropic institutions and individuals to help fulfil the global development agendas. However, translating interest into action in cities has been challenging. In spite of this challenge, there is an increasing appreciation of the role of private investment in closing the financing gap for hard and soft investments necessary for sustainable urban development. The major source of private

finance comes from corporate profits which can be invested via the finance industry, banks or other financial institutions such as pension funds, insurance companies, hedge funds and even foundations.¹⁰⁴ The Ontario Teachers' Pension Plan (Canada), for example, has stakes in infrastructure investments like airports, utility companies, high-speed rail and toll roads in various regions of the world.¹⁰⁵

In addition to domestic investment, overseas private investment flows will be required to meet infrastructure funding needs in many developing and emerging countries, including foreign direct investment (FDI) which is vital in generating new economic activities. In order to attract private investments in sustainable urbanization, countries must create an enabling environment with robust national urban policies, urban and territorial planning frameworks, and financial and legal systems. The availability of private investments for sustainable urban development depends on these pre-existing criteria to incentivize a greater share of the total available finance to be directed to cities.

In order to attract private investments in sustainable urbanization, countries must create an enabling environment with robust national urban policies, urban and territorial planning frameworks, and financial and legal systems

Institutional investors hold enormous assets and represent a potential source of substantial new capital (Box 8.3). The redirection of some of these assets would more than adequately finance sustainable urban development. One of the critical challenges, however, is to match available assets with infrastructure and SDG projects in a way that meets the needs of institutional investors and leverages the appropriate characteristics within their portfolios.

Of the many infrastructure financing methods, public-private partnerships (PPPs) have shown much promise in recent decades, especially when they are well-structured.

Institutional investors hold enormous assets and represent a potential source of substantial new capital

The fact that private capital flows have remained above the official development assistance flows since 2005—except 2015 and 2016—has sustained the interest of many parties in searching for profitable and impactful investment opportunities in urban environmental services.¹⁰⁶ However, executing PPPs is rife with challenges such as: “(i) functioning of public sector and political systems; (ii) private sector and commercial realities; and (iii) opposition to private sector involvement.”¹⁰⁷ If PPPs have to play an important role in regard to investing in the value of sustainable urbanization, it will require action on at least two important and interrelated fronts: first is *addressing the mayors’ dilemma* about the choice of PPPs to improve urban environmental services, and second is *assessing the performance of all partners*.¹⁰⁸

Additionally, there are numerous ways that all levels of governments can work with the private sector to mobilize investment using various public-private partnership structures to bring value to the public. Besides leveraging fiscal resources, PPPs offer other potential benefits such as introducing private sector technology and innovation, as well as securing private sector capabilities in the financing, design, construction and management of large projects.¹⁰⁹

To grow investments will require a focus on developing impact metrics and consolidating impact frameworks that are understood in both the public and private sectors. As mentioned above, in emerging and low-income developing countries, strengthening fiscal management and governance institutions must precede discussions of PPPs, for instance, to manage risk and avoid unexpected costs that undermine fiscal sustainability.¹¹⁰

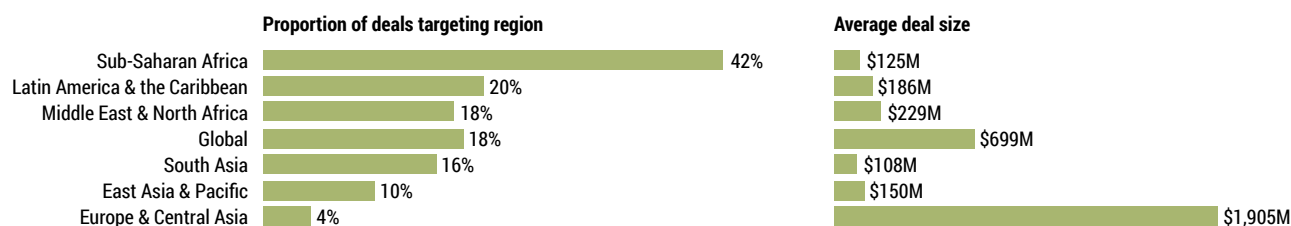
8.3.3. Tapping innovative financial resources

Besides strengthening the traditional source of subnational funding (such as taxes, fees and intergovernmental transfers), sustainable financing for urban development necessitates identifying and employing new revenue options. Today, there are several types of innovative financing mechanisms and instruments that could leverage sustainable resources for urban development.

Blended finance: The strategic use of catalytic capital from public and philanthropic sources to mobilize additional private sector investment has emerged as an important approach to financing the SDGs.¹¹¹ Sub-Saharan Africa has been the most frequently targeted region in blended finance transactions, a reflection of the significant needs of the continent as it relates to the SDGs (Figure 8.6).¹¹² The potential of this mechanism is visible in UN-Habitat’s Participatory Slum Upgrading Programme (PSUP) where the European Commission is piloting blended financing mechanism to finance slum upgrading for cities in Africa, the Caribbean, and the Pacific. The approach combines EU grants with loans or equity from public and private financiers with over €23 billion worth of EU funds financing around 280 projects.¹¹³ In the context of blended financing for infrastructure, the Sustainable Development Solution

Blended finance use should be anchored to a development rationale, designed to increase commercial finance, tailored to a local context, designed to ensure effective partnering and monitored for transparency and results

Figure 8.6: Blended finance: Number of deals and average deal size by region



Note: “Global” refers to blended finance transactions that do not have a regional focus
Source: Convergence, 2018.

Network (SDSN) estimates that about US\$50 billion per year in market financing of infrastructure projects could be raised through private debt and equity.¹⁴⁴ The OECD principles on blended finance provide a guiding framework to ensure that sustainability is achieved. Blended finance use should be anchored to a development rationale, designed to increase commercial finance, tailored to a local context, designed to ensure effective partnering and monitored for transparency and results.¹⁴⁵

Pooled financing mechanisms (PFMs): These entail a collaborative effort involving gathering the borrowing needs of a group of municipalities and raising the combined debt on the capital market or from other sources of finance. PFMs can be a viable way for most medium-sized and small local governments to access long-term and adequately priced debt financing. This is accomplished either through a state agency or through cooperation among local authorities.¹⁴⁶ The pooling of assets allows for a diversification of risks for investors. PFMs offer the following potential advantages:

- Give small and medium size local authorities access to capital markets;
- Reduce the cost of borrowing;
- Reduce the processing costs;
- Reduce risk through diversification, even for big cities;
- Reduce risk by providing financial expertise;
- Give incentives to improve creditworthiness;
- Are a conduit for the transfer of knowledge; and
- Increase transparency.¹⁴⁷

PFMs take many different forms depending on the context. In Europe, local government funding agencies (LGFAs) are the most common type of pooled financing vehicles prevalent. They include Kommuninvest (Sweden), Kommunekredi (Denmark), Bank Nederlandse Gemeenten (The Netherlands), Kommunalbanken (Norway), Munifin (Finland), Agence France Locale (France) and UK Municipal

Bond Agency (UK). These are special-purpose agencies owned and guaranteed by local authorities and, in some instances, with minority shareholding by central government or other public stakeholders. LGFAs issue bonds in capital markets and on-lends the proceeds to local authorities that are members or shareholders of the agency.¹⁴⁸ Similarly, in the Veneto Region of Italy, local municipal water utilities pooled individual mini bonds into a special purpose vehicle (SPV) in order to issue a €150 million bond on the market. The SPV structure was supported by a regional finance agency and utilities within the SPV, then enabled by a cornerstone investor (European Investment Bank).¹⁴⁹

The Municipal Finance Authority of British Columbia (Canada) has seen its objectives and mandate expanded over time to include pooled investment funds (PIFs) in 1989 and equipment financing in 1995. In 2019, the authority issued over Can\$1.2 billion of long-term securities and Can\$4.7 billion of short-term securities in the capital markets.¹²⁰

In India, the Central Government approved the Pooled Finance Development Fund Scheme in 2006 to provide credit enhancement to “urban local bodies” (municipalities) to access alternative sources of funding for their bankable projects.¹²¹ In 2019, China launched an innovative financial intermediary facility—the Shanghai Green Urban Financing and Services Co., Ltd—that allows small cities and towns in the Yangtze River Delta Region to access commercial funding by pooling their investment demand.¹²² PFMs are emerging in South Africa as an additional tool for mobilizing revenue. In sum, PFMs can be prioritized as a source of financing urban infrastructure needs in developing countries by giving local authorities access to domestic and international capital markets and by providing institutional investors with a new, attractive asset class.¹²³

Investment platforms: In recent years, investment platforms have emerged as a way to tap private capital and channel it into much needed projects. Such platforms have the advantage of matching investors with appropriate infrastructure projects and reducing transaction costs for investors. These platforms can operate at both municipal and national levels. Investment platforms are currently in operation in some major cities such as Chicago, where authorities have set up the Chicago Infrastructure Trust (CIT) to match public infrastructure projects to private

investors. The city administration is paying for the CIT's US\$2.5 million running costs, while private financial institutions have committed to investing US\$1.7 billion in the scheme.¹²⁴ Presently, investment platforms exist primarily in megacities, but smaller cities can benefit from regional and national platforms, such as the West Coast Infrastructure Exchange in the United States and the Green Investment Bank in the UK.¹²⁵ The aforementioned Cities Investment Facility will connect partners from the private and public sectors to catalyse investments that will help achieve the urban dimensions of the SDGs. As

the Decade of Action calls for accelerating sustainable solutions, these types of investment platforms will be instrumental to showcase a pipeline of bankable projects and assist cities in attracting private sector investment. Additionally, they are avenues for resource pooling, as earlier discussed.

Green bonds: Green bonds are increasingly being mobilized to deliver low-carbon infrastructure development. Global green bond and green loan issuance reached US\$257.7 billion in 2019, up by 51 per cent from 2018.¹²⁶ Currently,



A busy street in downtown Chicago, USA © BrandonKleinVideo/Shutterstock

green municipal bonds account for a very small share of the broader US\$3.7 trillion bond market, but the market is expected to grow as issuers look to diversify their buyer base and appeal to the expanding investor class using environmental, social and governance criteria to screen their investments. The need for energy efficient and clean technologies globally, especially in emerging economies where there is high demand, will help drive issuance going forward.¹²⁷ If managed properly, the green bond market can provide an important source of finance for sustainable infrastructure projects. Green bond financings by public and/or private entities have the potential to reduce financing costs, given strong receptive demand driving or encouraging environmentally supportive projects and economic growth.¹²⁸

Green bonds are increasingly being mobilized to deliver low-carbon infrastructure development. Global green bond and green loan issuance reached US\$257.7 billion in 2019, up by 51 per cent from 2018

The bulk of green municipal bond issuance is presently in the United States, Europe and Asia.¹²⁹ Other regions such as Africa and Latin America have the opportunity to develop innovative projects to tap into the green bond market, but the issuance of green bonds will depend on local market conditions, such as the administrative regulatory environment, project type and investor appetite. Further, green bonds are more expensive relative to traditional bonds and involve complex issuance processes. Local governments require strong capacity to engage in green bonds issuance, as well as monitor their environmental impacts.

8.3.4. Leveraging official development assistance

International development assistance remains a significant source of external finance for the implementation of the global development agendas; it makes up a significant amount of infrastructure funding throughout LDCs. The AAAA commits to reverse the decline in official development assistance (ODA) to such countries and encourages developed countries to make ODA commitments of 0.2 per cent of GNI to LDCs. To achieve the goals of the 2030 Agenda and the NUA, ODA and other forms of

To achieve the goals of the 2030 Agenda and the NUA, ODA and other forms of international public finance must be deployed and utilized more effectively. They should be aligned to local priorities and development interventions should carry a measure of local ownership

international public finance must be deployed and utilized more effectively. They should be aligned to local priorities and development interventions should carry a measure of local ownership. They should be country-led and specific to local needs and context. Thus, the strategies for development partners who are focused on supporting sustainable urban development need to evolve and adapt to local situations—which means, among others, using local systems, including results frameworks and public financial management and procurement systems. International assistance can play a pivotal role in enhancing local institutional capacities, which is an essential element of local ownership.

Finance is required not just for investments in physical assets, but also for project preparation, implementation, technical assistance, capacity building and the structuring of capital investment funding.¹³⁰ Further, international assistance could include supporting access to capital markets through soft funding and grants to blend with loans. The Swedish International Development Cooperation Agency (SIDA) guarantee instrument is playing a vital role in generating additional resources; the instrument is promoting sustainable development, inclusive economic growth and poverty reduction by unlocking existing financial resources and facilitating access to credit to target groups. In 2014, for instance, SIDA facilitated the Palestine Housing Guarantee Facility of US\$20 million to promote lending from Palestinian banks to SMEs in East Jerusalem, Gaza and in Area C in the West Bank where the availability of credit is limited. The instrument also promotes housing financing in East Jerusalem and Gaza. The guarantee is provided to the Middle East Investment Initiative (MEII), which in turn guarantees local banks.¹³¹

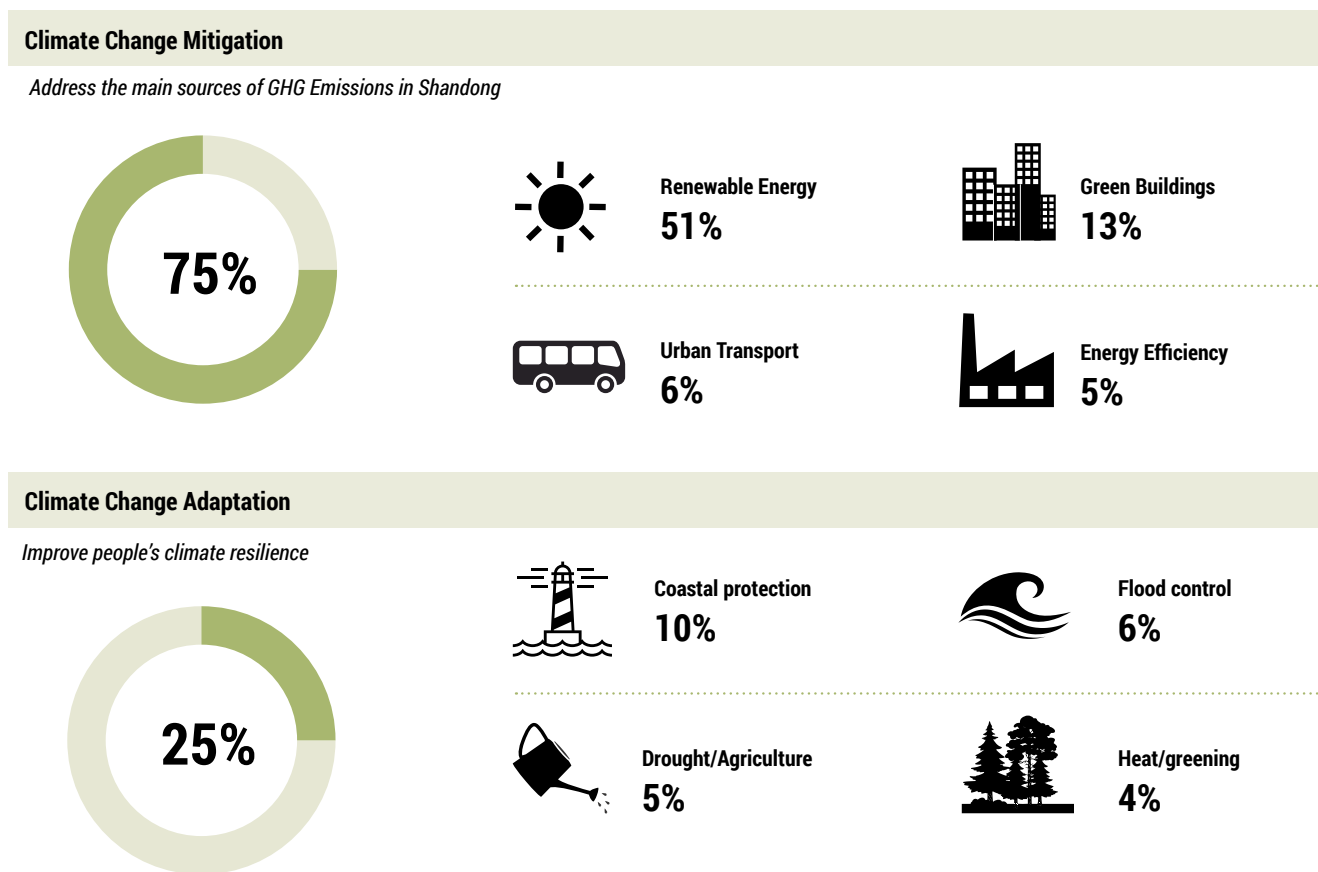
Since 2010, the Green Climate Fund (GCF) has emerged as an important player in ODA. The United Nations Framework Convention on Climate Change (UNFCCC)

established GCF in 2010 “as an operating entity of the financial mechanism of the Convention to support global climate action by promoting a low-emission and climate-resilient transition in developing countries”¹³² GCF is supporting resilient and sustainable urban development projects around the world, such as the metro network in Tbilisi (Georgia);¹³³ the development, construction and commissioning of renewable energy projects in nine energy-poor African countries through the Climate Investor One (CIO) facility;¹³⁴ renewable energy and energy-

efficient technologies in Mongolia;¹³⁵ and the transition to low-carbon and climate-resilient development in Shandong Province, China, through the Shandong Green Development Fund (Figure 8.7).¹³⁶

In recent years, China’s foreign aid and development spending have grown in prominence. Within the context of Belt and Road Initiative, China is providing loans, grants, and other resources for infrastructure investments across several countries (see Box 8.5).

Figure 8.7: Shandong Green Development Fund: Portfolio distribution



Source: Jenny et al, 2020.

Box 8.5: China's Belt and Road Initiative

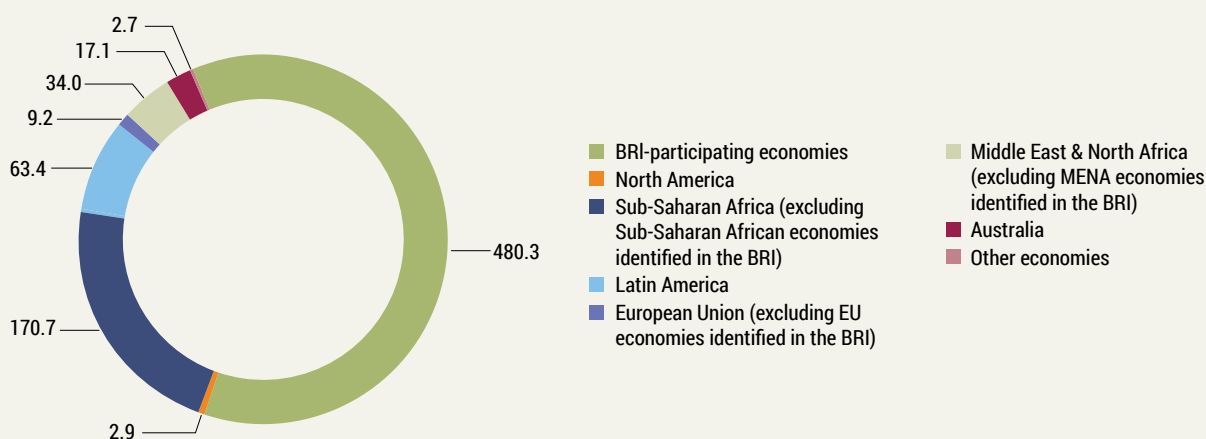
China is bolstering global efforts in investment infrastructure through the Belt and Road Initiative (BRI). The BRI aims to build connectivity and co-operation across six main economic corridors encompassing China and: Mongolia and Russia; Eurasian countries; Central and West Asia; Pakistan; other countries of the Indian subcontinent; and Indochina. The BRI-participating economies represent more than one-third of global GDP, and over half of the world's population. The initiative is a large project aimed at improving regional cooperation through better connectivity among countries lying on the ancient Silk Road and beyond. It includes the Silk Road Economic Belt on land and the 21st Century Maritime Silk Road at sea. BRI investment projects are estimated to add over US\$1 trillion of outward funding for foreign infrastructure over the decade from 2017–2027.

China has proposed a holistic implementation of the BRI, covering a number of broad aspects that will be important for achieving the SDGs. Thus, while infrastructure investment is a key aspect of the BRI, China states that it is much broader in its objectives, encompassing all aspects of sustainable growth for itself and including more balanced regional growth, the upgrading of its industry and greener economic growth at home.

The main sources of funding are the Chinese development banks: China Development Bank, Industrial and Commercial Bank of China, Bank of China, China Exim Bank, China Construction Bank, Silk Road Fund, New Development Bank, and Asian Infrastructure Investment Bank (AIIB), where China has voting rights.

Given the global infrastructure financing deficit, there is little doubt that the BRI is, by far, the most significant contribution to meeting these needs. Between 2005 and 2018, China's global construction projects (mainly infrastructure) across the globe amounted to US\$814.3 billion. US\$480.3 billion was in BRI-participating economies, US\$170.7 billion in Sub-Saharan Africa, US\$63.4 billion in Latin America and US\$34 billion in the Middle East and North African countries not part of the BRI. Chinese construction projects are relatively smaller in OECD countries, with Australia having the most significant at around US\$17.1 billion.

Chinese outward investment in the construction sector, cumulative notional amount expressed in billions of USD, 2005-2018



Source: OECD, 2018.



An aerial view of Canterbury informal settlement, Montego Bay, Jamaica. © UN-Habitat/Kirsten Milhahn

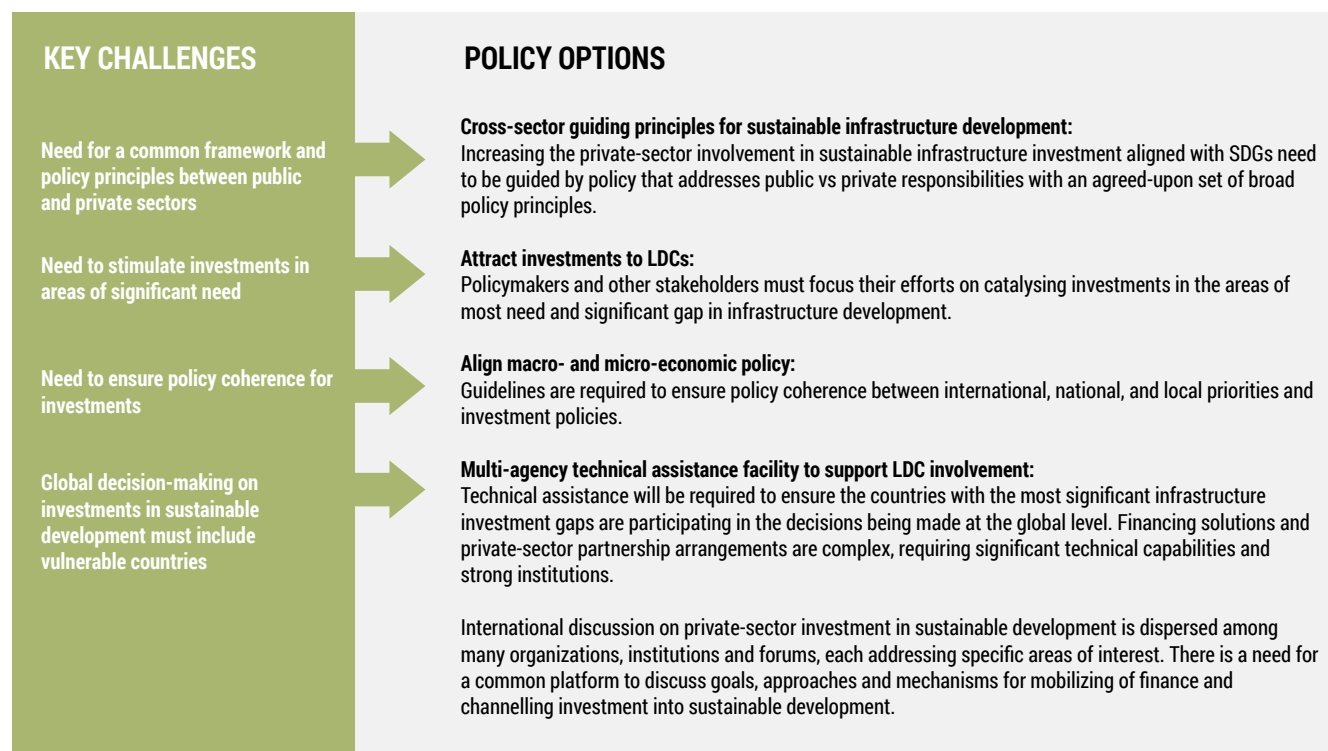
8.4. Concluding Remarks and Lessons for Policy

The COVID-19 pandemic has undeniably created an uncertain investment climate. The global economic consequences of the pandemic have shaken confidence in infrastructure investment with only five per cent of public and private sector leaders believing that investments will “increase significantly” following the pandemic, a sharp decline from 34 per cent before the crisis.¹³⁷

This temporary setback notwithstanding, the amount of funding required to meet the investment need in order to achieve the ambitions of the NUA and infrastructure-related SDGs is available. The challenge then globally is that these funds are not being invested in urban areas to the extent necessary to achieve sustainable urban development. In fact, investment levels decreased around the financial crisis of 2008 and have remained stagnant. There is no simple answer to closing the investment gap, but there are tangible actions that, if taken in a coordinated fashion, will create the necessary enabling environment

for governments to mobilize domestic revenues and build credit-worthiness so that they can attract increased private sector investment. Global institutions have a significant role to play in supporting LDCs. There is also a need for countries to ensure that investments in cities are aligned with the global development agendas.

The need for private-sector investment highlights competing priorities between maximizing economic returns and optimising environmental and social benefits on the other. Moving forward, the broad policy principles within the NUA and the SDGs must continue to be revisited and used as a guide to balance competing tensions (Figure 8.8). While the AAAA laid out investment targets, there is a need to focus targets in areas that have the largest investment needs, yet at the same time, have the least conducive investment climates, if cities and human settlements are to be inclusive, safe, resilient and sustainable for all. LDCs will require focused and strategic work from policymakers to improve public financial management and catalyse domestic revenues in order to attract investment. This work requires policy coherence

Figure 8.8: Sustainable urban investments: Key challenges and policy options for LDCs

Source: Adapted from UNCTAD, 2014.

across jurisdictions and levels of government, as well as globally, with internationally supported investments. The policy aims will not be fully responsive to the priorities of any one stakeholder, but global platforms that continue to bring public and private sectors together are crucial (Figure 8.8). In order to ensure that the most vulnerable countries are represented, and their needs recognized, international organizations must continue to provide technical assistance and capacity building across levels of government.

Although progress is being made in some contexts, action to realize the SDGs is not yet advancing at the speed or scale required to ensure that no one is left behind by 2030. Among the key aims of the Decade of Action is to mobilize movement toward attainment of the SDGs and unlocking financing for investment, especially in cities where the vast proportion of the global population resides. As has been discussed throughout this chapter, raising adequate finance requires concrete efforts. Some salient policy options are recounted below.

- *Sustainable municipal financing:* To realize the investments necessary for sustainable urbanization, municipal finance needs to move towards a position of self-sustainability. This calls for cities to have a diverse portfolio of revenue sources (and an improved capacity for revenue collection) as well as harness tools and innovative mechanisms (e.g. pooled financing mechanisms, blended finance, green municipal bonds and land-based finance instruments) to mobilize the resources needed to finance necessary infrastructure. Discussions about diversifying revenue sources necessitate a continued focus on public financial management practices at all levels of government, but particularly within local government. Involving the private sector and attracting investment funds will require evidence of efficient financial management.
- *Accelerated actions:* The time to realize the transformative commitments of the NUA and achieve the urban-related SDGs is short; five years have

already lapsed. It is thus imperative for policymakers to catalyse actions to support adequate investment in the four dimensions of the value of sustainable urbanization including human capital, institutions, innovation and technology that are crucial for making cities safe, inclusive, resilient, and sustainable. If investments are well planned and managed, they can accelerate city-led economic growth and serve as a bridge to ongoing involvement in the global market and in return create productive environments that attract additional investment.

- *Policy coherence:* Globally, urbanization is shaped by international cooperation policies and decisions made at all levels of governance. For cities to leverage investment for the development of sustainable infrastructure, they require alignment between international frameworks and domestic policies. Investing in sustainable urbanization calls for a policy framework that realigns local financial flows with local public goals. Urban governance should be underpinned by well-coordinated fiscal, political and administrative decentralization efforts, where local expenditure responsibilities are backed by reliable intergovernmental transfers and fiscal empowerment (e.g., the legal and technical capacity to levy taxes). Sustainable urbanization must be responsive to national context and sensitive to political and cultural context while guided by a lens of inclusiveness and equity. The NUA and the SDGs provide a broad framework guiding investment, but international actors must work with and support national and local governments to collaborate on decision-making in regard to achieving these international development agendas in a way that is responsive to local realities.
- *Precise estimate of needs:* The fiscal needs and combination of potential sources is unique for each country. Countries need to conduct precise estimates of their financing needs. They also require technical assistance to develop a national reform agenda that maps the infrastructure needs and the SDGs to national circumstances and aligns the complementary roles the various development partners can play in financing infrastructure development and maintenance needs.

As discussed in this chapter, the investment need in urban areas is significant and the need to meet it is urgent. While there is no simple answer to the challenges facing countries around the world, there are clear and critical first steps to securing investment. Globally, national governments, in association with their respective lower levels of government, must be empowered and equipped to build their own optimal financing mix in support of their efforts to invest in sustainable urban development. Creating the appropriate enabling environment for such investments demands a coordinated and coherent approach to sustainable urban development. Importantly, strengthening the various legal, institutional and procedural elements of public investment management must precede discussions of public debt and guarantees. The investment need will not be addressed by any actor in isolation; rather, it requires an impact-focused ecosystem of actors including the private and financial sector, public sector, civil society, residents and communities.

Endnotes

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8. United Nations, 2020.
9. United Nations, 2020.
10. Mahler et al, 2020.
11. United Nations, 2020.
12. Brooks et al., 2020.
13. UN-Habitat, 2020e.
14. The Inter-American Development Bank, for instance, defines sustainable infrastructure as “infrastructure projects that are planned, designed, constructed, operated, and decommissioned in a manner to ensure economic and financial, social, environmental (including climate resilience), and institutional sustainability over the entire life cycle of the project.” (IADB, 2018).
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34. Cities Climate Finance Leadership Alliance, 2015.
35. Godfrey and Zhao, 2016.
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41. UN-Habitat and UNICEF, 2020.
42. UN-Habitat, 2017c.
43. Tibajuka, 2009.
44. IEA, 2020b.
45. Godfrey and Zhao, 2016.
46. Bouton et al, 2015.
47. National Institute of Building Sciences, 2019.
48. Godfrey and Zhao, 2016.
49. Societe Generale and UNEP FI, 2018; IMF, 2015.
50. Walter (ed.), 2016.
51. ILO, 2020f; Lieuw-Kie-Song, 2020.
52. Good maintenance of physical assets in urban areas generate substantial savings from reduced total lifecycle cost.
53. World Bank, 2010.
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55. UN-Habitat, 2017c.
56. WBGU—German Advisory Council on Global Change, 2016.
57. United Nations Conference on Housing and Sustainable Urban Development, 2017.
58. World Bank, 2018c.
59. Monslave and Watsa, 2020.
60. World Bank, 2018c; Jamison and Summers, 2013; Hanushek and Woessmann, 2008; Barro, 2001.
61. Midgley, 2020.
62. Floater et al, 2017.
63. UN-Habitat, 2017c.
64. UN-Habitat, 2016e.
65. World Bank, 2013a.
66. UN-Habitat, 2017c; Bonilla and Zapparoli, 2017.
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77. UN-Habitat, 2012b.
78. World Bank, 2013; UN-Habitat, 2017c.
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81. Suzuki et al, 2015.
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84. Hart and Welham, 2016.
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92. Gaspar, et al., 2019: IMF recommends that countries increase their tax-to-GDP ratio by 5 percentage points of GDP over this decade (Gaspar, et al., 2019).
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96. SDSN, 2019; McKinsey 2015; Global Justice Now, 2015.
97. SDSN, 2019.
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