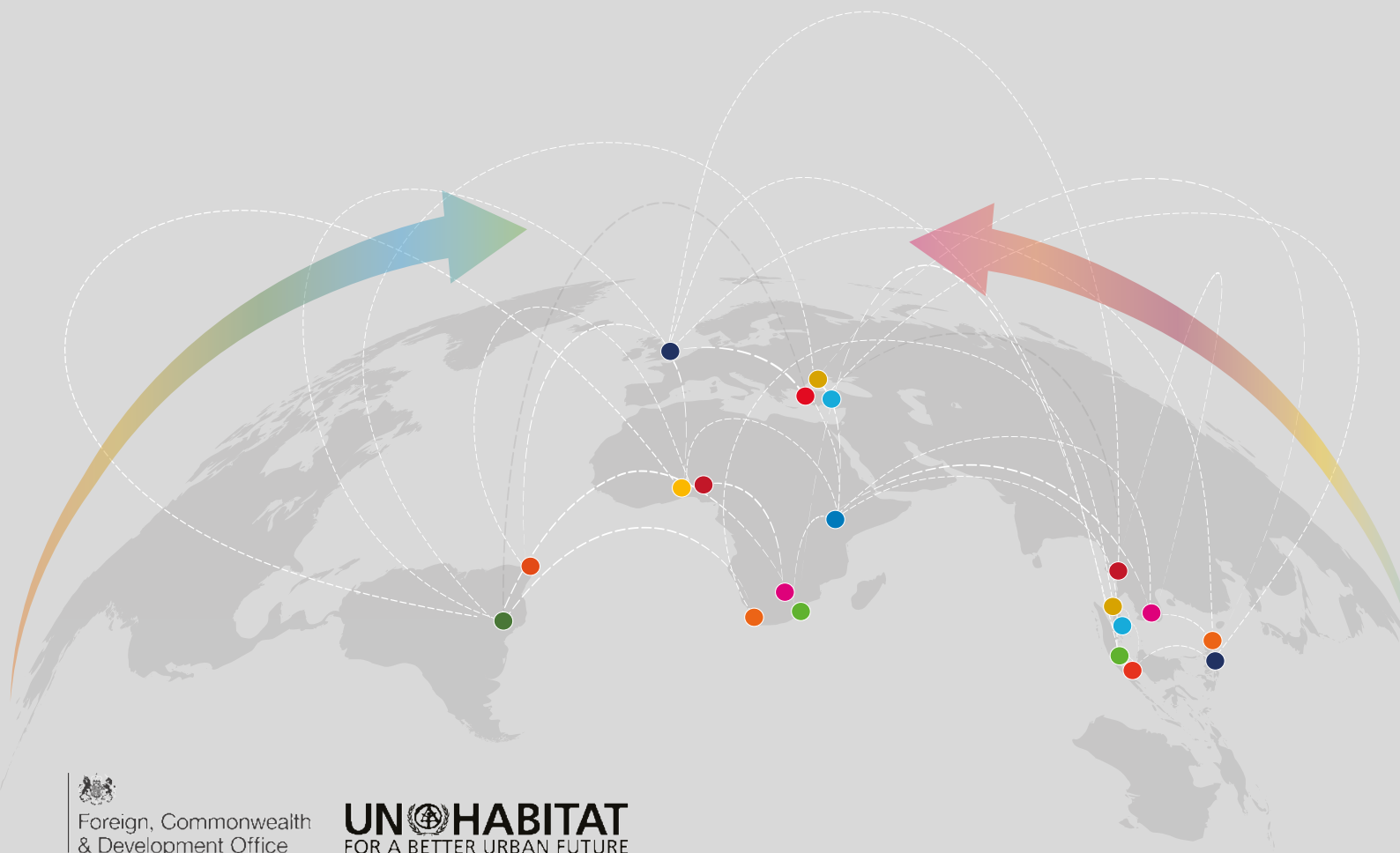




Integrating the SDGs in Urban Project Design

Recommendations from the
Global Future Cities Programme



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**Recommendations
from the Global
Future Cities
Programme**



Integrating the SDGs in Urban Project Design
Recommendations from the Global Future Cities Programme

1st Edition
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United Nations Human Settlements Programme (UN-Habitat)
P.O. Box 30030 00100 Nairobi GPO KENYA
Tel: +254-020-7623120 (Central Office)
www.unhabitat.org

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Acknowledgments

Principal author	Gregory Scruggs
Project supervisors	Naomi Hoogervorst, Klas Groth
Project manager and coordinator	Sara Thabit
Contributors	Fernando Almeida, Jean-Paul Hitipeuw, Mateus Lira, Clara Peter, Sara Thabit, Jean You
Reviewers	Karol Koh, Yelda Reis, Liz Gauntner, Atiqah Zailani
Graphic Design and Layout	Clara Peter (principal designer), Sara Vargues, Gregory Meckstroth

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Who is this report for?

Based on experiences from the Global Future Cities Programme, this report provides guidance to urban practitioners, local and regional authorities, national policymakers and investors about how to design urban projects that align with United Nations Sustainable Development Goals (SDGs) and accelerate national efforts to implement the SDGs through local action in rapidly urbanising cities.

Why read this report?

This report provides concrete recommendations to guide the design of urban projects that seek to enhance the implementation of the SDGs at the local level. These recommendations build upon the learnings from the Global Future Cities Programme, a four-year multi-partner programme, funded by the UK Foreign Commonwealth and Development Office (FCDO), that promotes sustainable development and increased prosperity in 19 cities across 10 countries. It provides technical and strategic support to cities, including knowledge sharing, with a focus on accelerating local SDG implementation and building the capacity of city authorities.

To prepare these recommendations, UN-Habitat relied on its experience applying the SDG Project Assessment Tool (also known as the SDG Tool), a digital framework to guide the development of urban projects against specific performance criteria drawn from the SDGs and the New Urban Agenda. UN-Habitat analysed all 31 projects in the Global Future Cities Programme to see where the projects encountered challenges and created innovations, then drew on that dataset to generate the following set of recommendations.

This report is complemented by a [three-part podcast](#), that provides listeners with an inside look at how the Global Future Cities Programme has facilitated the design and implementation of sustainable, multi-stakeholder urban projects across the world. In addition, the report is part of a series of normative publications generated by the Global Future Cities Programme and published by UN-Habitat. The other publications include:

- [Laying the Foundations for Transformative Urban Interventions in Emerging Economies: the Value of the Strategic Development Phase in the Global Future Cities Programme \(2019\)](#).
- [Addressing Systemic Barriers for Achieving Sustainable Urbanization in Emerging Economies: Learnings from the 19 Cities of the Global Future Cities Programme \(2019\)](#).
- [Partnering for Transformative SDG-Oriented Urban Development: Guidance for Multi-Partner Initiatives from the Global Future Cities Programme](#).

FOREWORD

In the Decade of Action, we need collaborative efforts to address emerging issues for a more prosperous, inclusive, and sustainable urban future. The 2030 Agenda for Sustainable Development provides the roadmap for global action. To meet the 17 Sustainable Development Goals (SDGs), we need actionable and localised initiatives that spur sustainable urban development.

The UK-funded Global Future Cities Programme has over the last several years brought partners from different sectors together to collaboratively develop and deliver 31 transformative local projects to drive prosperity and alleviate poverty, in 19 cities across 10 countries. Five private sector consortiums have together with respective city authorities developed projects with a focus on improved urban planning, mobility and transport, urban resilience, and data management.

UN-Habitat, as strategic and capacity building partner to the UK Foreign, Commonwealth & Development Office (UK FCDO), has supported delivery of the Programme through its urban lab. UN-Habitat has provided strategic advice and technical guidance to local authorities, while facilitating alignment of the projects with the New Urban Agenda and the SDGs, localising the global goals through the application of UN-Habitat's SDG Project Assessment Tool. The framework invites partners to guide the development of transformative urban projects collaboratively by measuring them against specific principles and performance criteria drawn from the SDGs and the New Urban Agenda.

Integrating the SDGs into the design of urban projects is an innovative practice that contributes to build capacity of city authorities, improve quality of delivery partners' outputs, and align short-term actions with cities' long-term objectives. This publication, the second in a series of two, offers hands-on recommendations for SDG-oriented project design, development and delivery based on the experience and lessons learned from projects developed under the Global Future Cities Programme. While every project and context is unique, this publication offers a benchmark for aligning future project development with the Sustainable Development Goals.

While this publication presents experiences and recommendations from a bottom-up approach, we also recommend using this publication in tandem with the first in this series, Partnering for Transformative SDG-Oriented Urban Development: Guidance for Multi-Partner Initiatives from the Global Future Cities Programme, which looks into the systemic issues, drivers and barriers associated with the setup and delivery of global, multi-partner urban development programmes that leave no one and no place behind.



Shipra Narang Suri

Chief, Urban Practices Branch - UN-Habitat
Nairobi, Kenya, March 2022

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Acronyms

CBO	Community Based Organisation
Emprel	Empresa Municipal de Informática
GBP	Great British Pound
GESI	Gender Equality and Social Inclusion
GFCP	Global Future Cities Programme
GIS	Geographic Information System
IMM	Isanbul Metropolitan Municipality
IRDA	Iskandar Regional Development Authority
SDGs	Sustainable Development Goals
SUMP	Sustainable Urban Mobility Plan
UKBEAG	United Kingdom Built Environment Advisory Group
UK FCDO	United Kingdom Foreign, Commonwealth & Development Office
UN-Habitat	United Nations Human Settlements Programme

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List of projects with codes

Brazil

IMEA: Intelligent Mobility in Espresso Amazonas in Belo Horizonte

UGDE: Data Ecosystem for Urban Governance in Recife

Indonesia

IPTS: Development of an Integrated Public Transport System in Bandung

UTPJ: Urban Transformation Plan for Putat Jaya in Surabaya

EPSS: Earthquake Preparedness Strategy for Surabaya

Malaysia

SIMMS: Implementation Strategy for Iskandar Smart Integrated Mobility Management System

GTHA: Green Transport Masterplan, Green Bus Network Implementation Plan and Heritage Area Integrated Mobility Plan

Myanmar

RSYC: Revitalising Streetscapes to Unlock the Potential of Yangon City's Assets

Nigeria

TPCB: Development of Transport Policy and Capacity Building in Abeokuta

GURP: Development of Guidelines for Urban Renewal Programmes in Lagos

PFWT: Feasibility Studies for the Development of Public and Freight Water Transportation in Lagos

Philippines

LTPC: Data and Strategic Foundations for Long-Term Planning in Cebu City

ISPN: Integrated Sustainability Plan for New Clark City

PDCP: Participatory Design of the Central Park for New Clark City

SLHS: Sustainable Livelihoods and Housing Strategy for New Clark City

South Africa

CTDS: Supporting the Implementation of the City of Cape Town's Data Strategy

ISIMS: Informal Settlement Information Management System for Durban

ETOD: Enhanced Institutional Governance Coordination for Supporting Alignment of Stakeholder Plans Working on Transit-Oriented Development in Durban

4IRJ: Review of the Fourth Industrial Revolution (4IR) Trends and Effects on Urban Mobility in Johannesburg

SAFJ: Strategic Area Framework and Associated Implementation Tools for Soweto "Triangle" in Johannesburg

Thailand

IDHB: Integrated Data Hub for Bangkok Metropolitan Administration

DSSF: Decision Support System for Flood Management for Bangkok Metropolitan Administration

TODP: Transit-Oriented Development Plan for Khlong Bang Luang Area and Bang Wa BTS Station in Bangkok

Turkey

BMPA: Bicycle Strategy, Master Plan and Pilot Implementation for Integrated Non-motorised Multimodal Transport in Ankara

HSCN: Increasing Quality and Accessibility of Streets in Çankaya Neighbourhoods in Ankara

TBSC: Transforming Bursa into a Smart City

SUTA: Sustainable Urban Transformation Approach for Bursa

UPRS: Urban Planning Training and Capacity Development Programme for Resilient Istanbul

SUMP: Sustainable Urban Mobility Plan for Istanbul

Viet Nam

GISDS: Development of Geographical Information System for Drainage System in Ho Chi Minh City

STSPT: Development of Smart Ticketing System for Public Transportation Network in Ho Chi Minh City

Executive Summary

An urgent need for accelerated action on the Sustainable Development Goals in cities

If the Sustainable Development Goals (SDGs) are to be achieved by 2030, there is an urgent need for to integrate the SDGs into the portfolio of urban projects that will drive transformation in cities and build the capacity of local governments to create sustainable urban development. All the SDGs have targets that relate directly to the work of local and regional governments.

By 2050, 68 per cent of the global population will live in urban areas, creating challenges for local governments, especially those in low-income and lower-middle-income countries, where urbanization is happening the fastest. While cities face mounting challenges, they are also the locus of solutions. When well-planned and well-managed, cities offer more economic productivity, better employment opportunities and improved quality of life.

By supporting rapidly urbanizing cities with transformative development initiatives, governments, institutions, and organizations can fulfil their commitments to meeting the SDGs and promote opportunities for increased prosperity. Programmes that tackle multiple challenges to sustainable urbanization and capitalize on the opportunities in fast-growing cities can drive transformative change and support development pathways that build resilience, create economic opportunities and improve the lives of people in cities.

Report Overview

This report provides a handbook on how to design SDG-oriented urban projects guidance in collaboration between the public sector, private sector and civil society through an iterative method that goes beyond the “business as usual approach” to sustainable urban development. It is based on experiences from the Global Future Cities Programme (GFCP), a three-year 80 million GBP (\$106.8 million) multi-partner initiative funded by the United Kingdom. The Programme supports 31 transformative projects that strengthen the enabling environment for sustainable urban development in line with the SDGs in 19 cities across 10 emerging economy countries.

The GFCP is a collaboration between the United Kingdom Foreign, Commonwealth & Development Office (UK FCDO), five private-sector delivery partners, UN-Habitat, and the UK Built Environment Advisory Group.

This report reviews the experience of teams comprised of the partners named above who worked to integrate the SDGs into the design of 31 projects in a systematic manner by using the SDG Project Assessment Tool. The subsequent analysis is built upon eight key drivers that underpin a total of seven chapters, each of which contains a set of hands-on recommendations to guide project design and draws on the real-world experience of the Global Future Cities Programme.



Figure 1: View of Cape Town © UN-Habitat

Key Messages



Integrate Social Inclusion Strategies (Chapter 2)

Mainstream social inclusion in all types of urban projects and throughout all project phases. Social inclusion cannot be seen as a box-checking exercise but rather an integral approach to urban projects, from the language in the tender issued by the public sector to the design proposal from the private sector.

While there is no one-size-fits-all approach to social inclusion, the SDG Tool helps the user unpack social inclusion and gender equality to better understand who the disadvantaged groups in an intervention area are and how exclusion takes place.

Ensure meaningful participation from disadvantaged groups through local level partnerships that enhance concrete implementation of inclusive proposals. It is fundamental for socially inclusive urban projects to build capacity among stakeholders involved in participatory processes like existing NGOs and CBOs that have an established presence in the intervention area so that they can bring their pre-existing knowledge and experience to the table throughout the life cycle of the project.

Make intentional use of digital technology for community engagement. Online and mobile tools are useful alternatives for reaching affected communities in the case of public health restrictions on in-person engagement as was the case during the height of the coronavirus disease (COVID-19) pandemic. Furthermore, in-person meetings should complement digital offerings, when possible, in order to reach residents with less digital literacy, such as older persons, and create a stronger bond between project teams and local communities.

Address both formal and informal economies, considering their relationship to transport accessibility and population density. In middle-income countries, cities have both formal and informal economies and labour markets. A socially inclusive approach to economic development takes into account both types of labour markets through detailed assessments on job availability and distribution, while also recognizing informal labour's economic contribution while supporting a sustainable transition to the formal economy.

Key Messages



Practice comprehensive spatial planning (Chapter 3)

Relate urban projects to other interventions, including urban visions, plans, projects and strategies, in order to build on synergies and avoid redundancy. Through proper cross-departmental and cross-institutional coordination, local authorities and delivery partners can identify opportunities for potential synergies between different aspects of urban projects in order to streamline workflows and conserve resources.

Accurate, reliable and multi-level spatial data is key to encourage integrated planning and holistic project design. One key element to enable an integrated approach to spatial planning is the superposition of various hard and soft layers of georeferenced information (e.g., built infrastructure as a hard layer, and economic uses as a soft one). This approach allows local planning authorities to identify targeted, context-specific interventions.

However, much of the most basic data about human populations and economic activities is not disaggregated to the city level or beyond, although new big data techniques and mobile user datasets are now available and already widely used by the private sector. There are opportunities for the public sector to catch up and use this spatially-disaggregated data in powerful ways.

Encourage the use of active, sustainable modes of transport through urban planning and design, paired with awareness-raising and incentives. After many decades with a focus on infrastructure to support single-occupancy private vehicles, optimizing motorised transport networks, spatial planning and urban design practice over the past decade have embraced a clear and conscious modal shift towards more sustainable transport. These concepts generate a triple bottom line that contributes to the SDGs by encouraging compact, mixed-use urban design to optimise socio-economic opportunities, minimizing travel distances and promoting walking and cycling over motorised alternatives.



Make projects environmentally resilient (Chapter 4)

Ensure that climate adaptation projects are comprehensive and incorporated into citywide frameworks. Urban projects addressing climate risks are too often standalone efforts unintegrated into broader citywide strategies. At their best, disaster risk reduction and resilience strategies are wholly integrated within a city's urban planning framework.

The project not only identifies urban communities that are vulnerable to environmental risks but also ensures their participation in planning processes. The United Nations Office for Disaster Risk Reduction defines risk as hazard times exposure times vulnerability, but a critical step for an urban project to align with the SDGs is to ensure that vulnerable communities are incorporated into planning processes by addressing their needs and encouraging their participation.

Build resilience capacity for both urban stakeholders and communities. Cities often indicate that their greatest needs to make their projects more environmentally resilient are technical support and capacity building. Providing technical training to communities is as important as increasing public awareness about environmental risk and dissemination of information that contributes to community preparedness and resilience.

Design with nature through climate-responsive urban interventions. Cities cannot build their way out of climate risk with concrete and steel alone. Rather, designing with nature is an effective way to channel rainstorms, conserve water during droughts and reduce urban heat island effect. Well-designed infrastructure projects consequently incorporate nature-based solutions alongside hard infrastructure for increased resilience at a reduced cost while also providing secondary benefits and ecosystem services.

Key Messages



Design data-driven processes and management (Chapter 5)

Build a data governance framework structured around specific data-driven committees with clearly defined tasks. A strong data governance framework is crucial to ensure that evidence-based integrated planning can be implemented sustainably. With specific committees for establishing strategic, operational and tactical initiatives towards data collection, processing, storage, protection and sharing, local governments will be more successful in delivering digital transformation.

Conduct in-depth data mapping to improve and optimise data-oriented services. In-depth data mapping is challenging, costly and time-consuming. Nevertheless, it remains the best method for municipalities to improve and optimise data-oriented services, update outdated practices, track integration incompatibilities and identify gaps and redundancies.

Source disaggregated data, outside formal and official channels if necessary, in order to ensure that hidden inequalities are addressed through policymaking. At such levels, data can reveal deprivations and inequalities that may not be fully reflected in aggregated data and hence help inform and promote evidence-based policymaking at every level.

Fully disaggregating data enables hidden trends to be exposed, allows vulnerable populations to be identified and can help establish the scope of the problem and give vulnerable groups more visibility to policymakers. When working in emerging economies, however, disaggregated data may not be readily available due to inadequate data collection systems.



Acknowledge and enhance the capacity of local urban actors (Chapter 6)

Build local capacity across sectors and at all levels as a critical component to securing long-term project implementation. The design and implementation of urban projects in emerging economies often involves the presence of international partners such as foreign aid agencies, multilateral organisations, consulting firms and multinational advisory groups. Fully capturing the value of this knowledge base for the benefit of local urban actors requires the integration of specific capacity-building activities from the initial phases of planning and project design through implementation.

Assess local capacities and involve local partners to deliver context-specific projects that enhance local economic growth. An assessment of local technical and professional capacity is required to guide the phases of project design and subsequent implementation and should focus on the preparedness of the local market and available professional capacity in relation to the specific urban project, including aspects around available skills, human resources and equipment.

The design of urban projects should both be consistent with the existing local capacities but also activate new opportunities to innovate and develop local capacity. On the one hand, project design should respond to the capacity of qualified and experienced built environment professionals to undertake the type and scale of projects in the short-, medium- and long-term, and when possible, build upon the existing infrastructure, systems or practices of the local context. On the other hand, innovative new solutions that can be realistically embedded in the city can trigger local growth and boost local capacity.

Key Messages



Endorse strong urban governance and legal frameworks (Chapter 7)

Develop strategic action plans to increase projects' long-term impact. Long-term strategic planning is crucial for cities to respond to both new and longstanding global challenges, such as decades of unchecked urban sprawl, realigned urban economies, persistent pockets of social exclusion and global pandemics like COVID-19.

Elaborating an action plan within a collaborative governance framework creates the conditions to withstand eventual changes in political leadership or overcome a lack of commitment to carry out projects through a long-term span. Risk assessments and built-in mitigation measures, including but not limited to strengthening institutional ownership at both high political and technical levels, are also key elements to successful long-term action plans.

Clearly define roles and responsibilities at all levels of government as a hedge against overlapping mandates. The clear communication inherent in integrated planning is also a strategic solution for avoiding overlapping projects and conflicting mandates. The lack of communication between branches of government subsequently leads to duplicate work. Beyond costly budgetary aspects, these conflicts create social and political stress that could be avoided.

But for clear and broad communication to take effect, cross-sector and cross-government coordination mechanisms should be established for assuring project legitimacy and buy-in. An efficient and collectively agreed chain of command is crucial for establishing procedures for handling conflicts at the same decision-making level while building prioritisation in a participatory way.



Integrate financial strategies (Chapter 8)

Financial strategies should be integrated early in the planning process of urban projects and pursue a project lifecycle approach. The SDG Tool includes a dedicated section on financial strategies, based on the importance of integrating financial considerations early on in the planning of urban projects, in order to enhance their capacity to effectively attain their expected benefits.

The ambitions of planners and policymakers should match the realities of financing. Designing and planning an urban project should go hand in hand with an assessment of the financial options for its implementation.

In cases where the design of an urban project is mostly oriented towards revenue generation, policymakers' profit-driven ambitions can lead to social and environmental drawbacks. Project planners must make the necessary adjustments to align the project's social and environmental objectives with its context-specific financing options.

01

Introduction

The Sustainable Development Goals (SDGs) are more than just abstract aspirations. They offer concrete guideposts that can be reflected in all aspects of sustainable development, including urban project development. In turn, the New Urban Agenda offers practical guidance for achieving the urban dimension of the SDGs by helping cities become well planned, managed and financed.

Inspired by the roadmap provided in the New Urban Agenda, the Global Future Cities Programme translated the SDGs into a set of tools and benchmarks against which urban projects could be measured and improved from planning to implementation. As a handbook, this report offers recommendations based on the multi-year experience of the Programme across 31 urban projects in 10 emerging economies.

1.1

Why the SDGs matter at the urban project level

When heads of state unanimously agreed to the Sustainable Development Goals (SDGs) in 2015 at United Nations Headquarters, their commitment was only the first step to a more sustainable and equitable future. Much work is required to translate into reality the Global Goals' lofty vision of ending poverty, improving health and education outcomes, establishing gender equality and halting climate change. Significantly, urban areas will be at the centre of those efforts, and about one third of all SDGs indicators are measurable at the city level.

As former UN Secretary-General Ban Ki-moon said in 2012, "Our struggle for global sustainability will be won or lost in cities." The global community took a major step forward in that struggle with the unanimous adoption of the New Urban Agenda in 2016, a voluntary agreement that sets the framework for how to achieve the SDGs at the local level. But even that framework does not present clearcut guidelines to the urban practitioner on the ground, from a civil engineer plotting a drainage project to a transport planner mapping out bus routes.

Ultimately, the struggle for global sustainability will be waged project by project as cities endeavour to meet their development needs. UN-Habitat estimates the total investment need for infrastructure and the SDGs at US\$38 trillion for the years 2020–2030, the so-called "Decade of Action" to accelerate SDG implementation. Further, estimates based on the investment trends from the pre-COVID-19 period indicated that there would still be an investment gap of US\$5.6 trillion following the trend at the time¹.

Whether through own-source revenues, national government financing, borrowing from international debt markets, overseas development assistance from foreign aid agencies, or philanthropic initiatives, local authorities will pursue urban projects to meet these investment needs. But without guideposts to orient their procurement efforts, cities, especially those in emerging economies, run the risk of designing and executing urban projects that are not up to the standard of the SDGs.

The need for such guideposts, which this report offers, is all the more urgent in the wake of the COVID-19 pandemic. As UN Under-Secretary-General Liu Zhenmin said on the occasion of the Sustainable Development Goals Report 2021, "The pandemic has halted, or reversed, years, or even decades of development progress. Global extreme poverty rose for the first time since 1998."² As the world begins to emerge from the ravishes of the COVID-19 pandemic in 2022, there is a pent-up demand to make up for lost time by aggressively pursuing delayed urban projects. The risk, however, is that local authorities and their private-sector partners will pursue "business as usual" with narrowly-focused urban projects that do not take a holistic approach to sustainable development.

But as this report shows, even singular projects can have a multiplier effect and improve outcomes across the SDG dashboard. Ultimately, ensuring urban projects are on the right path to achieve sustainable outcomes is essential and this report shows the way how with an empirical, data-driven approach.

Box 1. What is the Global Future Cities Programme?

The Global Future Cities Programme (GFCP) is a 80 million GBP (\$100.5 million) multi-partner initiative that exemplifies the ethos of SDG17. It was established in 2015, as a component of the UK Government Prosperity Fund. The Programme supports 31 projects that strengthen the enabling environment for sustainable urban development in line with the SDGs in 19 cities in 10 emerging economies (Brazil, Indonesia, Malaysia, Myanmar, Nigeria, Philippines, South Africa, Viet Nam, Turkey, and Thailand).

The GFCP was launched in recognition of the fact that around 440 fast-growing cities in emerging economies will contribute to nearly half of global economic growth by 2025. The GFCP aims for transformative development that leads to greater prosperity, reduction of poverty, inclusive economic growth and greater gender equality. The Programme is underpinned by three intertwined thematic pillars -- urban planning, transport and resilience -- supplemented by cross-cutting issues on smart technology, data and project financing.

UN-Habitat, along with Programme partners, build local authorities' capacity by providing technical and strategic support with a knowledge management platform to help cities improve their efforts in spatial planning, urban design, integrated transport systems, urban mobility, climate change response and environmental risk management. Many projects involve the use of smart technologies and improved data management to enhance evidence-based decision making and generate financial strategies that ensure long-term project viability.

When advising city authorities on project selection, UN-Habitat, UK FCDO and the UK Built Environment Advisory Group focused on projects with a strong potential to be replicated and/or scaled up in order to ensure that the capacity building accrued from learning-by-doing was not limited to one-off unique projects, but rather aim to be exemplary for future projects and shift the paradigm toward a new type of business as usual.



1.2

A handbook to design SDG-oriented urban projects

The Global Future Cities Programme showed how urban stakeholders can disrupt traditional business as usual through an integrated and interdisciplinary approach that fosters collaboration between diverse partners from different sectors to accelerate the SDGs. Building upon the learnings of the Programme, two normative publications have been developed.

The first volume in this two-part series, “Partnering for transformative SDG-oriented urban development. Guidance for multi-partner initiatives from the Global Future Cities Programme,” provides guidance on how to set up and implement multi-stakeholder programmes with a wide range of partners from different sectors, countries, and cities, while using the SDGs as a “common vision” to guide programme implementation. The second volume, represented by the present report, consists of a “handbook” of recommendations to develop urban projects from an SDG-oriented approach, focusing on concrete learnings from the 31 urban projects in 10 countries that went from conception to implementation during the Global Future Cities Programme. An interdisciplinary team led by UN-Habitat analysed each of these projects based on the “SDG Project Assessment Tool” (see page 24 and 25), that served as the common framework that guided all different projects across a period of two years.

As a result, the handbook provides recommendations around an **ecosystem of eight “key drivers”** that are strongly inspired by the core dimensions of the New Urban Agenda (see box 2).³



Partnering for Transformative SDG-Oriented Urban Development: Guidance for Multi-Partner Initiatives from the Global Future Cities Programme



Laying the Foundations for Transformative Urban Intervention in Emerging Economies: The Value of the Strategic Development Phase in the Global Future Cities Programme. 2019. <https://www.globalfuturecities.org/node/164>



Addressing Systemic Barriers for Achieving Sustainable Urbanization in Emerging Economies: Learnings from the 19 Cities of the Global Future Cities Programme. 2019. <https://www.globalfuturecities.org/node/165>



Figure 2: SDG Workshop in Durban, South Africa © UN-Habitat

The first four key drivers are predominantly **technical in nature**: social inclusion, economic development, spatial planning and environmental resilience. That is to say, they relate to an immediate topical issue: how to deliver an urban project.

The second four key drivers are predominantly about **effectiveness**: data-driven processes and management, local capacity for project implementation, urban governance and legal frameworks, and financial strategies. That is to say, they relate to a project's long-term sustainability. In this publication, two of the original key drivers have been merged (social inclusion and economic development), resulting into a total of seven chapters that structure the main recommendations of the present handbook.

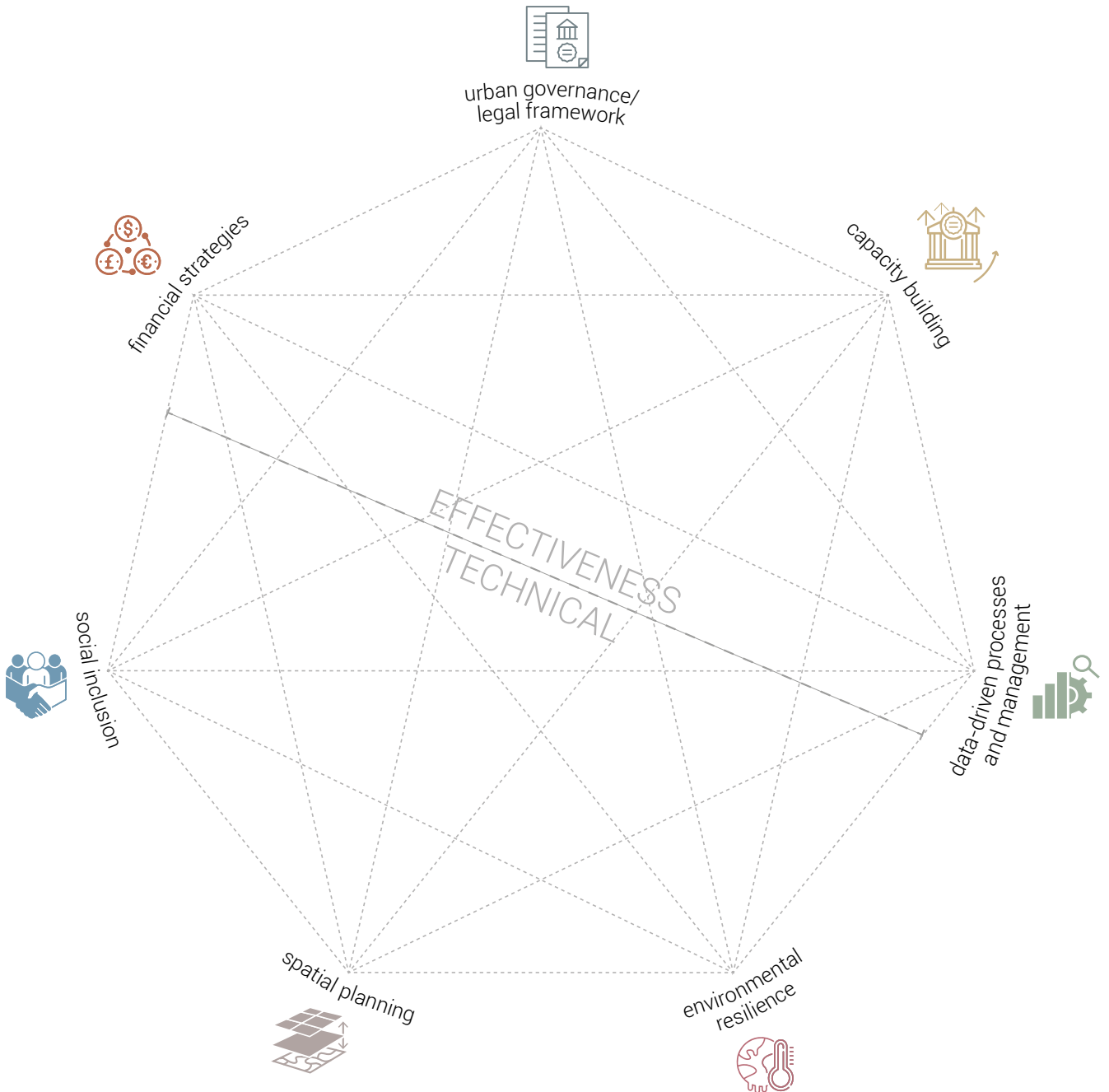
The key drivers provide the structure for the recommendations in this report because they are the building blocks of an integrated logic for approaching sustainable urban development. When undertaking an urban project, these key drivers should not be considered in isolation but rather as part of an interlinked system where all key drivers are interrelated. In addition to the set of recommendations per key driver, the report provides an analysis of the SDG targets that are most directly addressed by each of the seven key drivers. The analysis includes a graphical representation of the SDG targets that the different sustainability principles and performance criteria of the SDG Project Assessment Tool address.

Box 2. Key drivers

- **Technical aspects**: fundamental aspects that should be considered in the technical and conceptual design of projects for the promotion of safe, inclusive, resilient and sustainable cities.
- **Effectiveness aspects**: main elements that should be addressed within the projects in order to increase the likelihood of successful implementation and sustainability in the long-term.

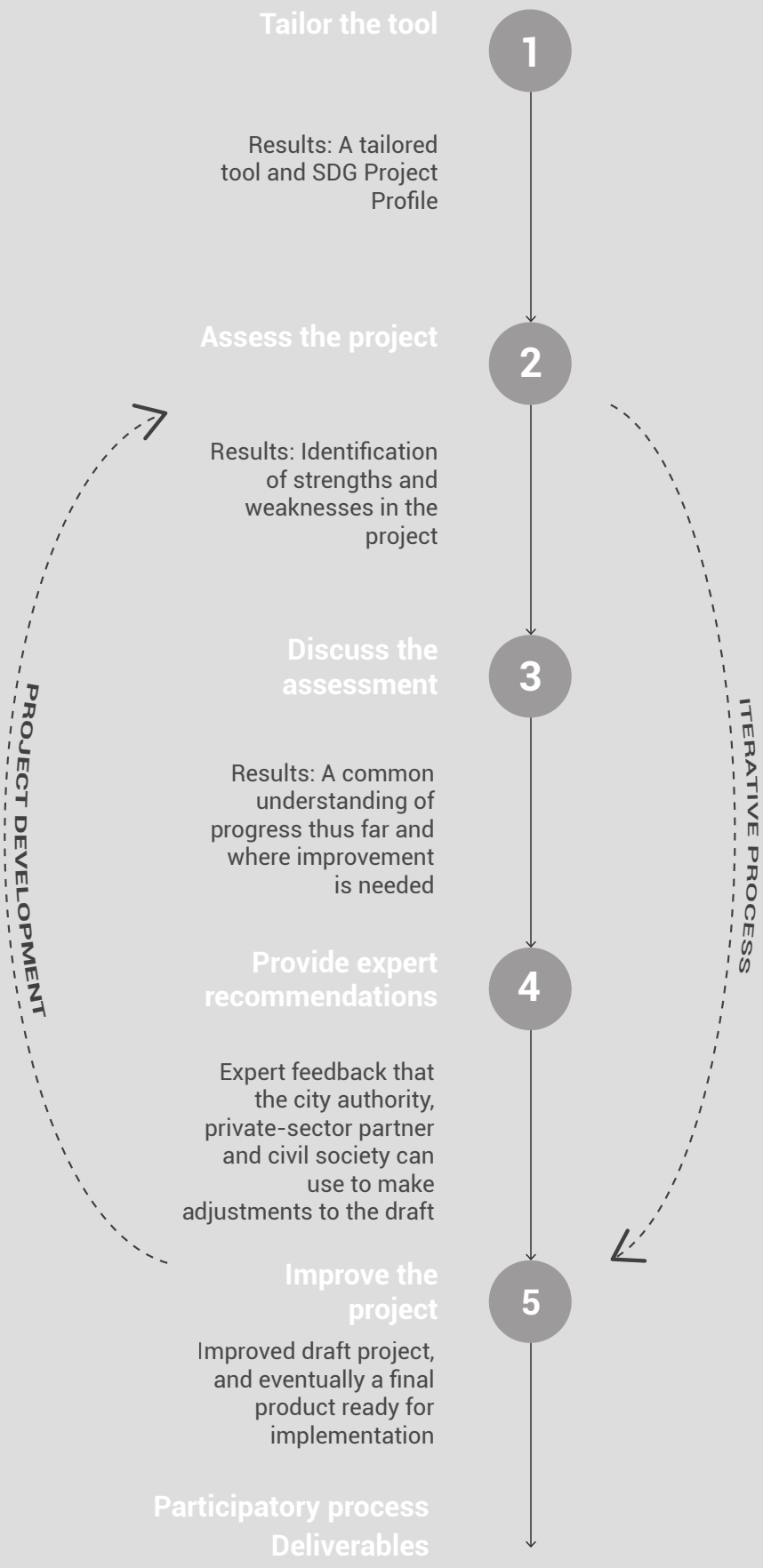
Within the universe of 31 projects, this report's recommendation draws heavily on concrete examples from 12 projects that illustrated the strongest linkages with SDG targets. In turn, four projects serve as case studies as they provide exemplary stories of the Programme's transformative impact. Finally, interviews with UN-Habitat staff and consultants, city authorities, private-sector partners and civil society stakeholders further inform the report and its recommendations.

Ecosystem of key drivers





SDG TOOL



The UN-Habitat Urban Planning and Design Lab developed the SDG Project Assessment Tool (also referred to as the SDG Tool) with the support of key experts within the organisation in the fields of urban planning, transport, resilience, legal frameworks, urban data and municipal finance. This user-friendly digital instrument guides city authorities and private sector partners in the development of more inclusive, sustainable and effective urban projects.

The Tool's purpose is to align with the scope of the Global Future Cities Programme and was applied in a wide range of urban contexts and projects during the programme's implementation phase. The main purpose of the SDG Tool is to increase the alignment of selected urban projects with the SDGs and the New Urban Agenda through a collaborative, practical project development guide. The Tool guides all relevant stakeholders, such as city officials, urban development consultants and civil society, through the process of incorporating the SDGs into technical project designs.

The SDG Tool provides a framework of normative statements grouped around eight "key drivers" that align with the transformative commitments for sustainable urban development identified within the New Urban Agenda.

The tool's two main components are **54 Sustainability Principles** and **291 Performance Criteria**. The SDG Tool translates New Urban Agenda commitments at the project level through the Sustainability Principles. In addition, the 54 Sustainability Principles are linked to the 169 targets of the SDG Global Indicator Framework.

The Sustainability Principles are further broken down into Performance Criteria, which are hands-on guidelines to guide how the principles are incorporated within the project design, and are based on global frameworks and UN-Habitat publications in relevant fields. Through this SDG alignment methodology, the tool can extract conclusions about how and to what extent an urban project incorporates the SDGs. Furthermore, the participatory process driven by the initial phases of the tool, serves to develop the guiding "SDG Project Profile" for each urban project.



Watch this video to learn more about the SDG Tool:

<https://www.youtube.com/watch?v=dPAIA-sDPZA>



Use the SDG Tool on your project:

<https://www.globalfuturecities.org/sdg-project>

02

Integrate Social Inclusion Strategies



In the urban context, social inclusion is both a process and an outcome that entails removing existing barriers as well as preventing the construction of new barriers so that all residents have equal access to the goods, services and opportunities cities have to offer⁴. Effective integration of social inclusion in urban policymaking promotes equitable results and improves public participation, particularly for vulnerable and disadvantaged groups. As such, a social inclusion framework in urban project delivery creates outcomes that enhance people's opportunities, abilities, dignity, access to resources and voice in decision-making⁵.

Well-designed socially inclusive approaches to urban projects involve identifying and addressing the multiple barriers that systematically shape the exclusion of certain groups from the achievement of their full participation in the social, economic and political life of cities. Therefore, a socially inclusive urban development process accounts for the various claims of affected communities, guaranteeing meaningful and long-lasting participation, beyond just short-term consultation. Incorporating social inclusion into project design and delivery aligns with the SDGs' basic premise of "Leave no one behind."

Urban investments have the potential to generate strong economic returns as cities are drivers of economic growth. However, if investors, policymakers and urban practitioners do not broaden the impact of these investments, the most vulnerable will be left behind and the project will not contribute toward achieving the SDGs. Additionally, engagement with marginalised groups can bring to light unanticipated consequences of urban projects, making them more responsive to the actual needs of the population. Broader buy-in is important for successful implementation, achieving project goals and avoiding political backlash. Creating cities for all ultimately contributes to economic development and social welfare.



Figure 3: Site visit in Cebu, The Philippines © UN-Habitat

Recommendation 1

Mainstream social inclusion in all types of urban projects and throughout all project phases

SDG-aligned urban projects should guarantee social inclusion is mainstreamed regardless of the scope and area of focus of projects. While some types of projects create more obvious opportunities for socially inclusive approaches (such as urban design interventions), others might not so readily lend themselves to a social inclusion framework (such as technical interventions focused on data management).

Regardless, in order to achieve SDG alignment all projects should include initiatives that increase meaningful public participation, target disadvantaged groups and create more equal outcomes in urban systems. For example, the Ho Chi Minh City (Viet Nam) GIS drainage project was technical in nature, but succeeded in incorporating vulnerability criteria when mapping flood-prone areas in order to target historically disadvantaged populations with much-needed interventions.

Moreover, since there is no one-size-fits-all approach to social inclusion, the SDG Tool helps the user unpack social inclusion and gender equality to better understand who the disadvantaged groups in an intervention area are and how exclusion takes place. For instance, in the Ho Chi Minh City (Viet Nam) smart ticketing project, the delivery partner conducted a resident survey to better understand the needs of specific disadvantaged groups in relation to public transport.

From such a comprehensive assessment, it is possible to tailor specific measures to make projects more inclusive. In turn, mechanisms to enhance social inclusion should be officially recognised and linked to existing legal frameworks.

Finally, it is necessary to ensure social inclusion is mainstreamed at every phase of urban planning and development processes. Social inclusion should be a priority from the inception phase of interventions and persist as a focus area even as projects evolve. In the Global Future Cities Programme, social inclusion was a priority from the development of projects' initial terms of reference. That early use of a social inclusion lens set the projects on the right track over the life cycle of their design and implementation. Moreover, regular application of the SDG Project Assessment Tool ensured that cities asked the right questions as part of a methodology that enshrined social inclusion as an ongoing concern. Finally, the creation of focus groups with affected communities guaranteed their involvement and ownership through a continuous participatory process.

Recommendation 2

Ensure meaningful participation from disadvantaged groups through local level partnerships that enhance concrete implementation of inclusive proposals

It is fundamental for socially inclusive urban projects to build capacity among stakeholders involved in participatory processes so that they can bring their pre-existing knowledge and experience to the table throughout the life cycle of the project. Consequently, projects should create links with existing NGOs and CBOs that have an established presence in the intervention area. Such alliances help guarantee meaningful participation for disadvantaged groups and generate local community buy-in that improves the likelihood of successful projects.

Turning to NGOs with on-the-ground experience and deep connections to disadvantaged and vulnerable groups is thus an effective strategy to mainstream social inclusion. In the Johannesburg (South Africa) Soweto “Triangle” project, the delivery partner consortium included the NGO Violence Prevention through Urban Upgrading, which used its pre-existing networks to forge connections in the Soweto township and enhance the amount of meaningful and long-lasting participation in the upgrading process (see City Story: Johannesburg).

NGOs were likewise key to the success of the Gender Equality and Social Inclusion (GESI) Consultative Group that informed both the Iskandar (Malaysia) mobility management and Melaka (Malaysia) green transport projects. The GESI Consultative Group is a committee of diverse stakeholders, champions and liaisons that receive specialised awareness training and then work with project

delivery partners not only to follow along with project updates but also to provide concrete project feedback. In Iskandar, organisations like the Johor Women’s League created a communication channel for the delivery partner to incorporate the needs of women and disadvantaged groups into transport projects (see City Story: Iskandar). In Melaka, the GESI Consultative Group members were invited to all technical working groups and focus group discussions throughout the design development phase, which resulted in positive changes to the Green Bus Network Master Plan. The experience was so successful that the local government is now considering the use of GESI committees in other urban projects.

As these experiences illustrate, participatory processes should be long-lasting and periodical, rather than merely one-time consultation. Programmes to raise awareness or provide information should be designed and implemented together with participatory events so that the vulnerable groups can understand the nature of particular urban challenges in order to best articulate their needs and demands. This level of preparation will increase their active participation. Finally, it is crucial to create space for the voices of each marginalised group to be heard. The Global Future Cities Programme has achieved this diversity of voices through the use of thematic focus groups, through which specific demands and priorities emerged.

Highlight

Social inclusion strategies acknowledge and address the specific needs of disadvantaged and marginalised groups, such as women, children, youth, older persons and persons with disabilities. As a result, an inclusive city is a place where everyone, regardless of their economic means, gender, race, ethnicity, religion, or sexual orientation, is enabled and empowered to fully participate in the social, economic and political opportunities that cities have to offer⁶.

Vulnerable and marginalised groups want to be heard. As the motto of the disability rights movement goes, "Nothing about us, without us."⁷ Even when urban project delivery partners pursue socially inclusive public participation, they must face the challenge that vulnerable and disadvantaged groups contain such a wide range of stakeholders in the urban context. Some are easier to reach and more willing to participate than others. Gender in particular can prove a particularly vexing challenge for social inclusion, especially in patriarchal or male-dominated societies.

Highlight

A true social inclusion mindset is a disruptor to business as usual for many local governments. Vulnerable and marginalised groups are frequently mistrustful of city authorities based on past experiences when urban projects led to forced evictions, displacement, or other negative outcomes. Private-sector partners are frequently unknown entities who will struggle to earn the confidence of vulnerable and marginalised groups. Cultivating trust for meaningful and long-lasting participation is a slow, painstaking process that may not be accomplished over the course of just one project. Gathering broad-based input can add significant time, and therefore cost, to urban projects. But the potential payoff is significant. Social inclusion underpins the "leave no one behind" mantra of the SDGs and is ultimately the path to social cohesion: community buy-in from all stakeholders for an urban project. Without such buy-in, a project will likely be doomed to failure. With such buy-in, a project has the constituency for success.



Figure 4: SDG Workshop in Bangkok, Thailand © UN-Habitat

Recommendation 3

Make intentional use of digital technology for community engagement

Online and mobile tools are useful alternatives for reaching affected communities in the case of public health restrictions on in-person engagement as was the case during the height of the coronavirus disease (COVID-19) pandemic. Such mechanisms can also facilitate community engagement and data gathering even when restrictive measures are not in place. Whether social media, survey websites or messaging platforms, it is crucial to assess the level of digital literacy among the targeted public in order to design a digital strategy employing tools that are familiar and accessible to local residents. Furthermore, in-person meetings should complement digital offerings, when possible, in order to reach residents with less digital literacy, such as older persons, and create a stronger bond between project teams and local communities.

The COVID-19 pandemic, which began partway through Global Future Cities Programme, led nearly every project to pivot to digital public engagement tools. The Ho Chi Minh City GIS project used a digital questionnaire to reach 500 survey participants to learn about the impacts of recent floods on urban poor households and women. The Recife (Brazil) data governance project leaned on 49 local leaders with ties to vulnerable groups to publicise an online form and encourage participation among their communities. In 11 days, the project generated 1,008 unique responses from across the entire metropolitan region of Recife. Cebu (Philippines) leaned into its

already popular municipal Facebook page to drive public engagement. The projects in Iskandar (Malaysia) and Melaka (Malaysia) collected household travel data from citizens using interactive mobile applications.

These experiences, while executed unexpectedly in an impromptu fashion, are likely to become the templates for permanent adoption of virtual tools that can supplement face-to-face forms of public participation for social inclusion in a so-called hybrid format. The Çankaya (Ankara, Turkey) healthy streets project likewise relied on a hybrid blend of street interviews, surveys, focus group meetings, interactive workshops and online design workshops. In Cebu, meanwhile, travel restrictions limited the ability of the delivery partner's ability to conduct face-to-face consultations. Instead, the delivery partner turned to an NGO, the Pagtambayayong Foundation, to organise focus groups and informant interviews. Pagtambayayong Foundation transported participants from their homes to the NGO's office, where a computer was set up for virtual consultations with the delivery team. NGO staff also visited selected respondents to conduct virtual key informant interviews onsite via mobile phones.

Five projects generated innovations in stakeholder and beneficiary mapping that examines how data may be generated and used by different groups.



Figure 5: A young boy taking photo with a phone during the World Habitat Day in Embu, Kenya 2012 © UN-Habitat

Recommendation 4

Address both formal and informal economies, considering their relationship to transport accessibility and population density

Urban projects can catalyse economic activity in cities, which is essential to generate sustainable livelihoods for urban residents as well as revenues for local governments. In low and middle-income countries, cities have both formal and informal economies. In formal labour markets, workers are registered with the state, pay taxes on their earnings and have legal rights and protections. In informal labour markets, workers are “off the books” and typically neither pay taxes on their wages nor can avail themselves of worker protections.

Most workers enter the informal economy due to a lack of opportunities in the formal sector. In this precarious condition, they may be exposed to human rights violations due to inadequate legal protections. Planning laws often do not recognise the spatial and infrastructural needs of informal workers and may pursue onerous regulations in public spaces that adversely impact informal workers such as street vendors⁸.

The COVID-19 pandemic has further aggravated the social and economic conditions of informal workers who depend on daily wages, many of whom saw their incomes diminish as public spaces became emptier and could not benefit from social protections due to their informal status⁹. A socially inclusive approach to economic development takes into account both types of labour markets through detailed assessments on job availability

Six projects faced challenges and three projects generated innovations in assessing their local labour market, including distribution of formal and informal jobs, and their relationship to transport and residential areas.

and distribution. In particular, urban projects should analyse how labour markets operate in relation to transport accessibility and population density. During the Global Future Cities Programme, the Melaka project surveyed businesses along Jonker Street, a major commercial thoroughfare in the city’s heritage area with a popular night market, and engaged the city’s merchant association through a virtual town hall.

Inclusive urban development should also recognise informal labour’s economic contribution while supporting a sustainable transition to the formal economy.¹⁰ In the Lagos (Nigeria) water transport project, the existing informal community of boat operators has been included in project discussions. As such, the future water transport network will potentially incorporate and formalise current informal providers of water transport.



Figure 6: Site visit in Bandung Putat Jaya, Indonesia © Mott MacDonald Future Cities Programme

Similarly, in the Bandung (Indonesia) integrated public transport project, specific measures are being promoted to incorporate and formalise informal transport providers. Providing guidance and capacity building is also a crucial aspect of inclusive economic development in cities. For instance, the Surabaya (Indonesia) urban transformation project has been delivering entrepreneurship training and mentoring to low-income micro, small and medium enterprises, promoting inclusive economic growth in the Putat Jaya area.

In Yangon (Myanmar), the inclusion of local beneficiaries like business owners and trishaw drivers in the project assessment process provided the city authority with insights and evidence-based feedback to inform future regulations of streetscapes in the city's CBD. However, this process was interrupted by Myanmar's military coup in February 2021.

Highlight

Although cities in emerging economies are expected to power global economic development in the coming decade, much work remains to be done to harness local economic development through urban project delivery. Neither local authorities nor private-sector partners have adequately prioritised this issue, which is an essential cross-cutting key driver for successful projects. Without local economic development, cities will not thrive and become prosperous to the benefit of both urban dwellers and the local governments that provide municipal services for them.



Figure 7: Analysis of the most addressed SDG targets of the Social Inclusion key driver, in accordance with the "SDG Project Assessment Tool" General Framework

SDG 1.1

By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day

SDG 1.4

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

SDG 5.1

End all forms of discrimination against all women and girls everywhere

SDG 8.3

Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including through access to financial services

SDG 10.2

By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

SDG 10.3

Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

SDG 10.4

Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

SDG 11.1

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

SDG 11.2

By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

SDG 11.7

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

SDG 16.7

Ensure responsive, inclusive, participatory and representative decision-making at all levels

SDG 17.18

By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

How the SDGs relate to Social Inclusion

The “Social Inclusion” key driver of the SDG Project Assessment Tool departs from the very fundamental aspect of preventing extreme poverty (SDG target 1.1) and is concerned with ensuring that the benefits of urbanisation are accessible to all, on various scales – from adequate housing to quality transport and urban services, or land tenure security (SDG targets 1.4, 11.1). Adequate access to transportation services, and the spatial distribution of economic activities and jobs are essential aspects (SDG targets 1.4, 10.2, 11.2), as well as access to greenery, open space and social amenities in the city, especially to people with special needs or people with disabilities (SDG target 11.7).

The inclusion of vulnerable groups requires a comprehensive understanding of their specific needs in each urban project and providing solutions that are coherent with the local context: urban projects should assess the needs and demands of the most vulnerable and integrate solutions that are diverse from social, cultural and economic perspectives including cross-cutting aspects such as gender and age (SDG targets 1.1, 1.4, 5.1).

Furthermore, urban projects should consider climate-related issues concerning urban security and a reduction in deaths due to urban scarcity and calamity (SDG target 11.5), by integrating climate change measures (SDG target 13.2) and assessing housing locations by means of risk reduction and risk mapping of climate change impacts.

Social inclusion should also be understood by means of local economic development. Project decisions should assess formal and informal economic clusters and the labor market data across the city (SDG target 8.3). By acknowledging the reality of the informal market, urban projects encourage a linkage between formal and informal employment and a more realistic understanding of local urban dynamics, which influence broader urban aspects related to, for example, dwellers accessibility to the labor-market (SDG target 11.2).

Urban projects should rely on comprehensive datasets that ensure representativeness by disaggregated data (age, sex, race, disability etc.), and prevent the exclusion of vulnerable groups such as woman and girls (SDG targets 5.1, 16.7, 17.18) Data collection can be made in innovative manners, and explore how it can be used by different groups including policymakers to “ensure responsive, inclusive, participatory and representative decision-making at all levels” (SDG target 16.7). This lays the ground for the key drivers' relation to the SDG Target 10.3, which should facilitate the delivery of equitable policies and non-discriminatory law.

City Story: Building Malaysian Civil Society's Capacity to Address Urban Issues

The causeway linking Johor Bahru, Malaysia to Woodlands, Singapore is among the busiest border crossings in the world. Prior to the COVID-19 pandemic, which shut down international travel between Singapore and Malaysia, about 400,000 daily traverse the 1-km sea channel separating countries by bus, private car and train. A rapid transit system link is expected to open in 2024¹¹. Despite having such a major mobility corridor in their vicinity, civil society in Johor state, Malaysia has not traditionally advocating on this issue.

“Transportation is not a very common social issue for NGOs”

Thanam Visvanathan-Suresh, past president of the Johor Women's League (JEWEL)

That oversight changed when JEWEL and other NGOs began engaging with the Iskandar Redevelopment Authority (IRDA) to provide a gender equality and social inclusion (GESI) perspective on the region's proposed implementation strategy for the Smart Integrated Mobility Management System (SIMMS). Six different constituencies – women, youth, urban poor households, indigenous, persons with disabilities and older persons – were consulted for their inputs on their travel needs to inform a broader strategy for managing mobility in the fast-growing region, which will likely see traffic congestion and air pollution worsen without interventions in low-carbon public transport and alternatives to private automobiles. “How the rights of women, children and indigenous people are connected to transport was a very new thing,” says Visvanathan-Suresh. “Urban is very new focus area. Our space was on rights issues.” Historically, JEWEL advocated on issues like fighting child sexual abuse and lobbying for children's access to justice.

Through a series of GESI trainings and workshops led by UN-Habitat, IRDA and private sector delivery partner Mott MacDonald, the civil society groups

slowly began to learn how mobility intersects with their identity groups. “You could see the direct relevance to the disabled,” Visvanathan-Suresh says. “For the average other person, transport is something you use and that was it. I wouldn't say IRDA was wildly successful in changing perspectives, but they got the ball rolling and kept at it. There was a commitment to keeping up GESI.”

As a regional authority, IRDA has extensive experience in public consultations and was well-equipped to build local capacity among these disadvantaged and vulnerable groups. “Bringing people together is part and parcel of what we do in implementing projects,” says IRDA Senior Vice-President for Resilient Environment Kamisah Mohammed Ghazali.

For IRDA and Mott MacDonald, the GESI consultative group yielded valuable insights. For example, one member from the persons with disabilities constituency navigates the region in a wheelchair. He explained how a lack of proper pavement inhibits his ability to enter some shops in urban areas. As a result of that feedback, Mott MacDonald developed an application to collect data on facilities for disabled users, which will eventually provide inputs to SIMMS. “All that data that we crowdsource from the community, specifically from the marginalised community, will hopefully help to make policy decisions as well through the broader integrated mobility management system,” says Ghazali.

These kinds of real-world implications for mobility planning in Iskandar will help the region leave no one behind as part of its commitment to the SDGs. Likewise, Malaysian civil society now has increased capacity to channel its advocacy efforts in support of SDG implementation. “The SDG lens has now taken root here,” says Visvanathan-Suresh.

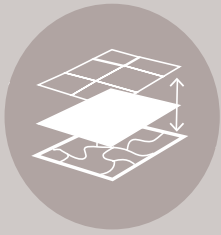


Figure 8: Workshop in Iskandar, Malaysia © UN-Habitat

03

Practice

Comprehensive Spatial Planning



Urban and territorial planning is a decision-making process aimed at realising economic, social, cultural and environmental goals through the development of spatial visions, strategies and plans. Urban practitioners rely on public policy principles, technological tools, participatory mechanisms and regulatory procedures to arrive at these decisions. Spatial planning exists on a multiscale continuum: supranational and transboundary, national, city-region and metropolitan, and city and municipal levels.

At the city and municipal level, sound city planning strategies and integrated development plans prioritise investment decisions and encourage synergies and interactions between separate urbanised areas. Sustainable land-use plans protect environmentally-sensitive areas and regulate land markets to avoid unchecked sprawl. Urban extension and infill plans minimise transport and service delivery costs, optimise the use of land, and support the protection and organisation of urban open spaces. Urban upgrading and retrofitting plans increase residential and economic densities and promote more socially integrated communities¹².

Spatial planning is a key driver for urban project delivery across any thematic area because the built environment underpins the form and function of cities. Cities exist precisely because of the benefits arising from a dense spatial arrangement of economic actors. For example, the number of streets in a city is directly correlated to urban prosperity. Cities are more likely to prosper when they recognise the relevance of properly laid out public spaces and allocate sufficient land to street development, including sufficient crossings along an appropriate lengthy network. Those cities that have failed to integrate the multi-functionality of streets tend to have lesser infrastructure development, lower productivity and a poorer quality of life¹³.



Figure 9: View of Johannesburg, South Africa © UN-Habitat

Recommendation 1

Relate the spatial impact of urban projects to other interventions in order to build on synergies and avoid redundancy

Urban delivery often yields complex projects that require approval and buy-in from various authorities and stakeholders. They frequently require large budgets and intensive time commitments while impacting a wide range of stakeholders. Therefore, city authorities should build on synergies and avoid overlap, or in worst case, conflicting projects. Through proper cross-departmental and cross-institutional coordination, local authorities and delivery partners can identify opportunities for potential synergies between different aspects of urban projects in order to streamline workflows and conserve resources.

For example, at the start of the Yangon (Myanmar) project, a pilot for public space upgrades of two street sections, the delivery partner made an assessment with the city authorities and Yangon Regional Government of potential synergies with other urban projects. From this assessment, the team identified several standalone upgrading projects from other city authorities, such as planned infrastructure upgrades by the municipality's Department of Roads and Bridges and semi-governmental institutions such as the Yangon Electricity Supply Company. The delivery partner's assessment identified potential synergies with both public works projects. A challenge, however, was the lack of digital georeferenced data to spatially coordinate and superpose this information, which would have made this assessment exercise more time efficient.

Long-term spatial plans should have a timeline that extends beyond short-term political offices, thus ensuring continuity in spatial planning across local government administrations. This level of continuity creates certainty and predictability, which encourages public-, private- and charitable-sector urban development in line with the city's future goals. Such sophisticated levels of spatial planning usually require enabling legislation at a higher level of government, such as state, provincial or national, that permits a local authority to engage in long-range planning.

Cebu (Philippines), for example, sought to prepare a Roadmap for Cebu 2030 plan, but the city struggled with the fact that there is no bigger institutional body for planning at a larger scale. Innovative proposals in Lagos are nevertheless tempered by the limits of national laws on shared land ownership.

Eleven projects faced challenges and generated innovations in their relationship to other interventions, including plans, projects and strategies, to build on synergies and avoid overlap

Recommendation 2

Accurate, reliable and multi-level spatial data is key to encourage integrated planning and holistic project design

Spatial planning requires an integrated, holistic approach built upon a comprehensive understanding of the local context at different levels. To do so, accurate and reliable spatial data that can be superposed is required. The superpositioning approach allows local planning authorities to identify targeted, context-specific interventions. For example, in the Yangon (Myanmar) streetscapes project, various hard layers of georeferenced information such as physical building footprints, underground infrastructure and tree locations were superposed on top of soft layers of georeferenced information such as tangible and intangible heritage locations, as well as mapped information based on street interviews with local users on how they perceive and value their surroundings. This method informed and underpinned the design and decision-making process and helped create buy-in from different stakeholders.

Much of the most basic data about human populations and economic activities is not disaggregated to the city or neighbourhood level. Part of the reason for this failing is that survey methodologies have not caught up to the era of big data, limiting sample size and spatial disaggregation. However, new big data techniques and mobile user datasets are now available and already widely used by the private sector. For example, in many cities, Google Maps shows traffic congestion levels by street and block. There are opportunities for the public sector to catch up and use this spatially-disaggregated data in powerful ways.

Thematic spatial data is also a powerful tool to guide negotiations around project design, and ensure the final solution responds to local needs and requirements. For instance, in the Ho Chi Minh City (Viet Nam) GIS project, the delivery partner used geographic information systems as a spatial planning tool to set guard rails around urban development in flood-prone areas, despite economic pressures to develop such risky land.

The Bangkok (Thailand) drainage project likewise prepared flood modelling maps that assess existing land with the goal of informing the Bangkok Metropolitan Administration so that it can make better decisions about flood management. Technology was also at the heart of the Iskandar SIMMS project, which developed or deployed a suite of digital applications to engage citizens, including vulnerable groups: PerjalananKu Household Travel Survey app, Citizens Feedback Portal, ITS Audit OKU, Accessibility app, Cycling Infrastructure app and GIS data analytics.

Seven projects faced challenges and eight projects uncovered innovations in the use of smart technologies to help design and deliver urban services to all residents, as well as considering how barriers to technology may affect how vulnerable groups can access services.



Figure 10: Spatial analysis for the Healthy Streets project in Ankara. Source: ARUP Turkey

In Lagos (Nigeria), the development of guidelines for urban renewal programmes led to innovative proposals around shared land ownership and slum upgrading, which could prevent forced evictions and land grabs that are a recurring issue in the Nigerian capital. In this instance, spatial planning proposals promote social inclusion by proposing legal safeguards for the most vulnerable, such as slum dwellers and urban poor households. The Lagos State Urban Renewal Agency signed a memorandum of understanding with a broad variety of stakeholders,

including academia, to address data gaps through collection and analysis. This partnership will operate in conjunction with a multi-stakeholder committee that includes low-income communities, civil society organisations and government ministries whose portfolios address social inclusion. Partnering with academia is common practice, but the introduction of a multi-stakeholder approach is new for Lagos state. This convergence of knowledge through data and urban guidelines helps to contribute towards integrated, holistic urban planning and design.

Recommendation 3

Encourage the use of active, sustainable modes of transport through urban planning and design, paired with awareness-raising and incentives

In the thematic area of mobility, spatial planning plays a vital role through the distribution of land uses and planning of interconnectivity between residential and key economic areas through mobility networks. After many decades optimising motorised transport networks to support single-occupancy private vehicles, spatial planning and urban design practice over the past decade has embraced a clear and conscious modal shift towards more sustainable transport. Increasingly, local authorities are making their residents aware that walking, cycling, public transport and car-sharing lead to personal and environmental health benefits. Concepts are now trending globally such as the “15-minute city,” in which daily needs and basic services are available within a 15-minute walking, cycling, or transit distance of homes, and “healthy cities,” which promote healthier, safer and greener environments and lifestyles by prioritising active modes of transportation, reducing noise and improving air quality. These concepts generate a triple bottom line that contributes to the SDGs by encouraging compact, mixed-use urban design to optimise socio-economic opportunities, minimising travel distances and promoting walking and cycling over motorised alternatives (see City Story: Istanbul).

In the Çankaya (Ankara, Turkey) healthy streets project, the SDG Project Assessment Tool provided successful guidance in designing a project methodology

that analyses the existing site to develop urban design solutions in the pilot area that promote walking and cycling and demote motorised transport. The framework of the SDG Tool helped to spark and guide the discussions on aspects such as road safety, security and inclusivity. The project is based on an incremental approach to urban design in the redesign of streetscapes and street profile designs that could easily be scaled up and replicated. By reducing barriers such as noise, air pollution, accessibility and lack of seating and shelter, the Healthy Streets approach seeks to improve an area’s streetscapes through the creation of more public spaces and road safety instruments while also regenerating commercial and social activities that enhance community participation, including from vulnerable groups.

The Yangon (Myanmar) streetscapes project likewise has used spatial planning to recalibrate the relationship between cars, pedestrians and cyclists in a public realm where the automobile has become more dominant. Through comparison between historic imagery and pictures of the project sites from today, change-over-time analysis helped visualise the spatial and qualitative impact of the rise of cars. In addition, this comparative assessment raised awareness about the latent potential of existing streetscapes and helped to create buy-in from stakeholders for street revitalisation in favour of vibrant, pedestrian-oriented and cycle-friendly public spaces.



Figure 11: Street view Durban, South Africa © UN-Habitat

Highlight

Spatial planning is at the heart of sustainable urban development. Without a vision for where buildings, streets, sidewalks, transport links, drainage canals, sewer systems, parks, public spaces and other components of urban infrastructure will be located and how they will interact with one another, a city is unlikely to emerge as well-planned and managed for the benefit of all urban dwellers. The Global Future Cities Programme and the SDG Assessment Tool provided insights for how spatial planning plays a key role in the ecosystem of drivers for sustainable urban development, regardless of the thematic focus of a project. Without comprehensive spatial planning, urban project delivery will flounder for lack of a coordinated vision.

Five projects both faced challenges and generated innovations in their effort to include advocacy, awareness-raising and incentives that encourage the use of active modes of transport, emphasising personal and environmental health benefits.

Recommendation 4

Build capacity through learning-by-doing (pilot) projects

Spatial planning requires technical knowhow usually obtained at the university level in dedicated urban planning, city and regional planning, or town and country planning academic programmes. However, many emerging economies lack the academic infrastructure to train the next generation of spatial planners. Aspiring candidates must travel abroad to developed countries for such training, which is costly and can lead to brain drain. Moreover, trained planners need institutional support from municipal government through dedicated municipal planning departments or secretariats, as well as roles for planners in other relevant departments such as transport and housing.

Research in the Commonwealth countries indicates that the number of registered town planners per 1,000 professionals in emerging economies lags behind developed economies, even as the former have higher rates of urban growth¹⁴. Well-planned cities feature legally binding spatial planning instruments such as zoning overlays and form-based codes that guide urban development from infill to planned urban extensions to transit-oriented development.

In contexts where spatial planning capacity is limited and/or a comprehensive planning practice is absent, one can introduce replicable (and if possible scalable) learning-by-doing pilot projects. In order to

select a replicable pilot project, city authorities and delivery partners should assess whether a chosen site is representative for other similar urban projects to extract lessons learned from one context to other contexts. The design of pilot selection criteria is very helpful for the prioritisation of site selections. In the case of Yangon, where the city authority has both a limited capacity and mandate to conduct spatial planning, the most essential innovative practice was to introduce replicable and scalable learning-by-doing pilot projects. Two sites were selected, each with complementary characteristics: one prominent high street in the historic downtown area with a higher density and one important street section outside the downtown area, with a lower density profile. These pilots each provided lessons learned and evidence-based recommendations for other future urban development projects, documented in capacity building manuals.

Another example of this trend comes from the Lagos (Nigeria) urban renewal project. The financing and implementation arrangements were informed by a former project where the value of land was leveraged to incentivise redevelopment and densification while allowing the original residents to move back to the redeveloped area. The project had both successes and challenges that influenced the urban renewal guidelines developed through the Global Future Cities Programme.



Figure 12: Group Discussions - Workshop in Yangon City Charrette, Myanmar © UN-Habitat

Additionally, a demonstration project in the Otto Action Area was planned to show how the guidelines could be used.

Finally, the Surabaya (Indonesia) urban transformation project has thought outside of the box with a different approach to spatial planning in urban kampongs, traditional clusters of low-rise housing populated by rural-to-urban migrants and their descendants. By bringing in residents from other kampongs in the city to share knowledge, residents of the Putat Jaya kampung, the focus area of the project, have begun to learn from their peers in a new, more bottom-up and peer-to-peer method of triggering urban transformation.

Highlight

Proper spatial planning requires a holistic approach that takes into consideration the above-mentioned multiscale continuum and synthesises the various hard and soft layers of information, such as demographics, socio-economics, mobility networks, environmental infrastructure, economic drivers, and heritage value through “superpositioning” of georeferenced data. Superpositioning is a type of geographic analysis in which data are placed in overlay so that various design scenarios can be explored. The results are also known as “spatial overlays.” Despite constraints, the Global Future Cities Programme yielded an array of innovative practices in the field of spatial planning while tackling thematic areas like resilience, technology, mobility, and public space.



Figure 13: Analysis of the most addressed SDG targets of the Spatial Planning key driver, in accordance with the “SDG Project Assessment Tool” General Framework

SDG 1.4

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

SDG 3.9

By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

SDG 5.1

End all forms of discrimination against all women and girls everywhere

SDG 9.1

Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

SDG 10.2

By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

SDG 11.1

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

SDG 11.2

By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

SDG 11.3

By 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

SDG 11.6

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

SDG 11.7

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

SDG 11.a

Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

SDG 13.2

Integrate climate change measures into national policies, strategies and planning

SDG 16.7

Ensure responsive, inclusive, participatory and representative decision-making at all levels

How the SDGs relate to spatial planning

A sustainable approach to urban spatial planning comprises multiple, interconnected dimensions: from the equitable distribution of urban services (SDG targets 1.4, 11.1, 11.2, 11.7) to the protection of natural ecosystems (SDG targets 3.9, 9.4, 11.6, 13.2), and the promotion of compact urban areas that enhance local economic development (SDG targets 1.4, 8.3, 10.2) and the use of public transport and non-motorised mobility solutions (SDG targets 3.9, 11.2, 11.6). The “Spatial Planning” key driver of the SDG Project Assessment Tool provides a comprehensive description of these dimensions and their alignment with various SDG targets.

Urban projects should be based on the comprehensive understanding of spatial distribution and quality of urban services (e.g., basic services, mobility systems, social facilities and public space) and ensure their accessibility for all, especially vulnerable and marginalised groups (SDG targets 1.4, 5.1, 11.1, 11.2, 11.7). At the same time, urban infrastructure projects should be planned in accordance with the growing trends in a determined urban area and respond to both the current and projected future population needs, considering participatory approaches with existing communities and an integrated approach at different scales –neighbourhood, city-municipal, city-region, metropolitan, and national scale (SDG targets 5.1, 9.1, 11.3, 11.a, 16.7).

Promoting a compact urban form that involves appropriate densities and mixed land use, benefits the promotion of economies of agglomeration that generate locally based and neighbourhood-level economic activities and job creation (SDG targets 1.4, 8.3, 10.2). Urban regeneration projects and the upgrading of buildings and urban services in existing built-up areas help to prevent the destruction of natural ecosystems and urban sprawl (SDG targets 3.9, 9.4, 11.6, 13.2). Likewise, the promotion of non-motorised transport, in combination with adequate public transport and transit-oriented corridors improve ease of access and efficiency of movement within urban environments (SDG 9.1, 11.2, 11.6, 11.7).

The protection of both environmental and cultural assets should be mainstreamed in any urban project (SDG target 11.4) and secured in urban rules and legislation (SDG targets 11.3, 13.2). Urban design solutions should be climate responsive and promote nature-based solutions that enhance urban resilience –from permeable surfaces to water retention areas- (SDG targets 11.5, 11.b, 13.1, 13.2), and ensure human comfort responding to the city's climatic conditions –through, for example, shade or ventilation corridors (SDG target 11.7). Particularly, public spaces comprise a key aspect of the spatial planning key driver, as they promote healthier living conditions (SDG targets 3.9, 11.7) and contribute to the spatial continuity of natural ecosystems between the city and its natural surroundings (SDG target 11.a).

City Story: How Disaggregated Data from the SDG Assessment Tool Builds Trust and Unlocks Value for Soweto Township

Made famous in the struggle against apartheid, Soweto is a township in Johannesburg initially developed as a blacks-only ghetto. Since South Africa ended apartheid in 1994, the predominantly residential district has slowly integrated into the rest of the city. While there are affluent pockets of Soweto as some residents have been able to take advantage of newfound access to the South African economy, wealth inequality and infrastructure disparities persist. The 2011 census reported 355,351 households in Soweto. Among these, only 55% had piped water inside their dwelling, while around 93% had electricity of lighting, and around 91% had access to a flush toilet connected to a sewerage system¹⁵. A housing shortage has led many poorer Sowetans to rent out informal backyard shacks¹⁶. Soweto's residential character also means that residents must travel outside the district for job opportunities, but the urban form of the district could accommodate more mixed-use economic development.

To make sense of Soweto's challenges, the City of Johannesburg Department of City Transformation and Spatial Planning engaged an urban planning consortium to develop a Strategic Area Framework for a 26 square km triangle of land within the district. The SDG Assessment Tool highlights disaggregated data as an essential baseline for urban projects, but acquiring data to better understand the particularities of Soweto's challenges, and thus propose potential opportunities, was difficult in a city like Johannesburg that does not break municipal data down to a neighbourhood level.

"The challenge is not unique to Soweto or the study area," says Mbalenhle Chemane, Senior Specialist and Strategic Urban Planner at the Department of City Transformation and Spatial Planning. "It's a citywide issue." Moreover, when the consortium inquired with other municipal departments to request data on infrastructure like stormwater, electricity and drainage in order to

develop a more accurate portrait of Soweto, they were rebuffed due to a lack of trust within city government.

"We would still get a backlash and generally not get the data for 'security reasons' or 'unavailability,' even if those reasons are inaccurate," says Chemane. "That leads to more work to then duplicate the data. Unwillingness to assist has been one of the biggest challenges."

To overcome these challenges, consortium partner Violence Prevention through Urban Upgrading, a South African NGO with a strong track record working in disadvantaged township communities, led a comprehensive community participation process. Through advertisements via newspaper and radio, the consortium recruited representatives from 14 different wards to form the Community Reference Group.

This novel approach was a departure from business as usual for urban projects in Johannesburg. "There's a disconnect between what our governments are planning versus what the communities need and want for themselves," says urban planner Monique Cranna with Zutari, one of the consortium members.

In the legislation that defines our public participation process, it wouldn't be necessary to engage the public. If you do, it's more in a cursory manner where you will have your documents printed in a library. You may or may not be required to do a couple of workshops. But there's not a true level of meaningful engagement. As a result, you lose the voices of the community and the various stakeholders by not going down to that level."

Monique Cranna (urban planner) with Zutari (consortium member)



Figure 14: Group Discussions - Workshop in Soweto, Johannesburg, South Africa © UN-Habitat

By contrast, the participatory process that underpins the Global Future Cities Programme methodology and as reflected in the SDG Assessment Tool hears out local communities before bringing a proposed urban project to the table. “The difference is we’re not going in with any idea,” says Thandeka Mlaza-Lloyd, Assistant Director of the Department of City Transformation and Spatial Planning. “We’re going in with a blank page.”

Through the series of workshops and engagements that the consortium conducted in Soweto, that blank page quickly filled up with key insights. For example, the consortium learned that 88% of landowners were older than 50, having originally received the land from the government, and they were subsequently not leveraging their land for annuity income. Instead, they rented housing in their backyards informally as an income supplement, but if formalised, this rental housing could provide reliable annuity income to help these residents maintain their livelihoods after their working years.

Another key insight from disaggregated data concerned a lack of access to formal finance. The consortium discovered that many Soweto residents are not credit-worthy by formal financial standards because of unemployment, criminal record or other institutional barriers. That led the consortium to develop a proposal for a mechanism to access finance from non-traditional lenders.

“How do we repair or redraft the social contract between the city and the community to get them to start trusting one another, to get them to start communicating and building a relationship?” asks Cranna. “Disaggregating our data to be more considerate of gender and social inclusion and exploring these issues together with the different stakeholders has been really powerful.”

The consortium also conducted focus groups with informal traders, whose economy activity is not captured by formal municipal data collection systems.

The ability to customise the SDG Assessment Tool in order to focus on concerns specific to Soweto made the tool exceptionally useful to the city. “It was very useful to understand that there are indicators enabling you to measure your progress,” says Chemane. “The SDG Tool was very important in terms of bringing the SDGs down to a more practical level,” says Mlaza-Lloyd.

But beyond technical considerations, the Global Future Cities Programme and the SDG Assessment Tool enabled a broader transformation to take place in Soweto, especially in the wake of the July 2021 civil unrest in South Africa that included incidents of rioting and looting in Johannesburg.

04

Make Projects Environmentally Resilient



In an urban context, environmental resilience is the ability of a city to withstand shocks and stresses from natural systems. Shocks include sudden, extreme weather events such as hurricanes, typhoons, tsunamis, earthquakes, volcanic eruptions and heatwaves. Stresses include longer-term, slower-acting phenomena like sea-level rise, a warming climate and drought. Environmental resilience is a catalyst for sustainable urban development. It ensures development gains are not lost when cities face environmental shocks and stresses, while also creating the conditions for urban residents to flourish in a safe environment and simultaneously address major challenges such as climate change and rapid urbanisation.

Urban systems can become more environmentally resilient by adopting green infrastructure that uses vegetation and other living ecosystems to improve a city's ability to respond to environmental shocks and stresses. For example, installing a rain garden in lieu of concrete can absorb heavy rainfall, thus preventing urban flooding and the overwhelming of stormwater facilities. In tropical climates, planting or restoring mangroves along coastlines can absorb high waves, thus protecting coastal and low-lying areas from storm surge. In turn, green infrastructure like rain gardens and mangroves also provide ecosystem services, such as habitat for wildlife.

The Global Future Cities Programme faced many challenges in elevating environmental resilience on the agenda of cities and delivery partners. In projects with significant environmental resilience potential, such as the Melaka (Malaysia) green transport project and Lagos (Nigeria) urban renewal guidelines project, the subject was not addressed in the project outcome. Despite these challenges, some innovative practices emerged in the GFCCP that inform broader recommendations to make urban projects environmentally resilient.

Recommendation 1

Ensure that climate adaptation projects are comprehensive and incorporated into citywide frameworks

Urban projects addressing climate risks are too often standalone efforts unintegrated into broader citywide strategies. As cities begin to recognise the need for data-driven policies and technological application for urban risk management, there has been a rise in the development of technical products.

However, these approaches tend to be narrowly-defined engineering solutions designed to address a specific problem in a specific location with a specific intervention. While technical capacity and expertise are essential for successful climate adaptation, these projects also have the highest impact when incorporated with other long-term plans, especially development and spatial schemes such as master plans and land-use policies. At their best, disaster risk reduction and resilience strategies are wholly integrated within a city's urban planning framework.

For example, the Bangkok (Thailand) flood management project had an explicit environmental resilience focus with the objective of developing a flood hazard map, improving rainfall forecasting, retaining more urban water and improving disaster preparedness and communication. While the project is making efforts to go beyond centralising data and focus on how the Bangkok Metropolitan Administration can respond to flooding and optimise the use of flood prediction, the project modified the scope and was unable to develop a plan for evacuation and relocation to ensure effective disaster response. In this early stage of addressing a complex, multifactorial

problem, the GFCP was only able to review the city authority's existing flood emergency response procedures and generate initial recommendations.

Similarly, the database developed from the Ho Chi Minh City (Viet Nam) GIS drainage system project is considered the city's first official database for planning policies; however, its implementation within larger plans is not clear. For instance, when the project conducts flood modeling tasks, it has to consider zoning and will propose actions to minimise the city's exposure to climate risks. The GIS team will also briefly propose that no new construction be located within environmentally-sensitive areas. However, such recommendations will have challenges in implementation, as the city's current priority is economic development in both the short and medium terms. For the project to have an impact, the city will need to consider how to incorporate valuable data systems into the city's urban policies and master plans.

The Central Park design project in New Clark City (Philippines) exemplifies a more holistic planning process. The planned city has proposed a sponge park integrated into a wider open-space strategy within the master plan. Not only does the project consider the park's connection to other open spaces, it also incorporates the park into the wider transportation network and creates connectivity to the regional context through the study of green boulevards, BRT nodes and bicycle paths.



Figure 15: Bangkok city view, Thailand © UN-Habitat

Seven projects encountered challenges and three projects generated innovations in planning to maintain and protect infrastructure and other critical built assets in the event of a disaster.

Recommendation 2

The project not only identifies urban communities that are vulnerable to environmental risks but also ensures their participation in planning processes

Urban projects with an environmental resilience focus likely begin with diagnostics. Traditional baseline studies tend to focus on the impacts of environmental risk to land and infrastructure by identifying environmental vulnerabilities such as neighbourhoods located in flood zones, commercial properties at risk from storm surge and sea-level rise, and physical infrastructure unlikely to withstand extreme weather events. The United Nations Office for Disaster Risk Reduction defines risk as hazard times exposure times vulnerability, but a critical step for an urban project to align with the SDGs is to ensure that vulnerable communities are incorporated into planning processes by addressing their needs and encouraging their participation. Designing an intervention that protects physical infrastructure without addressing the needs of lower-income residents who do not have the means to evacuate in the event of a natural disaster would not cover the full scope of an environmental resilience intervention.

For example, the Surabaya (Indonesia) earthquake preparedness project created a focus group for people with disabilities to learn their perspective on disaster mitigation planning and build their disaster preparedness capacity. In this first official discussion between local government and the disabled community about earthquake resilience, the focus group's inputs and reviews led directly to the development of new evacuation plans. This experience has increased the project's local ownership, as it was widely

shared and documented. Students and teachers at a school for the visually impaired co-designed an evacuation route pilot project from initial planning through completion, finishing with a simulated evacuation. The pilot set an example as a sustainable and inclusive urban intervention that can be replicated in other schools by both the local and provincial government.

Five projects faced challenges and three projects generated innovations in their efforts to ensure that early warning and appropriate response information is effectively communicated to reach all, particularly marginalised and vulnerable groups – especially those that might be neglected by mainstream communication channels due to language or technology.

In Ho Chi Minh City (Viet Nam), the GIS drainage system project team investigated how low-income households and women have been impacted by recent floods. They surveyed flood-prone and vulnerable areas within the city and conducted focus group discussions with these groups. Due to the COVID-19 pandemic, they could not complete face-to-face surveys; however, they were able to utilise an online questionnaire and collected more than 500 responses from targeted districts. They will integrate the findings into the project's final recommendations and long-term development strategy.

Recommendation 3

Build resilience capacity for both urban stakeholders and communities

Cities often indicate that their greatest needs to make their projects more environmentally resilient are technical support and capacity building. As such, projects should be designed to provide relevant technical training and activities for city authorities and urban stakeholders, as well as create units of technical expertise within government agencies. However, capacity building efforts must also contend with the reality that local governments in emerging economies often have minimal bandwidth beyond their ability to deliver day-to-day basic municipal services. To ensure that resiliency plans are effective, communities also need technical training and capacity building. Environmental resilience projects should include public awareness communication strategies and provide support for governments to prepare for project campaign materials. Providing technical training to communities is as important as increasing public awareness about environmental risk and dissemination of information that contributes to community preparedness and resilience.

For example, in Ho Chi Minh City, the project not only includes rigorous technical trainings for the city staff on how to use geographic information systems (GIS), it also proposes strategies to improve data literacy among the public about flood risk. As part of the Surabaya earthquake preparedness project, the project team proposed various methods to increase the community's risk management knowledge. First, the team proposed reviving

a community forum that could serve as a coordination and communication platform between local government and communities. In addition to technical capacity activities related to earthquakes for city staff, they also developed e-learning materials and training sessions for communities, including vulnerable groups. To complement these efforts, they also proposed the establishment of a community task force to manage plans at the local level, thus contributing to a more successful implementation of the project.



Figure 16: Ho Chi Minh City, Vietnam - city view © UN-Habitat

Recommendation 4

Design with nature through climate-responsive urban interventions

Cities cannot build their way out of climate risk with concrete and steel alone. Rather, designing with nature is an effective way to channel rainstorms, conserve water during droughts and reduce urban heat island effect. Well-designed infrastructure projects consequently incorporate nature-based solutions alongside hard infrastructure for increased resilience at a reduced cost while also providing secondary benefits and ecosystem services.

In the Ho Chi Minh City GIS project, for example, the proposed flood modelling system will consider natural stormwater buffers as part of the city's stormwater management network in addition to manmade drainage systems like pipes and cisterns. As such, the project aims to protect and strengthen relevant ecological systems, including but not limited to water retention, infiltration, afforestation, urban vegetation, floodplain management, mangroves and coastal vegetation.

Finally, at the center of the New Clark City project is the design of one of the largest public parks in the Philippines. Central Park is a rainwater retention hub integrated with the city's overall open space network. The park's large water feature will provide a public space centerpiece with various social and cultural activities that are inclusive to women, elderly, youth and children. Additionally, all buildings in the park will be designed to green building standards powered by renewable energy.

Highlight

Environmental resilience is a cross-cutting key driver for urban projects, especially in an era of climate change. Over 11,700 local authorities, including nearly all of the cities in the Global Future Cities Programme, have signed onto the Global Covenant of Mayors for Energy & Climate, a voluntary pledge by cities to meet the terms of the Paris Agreement. Consequently, urban projects in all thematic areas are increasingly measured against environmental criteria: Do they help cities mitigate climate change by reducing carbon consumption and/or do they help cities adapt to the impacts of climate change?



Figure 17: Lagos city view, Nigeria © UN-Habitat



Figure 18: Analysis of the most addressed SDG targets of the Environmental Resilience key driver, in accordance with the "SDG Project Assessment Tool" General Framework

SDG 1.5

By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

SDG 11.1

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

SDG 11.5

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

SDG 11.b

By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels

SDG 11.c

Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilising local materials

SDG 12.2

By 2030, achieve the sustainable management and efficient use of natural resources

SDG 13.1

Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

SDG 13.2

Integrate climate change measures into national policies, strategies and planning

SDG 13.3

Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

SDG 13.b

Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalised communities

How the SDGs relate to environmental resilience

By focusing on improving urban resilience towards climate-related hazards, this SDG Project Assessment Tool key driver highlights the importance of identifying exposed and vulnerable urban communities and their needs including possible measures to mitigate vulnerability (SDG target 1.5, 11.1, 11.5). Risk assessments at diverse scales are recommended –from neighborhood to city, and region level-, including a ranking and prioritisation of the most prone areas to climate-risks (e.g., steep informal settlements in mudslide or earthquake areas, or informal settlements on coastal lines with risk of flooding and rise of sea level). Urban resilience is not limited to aspects within the city border, but strongly related to the rural or peri-urban surroundings. Urban projects impact different geographical scales in different ways, and should, whenever is relevant, consider the inclusion of measures to “protect and restore water-related ecosystems, including mountains forests, rivers, lakes” (SDG targets 6.6, 15.1, 15.4).

Building and designing urban infrastructure that responds to a resilient approach (SDG target 9.1) implies the efficient use of natural resources (SDG target 12.2). Topics related to the protection of ecological systems, and the appropriate management of the water network (SDG targets 15.1, 15.4) appear to be highly linked to the key driver environmental resilience; from the integration of nature-based solutions to improve storm water management, to the appropriate provision and management of basic services including drinking water, sanitation, and waste (SDG targets 6.1, 6.2, 6.6, 6.a, 6.b).

The key driver backchecks on the municipal capacity for risk preparedness and proposes a comprehensive approach to urban resilience that includes a range of topics on early-warning systems, evacuation plans, relocation areas, and response plans, among others (SDG target 13.3). Urban projects that deliver concrete solutions to improve monitoring and response capacities, are directly related with SDG target 13.1 “strengthen resilience and adaptive capacity to climate hazards and natural disasters” by at the same time increasing institutional capacity on climate resiliency throughout policy, strategy and planning level (SDG targets 11.b, 13.2, 13.3).

To achieve these goals, technical and financial assistance is relevant to build sustainable urban infrastructure that utilise local materials, and include passive energy design to gain energy conservation and reduce energy and water demand (SDG targets 11c, 12.2).

05

Design Data-Driven Process and Management



In the 21st century, data has become an important commodity whose currency is encapsulated in pithy quotes. As engineer W. Edwards Deming said, “In God we trust, all others must bring data.” Mathematician Clive Humby argued, “Data is the new oil.” These attitudes now inform mayors who increasingly seek to govern on the basis of solid data. As such, many city leaders also subscribe to the maxim “you can’t manage what you can’t measure.” Indeed, data is increasingly the raw material of urban governance. Quantitative information underpins everything from how to pursue solid waste collection to the frequency at which public transport runs to where housing should be located. New technology, in turn, has led to the proliferation of big data as smartphones, sensors and other tools generate massive quantities of information about urban systems and processes.

Data-driven processes and management are thus the techniques by which cities collect, analyse and act on data to inform and execute public policies. Such systems require technical ICT capacity to receive and analyse data as well as privacy standards to ensure that the public sector is acting as an appropriate steward of private information. Without the ability to process and manage data flows, cities will be blind to their needs and opportunities. Data-driven processes and management are thus a cross-cutting issue for any urban project regardless of thematic area.



Figure 19: Youth taking part in a computer training at the UN-Habitat One stop Center in Kigali, Rwanda
© UN-Habitat

Recommendation 1

Build a data governance framework structured around specific data-driven committees with clearly defined tasks

A strong data governance framework is crucial to ensure that evidence-based integrated planning can be implemented sustainably. With specific committees for establishing strategic, operational and tactical initiatives towards data collection, processing, storage, protection and sharing, local governments will be more successful in delivering digital transformation.

In the wake of the fast pace of the digitalisation of public services in the last decades, it became a comfortable standard to leave data governance under the management of ICT departments, who operate mainly at a technical level and in a siloed manner. However, this approach has shown its limitations in achieving broader paradigmatic impacts within public service. In the Global Future Cities Programme, new and improved frameworks for managing data processes were an innovation success story, especially in data-centric projects.

For example, the Recife (Brazil) data governance project drafted a municipal decree soon to become law that establishes a data governance framework for the city, which sets up a data governance council, a data committee and a data governance office involving members from various municipal departments and civil society specialists (see City Story: Recife).

Five projects generated innovations in building and formalising practices for integrating data analysis into decision-making processes, taking into account relevant data sets and examines how data may be generated and used by different groups.

Recommendation 2

Conduct in-depth data mapping to improve and optimise data-oriented services

In-depth data mapping is challenging, costly and time-consuming. Nevertheless, it remains the best method for municipalities to improve and optimise data-oriented services, update outdated practices, track integration incompatibilities and identify gaps and redundancies. A feasible approach can be taken by planning a mid-term data mapping strategy based on a pilot-based gradual process: priorities should be defined so specific departments, programmes and projects can be mapped in a focused and contextualised manner.

For example, the Bangkok (Thailand) data hub project deliverables included a detailed baseline mapping of stakeholders and how they interact with related data frameworks, which enabled institutional data-flow arrangements and levels of capacity to be more efficiently evaluated. The Bangkok project also led to the development of “use case initiative cards” and “data sharing relationship matrices” as a result of a baseline diagnostic that enabled data gaps to be identified with more transparency, thus leveraging opportunities for more efficient data-oriented decision-making.

A capable and professional ICT staff at the municipal level and within the delivery partner were keys to the success of this exercise. However, interdepartmental integration remained an unaddressed institutional and cultural challenge.

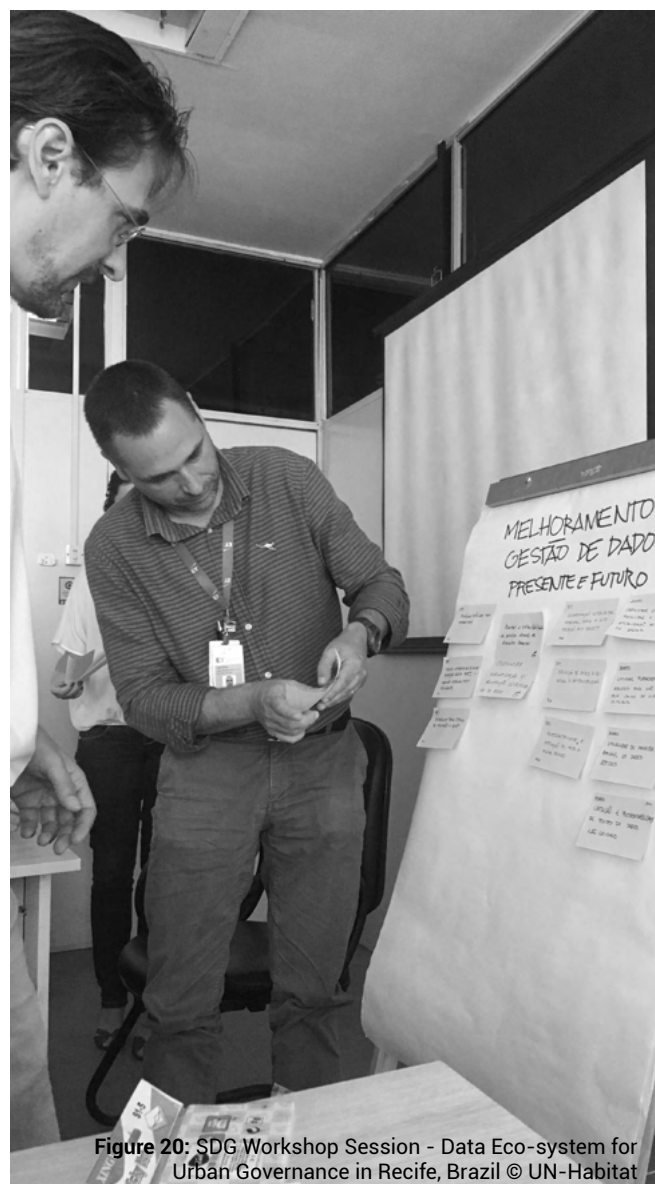


Figure 20: SDG Workshop Session - Data Eco-system for Urban Governance in Recife, Brazil © UN-Habitat

Recommendation 3

Source disaggregated data, outside formal and official channels if necessary, in order to ensure that hidden inequalities are addressed through policy making

Disaggregated data is all data that has been broken down into more detailed sub-categories. At such levels, data can reveal deprivations and inequalities that may not be fully reflected in aggregated data and hence help inform and promote evidence-based policymaking at every level. Fully disaggregating data enables hidden trends to be exposed, allows vulnerable populations to be identified and can help establish the scope of the problem and give vulnerable groups more visibility to policymakers.

When working in emerging economies, however, disaggregated data may not be readily available due to inadequate data collection systems. Throughout the GFCP, there were challenges in securing such data for several projects. However, there are methods to acquire such data even in the absence of official data collection systems, especially through partnerships with civil society representing serving vulnerable and disadvantaged groups. For example, through intensive on-the-ground consultations in Soweto, a township in Johannesburg (South Africa), a private sector consortium was able to determine valuable datapoints such as the high median age of landowners that led to a proposed formal backyard housing rental scheme (see City Story: Johannesburg).

Participatory processes and methods are powerful tools for circumventing inadequate disaggregated data or bureaucratic road blocks. Such a strategy can also establish partnerships and alliances, so data generation and collection can be shared under common interests. Participatory workshops were a key innovation in both the Bangkok data hub and Belo Horizonte (Brazil) intelligent mobility projects in order to tailor data collection to local needs, while the Iskandar (Malaysia) mobility management project's stakeholder engagement involved the development of a household travel survey app, albeit with limited responses.

Under the guidance of the GFCP, the Lagos State Urban Renewal Agency broke from business as usual and partnered with academia to collect relevant data rather than relying on a consultancy firm. This innovative practice led to a committee of CSOs, ministries, agencies and academic partners that still meets today to identify and assess low-income communities in Lagos (Nigeria).

Nine projects encountered challenges to build on existing mechanisms that ensure community participation in urban planning and management processes, while eight projects encountered challenges including all relevant stakeholders and ensuring that the views of marginalised and vulnerable groups are represented.

Recommendation 4

Implement pilots for data-oriented projects in order to evaluate performance and impact in a phased manner, enabling improvements to be gradually made in later interventions

Data-driven processes can help to improve integrated planning, but such effectiveness demands a series of prior improvements among involved departments, such as the definition of data champions for each sector, software and hardware leveraging (supported by group capacity building) and the establishment of convergent data policies and unique data sources to avoid duplicate or ambiguous data.

However, that technological transition can be eased by means of delivering such changes in a phased approach, adopting, for example, a prioritisation strategy for defining pilot projects for gradual implementation. In that case, such a pilot should enable the evaluation of the integrated work's quality, the existence of data gaps and redundancies, workflow effectiveness and sustainability among multiple departments. The pilot approach also allows city authorities to decentralise leadership and eventually to explore diverse funding sources.

During the implementation of the Recife project, for example, due to timeline limitations, a full in-depth diagnosis of the municipality's data systems could not be delivered as originally conceived. However, it was possible to deliver a roadmap for evaluating the quality of data frameworks based on a pilot case: the city's COVID-19 vaccination data management system.

The pilot was successful because the system demanded an urgent evaluation for improvement of the service and also served to establish general procedures for improving the data quality assessment of other possible frameworks in the municipality.

Highlight

Data-oriented decision-making is a growing trend in urban planning, but how practitioners introduce data governance into the complex organisational reality of a municipality remains challenging. The Global Future Cities Programme enabled these challenges to be more clearly identified, so strategic actions can be taken towards building a successful data governance framework. Promoting collaboration and fostering capabilities are key actions to empower self-sufficiency within municipality staff, while in-depth data overviewing based on strategic projects can help to improve the quality of datasets at a sustainable pace. However, cultivating a political ambience that perceives the positive value of data as a direct consequence of solid collaboration practices is the priority target to be reached.



Figure 21: Public bicycle sharing system, Penang, Malaysia © UN-Habitat



Figure 22: Analysis of the most addressed SDG targets of the data-driven process and management key driver, in accordance with the “SDG Project Assessment Tool” General Framework

SDG 5.5

By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

SDG 9.1

Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

SDG 9.b

Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

SDG 11.2

By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

SDG 11.3

By 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

SDG 16.6

Develop effective, accountable and transparent institutions at all levels

SDG 16.7

Ensure responsive, inclusive, participatory and representative decision-making at all levels

SDG 17.16

Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries

SDG 17.18

Fully operationalise the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

How the SDGs relate to data-driven processes and management

The adequate collection, management, and use of data in urban projects has varied impacts at different levels. First, the use of disaggregated, comprehensive data supports evidence-based and justifiable decision-making processes, and relates to SDG target 17.18: „increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts“. Ensuring effective data management and data gathering processes imply the identification of data flows and data gaps, existing data frameworks in the public sector, data routines, and quality control where a “compliance with technological sovereignty and digital service standards, attending to principles of interoperability, agility and usability, with particular attention to prevention of dependency on suppliers (vendor lock-in)” (SDG Project Assessment Tool, Performance Criteria 36.6)

Urban projects should contribute to the development of datasets that have multiple purposes. In addition to improve the decision-making capacity in the local authority, project datasets can set baselines and indicators for monitoring and evaluation purposes. This is a critical aspect that can be included since project design, and directly relate to “develop effective, accountable and transparent institutions at all levels” (SDG target 16.6).

Furthermore, data-driven processes are directly related with the participation and inclusion of different stakeholders –from different city departments to civil-society, private sector, or academia–, helping to ensure the project is responsive and responds to various needs and interests (SDG targets 11.3, 16.7, 17.16). The involvement of external stakeholders should be done before, during and after data gathering processes. By building on already existing mechanisms, the key driver aims to ensure community participation, including women's representation and effective involvement in urban planning and management processes and projects (SDG target 5.5).

Improving local capacities for the use and management of data unlocks the potential of cities to benefit from smart technologies and advance domestic technology development (SDG target 9b). Automated systems for the real-time monitoring of service delivery have positive impacts on the provision of quality public services including water, energy, waste collection, and transportation, among others (SDG targets 6.1, 6.2, 7.1, 9.1, 9.c, 11.2) and the reduction of adverse environmental impact of cities (SDG targets 3.9, 11.6).

Finally, data is a powerful tool for informed, evidence-driven communication, and contributes to increase people's awareness on important social and environmental issues. For example, by creating a better understanding of transport systems and information on travel options, users are encouraged to use public transport and disincentivise unsustainable travel behavior (SDG targets 3.9, 11.2, 11.6).

City Story: How a legal decree will lead to better data governance in Recife

The largest city in the northeastern region of Brazil, Recife has held a world record since 1984 as the home of the largest carnival parade group on the planet. But in recent years, the city has expanded its reputation beyond its rich cultural heritage and become an ICT hub with a prominent technology cluster in the city's historic centre known as Porto Digital. As private-sector technology start-ups have located in Recife, the public sector has likewise made efforts to remain on the cutting-edge of digitalisation.

Consequently, when the Global Future Cities Programme partners first held a charette with staff from the Municipal Information Technology Company, known by its Portuguese acronym Emprel, the city representatives honed in on Recife's Open Data Portal as the best target for an urban project. Launched in 2013, the portal contains over 200 databases that the municipal government has made publicly available covering topics like mobility, health and education. For example, users can download a spreadsheet of vehicle traffic per hour on major roadways, disaggregated data on city residents vaccinated against COVID-19 and geolocated data on educational performance in public schools. The Open Data Portal has already been vetted by Brazil's national government and conforms to national data privacy laws that restrict some data from being made public, such as tax return records that would provide the incomes of individuals who work in the private sector.

While Emprel collates data from various city departments to share in the Open Data Portal, the city does not have standard methods for data governance. Each city department has its own policies and protocols for how it collects and safeguards data. Through the Global Future Cities Programme, Recife embarked on an urban project to standardise these methods with a stronger data governance framework. "The diagnostic done through the

data governance framework project found that we were very unstructured," says Daniel Vitor Santos Junior, a data governance advisor at Emprel. "What exists is very basic and spread out without any standard. There isn't much planning."

Through the Programme's iterative process of designing and improving the project, the Recife team eventually decided to pursue a legal strategy to implement a data governance framework within the local government.

"We were debating between a law and a decree," says Breno Alencar, Emprel Strategic Project Management Coordinator. The city council passes laws, which are more permanent than decrees, but in order to establish the framework more quickly, the team opted to promulgate a decree from the mayor's office, pending expected approval from the city attorney office.

Once the decree is in place, Recife will have a central decision-making process and structure, starting with the data governance office, a technical department that will be independent of the mayor's office, and supported by a data governance committee comprised by the head of the data governance office and a designated data manager from each city department.

For policymakers, standardised data between city departments will allow for easier cross-referencing across topic areas, which will facilitate data-driven public policies. As for how this new framework will benefit every day Recifenses? Standardised data will allow residents to have just a single account with the city government, rather than having to register an account with each individual department with which they interact, such as one for building permits and another for sanitation services. "It will empower the citizen," Alencar says.



Figure 23: Recife city view, Brazil © UN-Habitat

“The framework will be centralised but also distributed,” says Santos Junior. “The design is well balanced. Public organs need some type of bureaucracy to function, but it will change with the times.”

06

Acknowledge and Enhance the Capacity of Local Urban Actors



Involving local partners in the design and execution of urban projects is instrumental in securing the long-term sustainability of projects and thus creating a better urban future. However, urban stakeholders in emerging economies often lack the technical and professional capacity to ensure those urban projects are adequately executed and operated in the long term. For example, inadequate procurement processes or lack of regulatory instruments might hinder the successful execution and operations of urban projects. Furthermore, highly sophisticated projects might be misaligned with the construction skills of existing local providers and end users within public administrations sometimes lack the skills needed to operate technical solutions delivered by international consulting firms.

Urban projects should be developed in accordance with the technical and professional capacity of local actors in each city and built upon knowledge transfer approaches. In cases where international partners are involved, there is a great opportunity to build the capacity of local actors by strengthening the practice of “learning by doing.” The New Urban Agenda “underlines the importance for cities and governments to exchange experiences on policies, programs, lessons learned and best practices” and sets the need for “equipping policy-makers and urban practitioners with the skills and knowledge to understand the complexities underpinning urbanisation.”¹⁷In addition, building capacity of local urban actors to support projects’ execution and long-term operation enhances the potential of urban projects to be replicated and generates opportunities for local economic growth.

The Global Future Cities Programme pursued this approach through an innovative methodology that placed emphasis on local engagement. Private sector partners often engage in the business-as-usual tactic of “parachute consulting,” but the Programme instead encouraged their close collaboration with UN-Habitat local strategic advisors and focal points who have in-depth local knowledge and networks. In addition, the Programme partnered with the UK Built Environment Advisory Group to prepare a capacity needs assessment and city context report for each of the cities where the Programme engaged in projects.

Recommendation 1

Build local capacity across sectors and at all levels as a critical component to securing long-term project implementation

The design and implementation of urban projects in emerging economies often involves the presence of international partners such as foreign aid agencies, multilateral organisations, consulting firms and multinational advisory groups. The involvement of such a global wealth of knowledge and expertise has great potential to enhance the capacity of public administrations and professional groups at the local level. However, fully capturing the value of this knowledge base for the benefit of local urban actors requires the integration of specific capacity-building activities from the initial phases of planning and project design through implementation.

Implementing effective capacity building is not an easy endeavour, and several aspects need to be considered when incorporating capacity-building activities into urban projects. Key challenges can arise following local elections and subsequent changes in municipal administration. In Cebu (Philippines), the project team identified continuity and capacity with local government staff as a critical challenge to preparing a data and strategic foundation for long-term planning, so the project team suggested the prioritisation of capacity building among local staff with long-term positions that were most likely to carry over and sustain programmes and projects across changes in elected officials.

Likewise, the project team identified engaging academia and professional organisations as a good practice for enhancing technical and professional capacities that would strengthen overall project implementation. In Iskandar, training sessions proved to be more engaging when delivered in the local language and involving local partners. In both Lagos and Yangon, the use of multiple communication channels – for example, combining in-person and online sessions – was a key tool to reach larger audiences and create higher impact.

Additionally, well-designed capacity-building activities can create a catalytic action and trigger multiple benefits in a city. In Yangon, capacity-building activities targeted multiple municipal departments and served as a strategic tool to break the “siloes” between diverse municipal entities working in the urban environment.

Seven projects encountered challenges identifying capacity gaps when conducting background assessments in all relevant partners and stakeholders, including stakeholders within government at the technical or leadership level, and third parties such as the private sector, civil society and academia.



Figure 24: Training to local authorities in London, United Kingdom - UKBEAG et al.
© UN-Habitat

These activities were deployed following a learning-by-doing approach, where the different stakeholders engaged in discussions around scalable pilot projects. Ultimately, the capacity-building component contributed to one of the long-term objectives of the project: achieving a holistic, integrated urban practice in Yangon.

Capacity-building activities should build upon an assessment of the main capacity needs existing in the city and propose concrete and realistic objectives that can create “low-hanging fruit” from the beginning. In one of the Ho Chi Minh City (Viet Nam) projects, the focus was the development of a digital solution for managing the city’s drainage system. To ensure the city authority would adequately manage and operate the project after its completion, a series of capacity building activities were delivered at multiple levels: from a high-level training on the digital solution through a series of webinars oriented

to the broader public, to a 10-day technical training for technical staff and an in-depth training on flood modelling. Furthermore, those training activities were designed in accordance with the city’s needs and the existing capacities of the local staff.

Combining capacity-building practices at multiple levels is an essential element to enhance local partners’ knowledge. While project delivery partners focused on hands-on, technically-related trainings, the GFCP strategic partners delivered inter-city and inter-country capacity-building activities to reduce the barriers to implementation and encourage projects’ long-term sustainability. Governance and collaboration, project finance and procurement, and implementation and enforcement were all central themes of this component and contributed to strengthening local capacities for long-term implementation in a comprehensive manner.

Recommendation 2

Assess local capacities and involve local partners to deliver context-specific projects that enhance local economic growth

An assessment of local technical and professional capacity is required to guide the phases of project design and subsequent implementation. This assessment should focus on the preparedness of the local market and available professional capacity in relation to the specific urban project, including aspects around available skills, human resources and equipment.

The objective of this kind of capacity assessment is threefold. First, it contributes to understanding the context where the urban projects are to be developed, identifying key factors that could enable or hinder their delivery. Second, it provides insightful information about the available technical professional capacity and market maturity that is required to guide project ideation and design. Finally, it serves to set a baseline for potential capacity building activities to be delivered with the project, as explained in the previous section. The assessment of local capacities should be undertaken in the initial phases of the project and inform the realistic objectives the project can achieve.

The design of urban projects should both be consistent with the existing local capacities but also activate new opportunities to innovate and develop local capacity.

On the one hand, project design should respond to the capacity of qualified and experienced built environment professionals to undertake the type and scale of projects in the short-, medium- and long-term, and when possible, build upon the existing infrastructure, systems or practices of the local context. On the other hand, innovative new solutions that can be realistically embedded in the city can trigger local growth and boost local capacity.

In the Bangkok (Thailand) flood management project, the capacity assessment undertaken by the UK Built Environment Advisory Group in the preliminary phases of the programme identified high levels of overall professional and market maturity throughout the project lifecycle.

However, the assessment also identified a lack of expertise and institutional coordination to deal with climate change impacts, such as increased rainfall, and potential barriers related to urban data management. Despite the identification of these capacity gaps, the project team approved a digital solution for flood management under the expectation that it would trigger local capacity development and address these critical gaps.



Figure 25: Surabaya street view, Indonesia © UN-Habitat

Seven projects encountered challenges proposing strategic capacity development activities that support implementation and sustainability

During the project development, the delivery partner actively explored different ways and opportunities to involve local partners. For example, they suggested the use of the Numerical Weather Prediction model from the Thai Meteorological Department, an existing locally-developed system, and the implementation of capacity-building activities based on needs identified by future users of the digital system in the local authority.

In the upcoming execution and maintenance phases of the project, the city authority will work with highly experienced international partners on the topics of rainfall forecasting and flood emergency response, as no local partner with similar expertise was identified in the local context. However, it is recommended that the international partnership continue to build on knowledge transfer practices and the local authority provide incentives that stimulate local partners to increase their capacity, thus allowing the project to be fully operated by local partners in future phases.

Highlight

Building capacity among local partners is identified by the New Urban Agenda as “means for implementation that create an enabling environment conducive to transformative changes.” Urban projects need local partners that will guide project execution, maintenance and potential replication/scalability in order to achieve maximum impact in the urban context. The GFCP integrated this approach during project development, where both implementing and strategic partners delivered capacity-building activities to city officials and other key stakeholders engaged in the process.

How the SDGs relate to capacity building and market maturity

The key driver on Capacity Building and Market Maturity of the SDG Project Assessment Tool emphasises the importance of delivering projects that are coherent with the existing local technical and professional capacity and that build upon local capacities and resources for sustainable project implementation (SDG target 12.7).

Urban projects comprise great opportunities for enhancing knowledge transfer activities among different stakeholders in the city, and beyond –such as international partners from UN agencies, NGOs, or consulting firms- (SDG target 17.9). While international partners can support project design and knowledge building practices, urban projects should prioritise local partners for the construction and maintenance of the project (SDG 12.7) and ensure that project solutions are coherent with the local capacity and market maturity standards. Likewise, procurement practices should align with the promotion of locally sourced materials and resources and minimise the carbon footprint through sustainable sourcing of materials and transportation (SDG target 12.7).

The present key driver promotes collaboration between multiple stakeholders including public-private partnerships, involvement of academia, and civil society participation as a means to secure long-term implementation (SDG targets 17.16, 17.17), and sets the need to establish clear and transparent communication channels. Collaborating with and creating capacity to a variety of stakeholders requires the use of appropriate linguistic and technological means for disseminating knowledge effectively (SDG target 16.6).

07

Endorse strong Urban Governance and Legal Frameworks



Urban projects require adequate governance structures and legal frameworks for their successful execution and long-term viability. A well-governed city seeks to advance sustainable urban projects democratically with an approach grounded in legal frameworks that respect the rule of law. Urban governance refers to how the elements in a municipality exercise power, authority and influence, as well as formulate policies and decisions related to public life, the environment, and economic, social and cultural development. Legal frameworks in turn inform how urban governance plays out in practice through laws, regulations and other legally-binding tools. Strong urban governance encourages inclusion, accommodation, tolerance and accountability through public policies, while also demanding legal frameworks with high standards of integrity.

Urban projects require local governance structures that ensure the city can prioritise and channel the resources needed to implement and maintain those projects in the long run. This is particularly important for small and intermediate cities, as they often have less autonomy and capacity to access resources than big, powerful urban centres.

Ultimately, urban governance is not a one-way street encompassing only the public sector and political actors. Rather, it also involves the participation and interaction of the private sector and civil society organisations by identifying legitimacy, responsibility and local autonomy through the devolution of power as the ideal orientation of the city and how it functions. As the environmental lawyer James Gus Speth once stated, “Good urban governance is also local: by enabling cities to run their own affairs, decentralised governance enables responsiveness to people’s needs and priorities and makes development more sustainable through genuine ownership.”¹⁸



Figure 27: SDG Workshop in Recife, Brazil © UN-Habitat

Recommendation 1

Develop strategic action plans to increase projects' long-term impact

Long-term strategic planning is crucial for cities to respond to both new and longstanding global challenges, such as decades of unchecked urban sprawl, realigned urban economies, persistent pockets of social exclusion and global pandemics like COVID-19. This style of planning seeks to embed projects in urban governance systems in accordance with existing legal frameworks in such a way that they prove durable beyond changes in political administration. As such, long-term strategic planning incorporates a holistic range of goals, such as economic development, environmental resilience and social inclusion.

Additionally, long-term strategic planning allows for more efficient budget planning by avoiding allocation conflicts like redundancies, underestimates and overestimates. If strong urban governance is in place, city authorities and private delivery partners will find it easier to align spatial, economic and environmental plans with the city's strategic goals.

Elaborating an action plan within a collaborative governance framework creates the conditions to withstand eventual changes in political leadership or overcome a lack of commitment to carry out projects through a long-term

span. Risk assessments and built-in mitigation measures, including but not limited to strengthening institutional ownership at both high political and technical levels, are also key elements to successful long-term action plans.

Finally, effective legal instruments are also helpful for urban projects to remain embedded in governance structures after the implementation phase. For example, legislative and executive mandates can enshrine the results of urban projects into law. During the GFCEP, the Recife (Brazil) data governance project led to a draft legal decree conceived with support from the delivery partner and with the active participation of leading local stakeholders, including the general comptroller. The decree establishes the Data Governance Council, Data Committee and Data Governance Office as permanent decision-making entities within the municipality (see City Story: Recife).

Nine projects encountered challenges aligning their city's strategic goals, including spatial, economic and environmental strategies as well as existing projects already implemented or in the pipeline.

Recommendation 2

Clearly define roles and responsibilities at all levels of government as a hedge against overlapping mandates

The clear communication inherent in integrated planning is also a strategic solution for avoiding overlapping projects and conflicting mandates. For example, it is not uncommon to see one municipal entity resurface a potholed road, only for another branch of local government to begin drilling shortly thereafter because there are underground utilities that need to be repaired. The lack of communication between branches of government subsequently leads to duplicate work. Beyond costly budgetary aspects, these conflicts create social and political stress that could be avoided.

But for clear and broad communication to take effect, cross-sector and cross-government coordination mechanisms should be established for assuring project legitimacy and buy-in. Also, multi-level coordination mechanisms should be in place to ensure effective design and implementation. An efficient and collectively agreed chain of command is crucial for establishing procedures for handling conflicts at the same decision-making level while building prioritisation in a participatory way. Weekly brief meetings among all department officers for sharing information on current plans and works are a good starting point.

An assessment of the institutional setting is a prerequisite for the adequate assignment of roles, responsibilities and authority to ensure success. Executive committees can be temporarily formed to handle specific critical regions that require many interventions or integrated approaches can be made under technical aspects. As in the example above, road works can be planned together with water, sewer and gas services maintenance.

Eight projects encountered challenges and four projects generated innovations when developing an assessment of the institutional setting and using this to assign roles, responsibilities and authority to ensure success.



Figure 28: Charrette session in Recife, Brazil © UN-Habitat

Highlight

Urban projects do not operate in a vacuum. Rather, they are individual components of the much larger process of urban governance, whereby a local government makes decisions about how to budget for and allocate finite resources to deliver public goods that benefit a city's residents. The most effective urban projects are those that help to achieve policy goals previously set by city authorities and operate in line with existing municipal legislation. In some cases, urban projects can be the catalyst for new laws and regulations, thus setting legal precedents that give shape to a city's long-term priorities.



Figure 29: Analysis of the most addressed SDG targets of the Urban Governance and Legal frameworks key driver, in accordance with the "SDG Project Assessment Tool" General Framework

SDG 1.4

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

SDG 5.a

Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws

SDG 9.b

Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

SDG 10.3

Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

SDG 11.1

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

SDG 11.3

By 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

SDG 16.6

Develop effective, accountable and transparent institutions at all levels

SDG 16.7

Ensure responsive, inclusive, participatory and representative decision-making at all levels

SDG 16.10

Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements

SDG 17.15

Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development

How the SDGs relate to urban governance and legal frameworks

Urban governance and legal frameworks are essential dimensions to ensure urban projects are adequately managed and sustainable in the long term. In addition, they constitute an important aspect to ensure fair urbanisation processes and protect the rights of the most vulnerable populations.

The key driver sets the need to establish legal instruments that prevent displacement, homelessness, and unnecessary evictions (SDG targets 5.a, 10.3, 10.4), and recommends regulatory measures that promote the development of social housing and prevent gentrification (SDG targets 1.4, 5.a, 11.1). When relocations are necessary, fair and just compensation mechanisms should be embedded in the project, and agreed upon a participatory process with affected populations (SDG target 11.3, 16.6, 16.7).

Urban projects should align with existing legal and policy frameworks (at local, regional, and national level), and the city's strategic goals including spatial, economic and environmental strategies, respecting the local leadership to set priorities, and providing recommendations to improve the sustainability and economic growth through policy and legal instruments (SDG targets 10.3, 11.3, 16.6, 17.14, 17.15). The projects should develop action plans for their long-term continuation, and provide guidance on the institutional setting (including the assignment of roles and responsibilities at various levels) that is needed to ensure project success (SDG targets 11.3, 16.6, 17.14). When needed, urban projects should propose cross-sector coordination mechanisms, and propose third-part partnerships (private sector, civil society, academia) to achieve better project outcomes (SDG targets 11.3, 17.16, 17.17). Any proposed partnerships should follow principles of good governance by being transparent, fair, and promoting public benefits (SDG target 16.6).

Finally, urban projects should establish transparency mechanisms of data dissemination with stakeholders both within and beyond the project (SDG targets 16.6, 16.7, 17.16, 17.18). Delivery partners should integrate continuous and clear communication mechanisms with local authorities, while promoting public, intuitive, responsive and assisted digital interface for data visualisation/manipulation of the project, allowing for efficient use by citizens (SDG targets 9.b, 11.3, 16.6). At the same time, projects should ensure data privacy standards, and detail guidelines of data processing and management protocols that respond to confidentiality, ethical, and moral compliance (SDG targets 16.6, 16.10).

City Story: How Istanbul Embedded the SDGs in Mobility Planning

The historic city of Istanbul famously straddles two continents. But this ancient metropolis at the crossroads of Europe and Asia is facing very contemporary challenges. As a hub for migrants from rural Anatolia since the 1950s, Istanbul has swelled to around 16 million inhabitants and the population is expected to exceed 20 million people by the 2030s.

While the city benefits from historic investments in public transport and boasts an impressive network of rail, bus, maritime, aerial lift and informal minibus, existing infrastructure is insufficient to keep up with the intense demographic and mobility pressures of a growing megacity. While car ownership rates are low by European standards, traffic congestion and subsequent air and noise pollution are a growing concern. The Istanbul Metropolitan Municipality (IMM) adopted the Integrated Urban Transportation Master Plan in 2011, which sets a goal of reducing motorised traffic.

Ten years later, however, the city has prepared a Sustainable Urban Mobility Plan (SUMP), the first-ever such plan in Turkey and the first for a megacity globally. The key difference between the old and the new plans? Stakeholder participation.

In preparing the 2011 master plan with support from the Japanese International Cooperation Agency, IMM held workshops predominantly with transportation experts. But in preparing the SUMP through the Global Future Cities Programme in collaboration with Arup Turkey and UN-Habitat, IMM consulted with a much broader range of stakeholders with a special focus on disadvantaged and vulnerable groups: women, youth,

children, immigrants, older persons, persons with disabilities, university students, transportation workers, night-shift workers, low-income groups, the unemployed, visitors, tourists and business travellers, among others. Moreover, the plan was the joint product of engineers, architects, planners, psychologists, economists, public administration, and non-governmental experts from 23 different units of IMM.

“In terms of stakeholder participation, SUMP has provided a different approach and vision,” says IMM Transportation Department Environmental Engineer Seda Özdemir.

By engaging with over 100 stakeholders from this broad range of constituencies as well as engaging holistically across departments within the municipal administration, IMM included new priorities in the SUMP. For example, the plan relies not only on travel demand as a transport planning method but also pursues strategies to encourage people-oriented active mobility, such as cycling and walking, and micro-mobility transport types, such as electronic bicycles and scooters. Stakeholder consultation also led to innovations like running metro lines all night to accommodate night-shift workers and providing free transport to mothers with children up to age four. Finally, the SUMP has provisions for regular monitoring and evaluation of new performance indicators, such as the total length of the bike lane network, the length of pedestrianised streets.

“The SDGs are well understood by all IMM departments as important for the city's sustainable development,” says Özdemir. “We all integrate SDGs into our work.”



Figure 30: Istanbul city view, Turkey © UN-Habitat

The participatory process that developed the SUMP arrived at these ideas by focusing on the SDGs. “The SDGs provided an important guide to sustainable transportation planning. Objectives, indicators and targets have made a significant contribution to how well policies and projects are aligned with the SDGs,” says Özdemir. “Planning of transport and mobility in line with SDGs will accelerate city’s achievements of sustainable development vision.”

By working at the technical level of the transportation department, UN-Habitat embedded the SDGs in the municipal bureaucracy, which should insulate the SDG focus from potential leadership changes in elected officials as Turkey goes through a period of political instability. The mayoralty of Istanbul changed hands

between political parties in 2019 in a disputed election. While land use and financing decisions can be affected by political instability, which complicated transport planning, other forms of sustainable mobility, such as bike lanes, are considered technical rather than political concerns.

There remains widespread support for the SDG framework within IMM and the city is now on pace to prepare its first Voluntary Local Review. This approach is a change from business as usual at IMM, which had not previously used the SDGs as a guiding framework for urban projects.

08

Integrate Financial Strategies



Urban projects require financial strategies for successful implementation and long-term upkeep. However, urban planning and financial strategies are disconnected in the current business as usual climate. City authorities often propose urban projects without integrating costed project priorities and financial strategies to fund their construction, and local civil servants do not have the resources and skills to translate those plans into concrete implementation actions and budget allocations. As a result, well-designed urban plans often sit unimplemented on municipal shelves.

Successful financial planning for urban projects relies on local government capacity to effectively mobilise financial resources in an effective policy and legislative framework.¹⁹ However, in both emerging and developed economies, local governments face challenges, including the basics of annual budget implementation and public financial management. Moreover, strategic project financing is often even more challenging given higher required technical capacities and level of experience while options available to local governments are often more limited. Many local governments, particularly those with jurisdiction over small cities and in Least Developed Countries, lack the capacity to develop bankable projects and access capital markets, limiting their ability to finance strategic urban projects.

The SDG Tool suggests that more sustainable design and development of urban projects requires delivery partners to integrate financial strategies in the design of project solutions. Such financial strategies provide high-level guidance on potential financing options for the project, and must either be consistent with or include plans to improve the existing financial capacity, financing mechanisms and legal regulations of the city.

Financial strategies for urban projects should be realistic, taking into account the specificities of the local context, and including mitigation measures to prevent common risks related to political, social and environmental issues. In addition, they require an assessment of the financial requirements for the project lifecycle in the long term.



Figure 31: Bangkok city view, Thailand © UN-Habitat

Recommendation 1

The ambitions of planners and policymakers should match the realities of financing

Designing and planning an urban project should go hand in hand with an assessment of the financial options for its implementation. Project planners must make the necessary adjustments to align the project's social and environmental objectives with its context-specific financing options.

In cases where the design of an urban project is mostly oriented towards revenue generation, policymakers' profit-driven ambitions can lead to social and environmental drawbacks. In the urban project proposed to develop a central park in newly planned New Clark City (Philippines), the local team and UN-Habitat experts identified a mismatch between the proposed revenue streams and the project's social intent. The initially suggested revenue streams were based on a user fee model; however, the park was intended to be a public asset for all groups of society. While this financing option could be attractive for the local authority in terms of economic sustainability, the user fee model would hinder access for some population groups.

Balancing project ambitions with the realities of financing requires assessments of financing and budgetary local realities. The transport-oriented development (TOD) project in Bangkok (Thailand) adopted a context-specific approach to project finance: instead of making assumptions about the possibility of land value capture based on global

Ten projects encountered challenges developing a financial strategy that aligned with existing financial capacity and also assessing market conditions (including supply, demand, public budgeting, etc.) as well as political, social and environmental risks.

practices, the project team developed a thorough study of the price and land use trends in the specific station area. This study allowed the team to contrast general economic theory assumptions with a detailed view of the property market trends in the specific project area. As a result, locally grounded financial assumptions inform the design of the TOD plan.

Highlight

The New Urban Agenda highlights that no planning initiative can "be implementable without a proper understanding of costs and benefits" and sets the need for identifying key sources of sustainable finance that enables the city to provide basic services and local infrastructure.²⁰

When developing urban projects, the integration of financial strategies into urban planning practice comprises a twofold opportunity: (1) it increases the project's likelihood to create desired impacts in the urban context and (2) it contributes to strengthening local government's capacity to endorse sustainable financing and enforce own-source revenue mechanisms.

Recommendation 2

Financial strategies should be integrated early in the planning process of urban projects and pursue a project lifecycle approach

The SDG Tool includes a dedicated section on financial strategies, based on the importance of integrating financial considerations early on in the planning of urban projects, in order to enhance their capacity to effectively attain their expected benefits. However, the experience from the GFCP shows that both delivery partners and local authorities face recurrent challenges when integrating a financial perspective early in the planning phase of urban projects.

In the Çankaya (Ankara, Turkey) healthy streets project, the goal of integrating a financial strategy early in the design phase of the project was the subject of long discussions among the project teams; it was seen as divergent from “the norm” of the country’s practices for urban projects. In the public space revitalisation project in Yangon (Myanmar), the team emphasised the necessity of developing sustainable financial strategies that move away from donor-funded, one-off projects, but struggled to extract forward-looking recommendations beyond the analysis of the current situation.

Likewise, the urban renewal project the GFCP delivered for Lagos (Nagos), identified the need for approaches to finance the implementation of urban renewal guidelines, with scale being a major challenge.

With over 10 million people living in informal settlements in Lagos, huge budget commitments would be needed to transform the urban environment in all areas classified as slums, and the required level of funding is insurmountable unless budgetary commitments are paired with the development of alternative and innovative approaches to mobilise resources. The project activities included thematic discussions around possible alternatives to finance slum upgrading, where UN-Habitat experts emphasised two main aspects: (1) embedding a social inclusion approach and (2) the need to test and scale up alternative financing options. The discussions included considerations around the long-term involvement of community members, incorporating community savings and lending institutions, providing different tenure types such as rental options, involving microfinance institutions, incorporating cross-subsidisation, leveraging land values and pairing upgrading with planned urban extensions.

Twelve projects encountered challenges basing themselves on a background assessment of the financial requirements needed for the execution, maintenance and operation of the project, while also including an assessment of existing financial capacity, financing mechanisms and legal regulations.



Figure 32: SDG Workshop in Heritage Mobility in Melaka, Malaysia © UN-Habitat

Providing a menu of realistic financing options starting in the early stages of a project is highly recommended, if not essential, to develop solutions that are feasible and implementable. Those financial considerations should be built upon a long-term perspective based on the different phases of a project's lifecycle: design and planning, project construction, and operations and maintenance. After the capital investment needed for the project construction, a project can create own-revenue streams during its operations phase, including from sources such as user charges and fees, property taxes and other land value-based revenues.

Understanding those aspects starting in the planning phase supports the municipality's decision-making process around both project design and the

associated financing options, and can open the window for strengthening possible gaps in the regulatory and legal framework of the city. For example, in the affordable housing and urban development project in Cebu (Philippines), the UN-Habitat team of experts recommended the delivery partner to review the Cebu City Revenue Code, including the cadastral mapping, to identify underutilised properties and possible misalignments of the market values in view of the actual and planned use. This would create valuable insights to inform the upcoming update of the Cebu City Revenue Code, towards the integration of incentives for mixed use and compact development that ensure the inclusion of affordable housing.



Figure 33: Analysis of the most addressed SDG targets of the Financial Strategies key driver, in accordance with the “SDG Project Assessment Tool” General Framework

SDG 9.b

Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

SDG 10.2

By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

SDG 10.3

Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

SDG 10.4

Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

SDG 16.6

Develop effective, accountable and transparent institutions at all levels

SDG 17.1

Strengthen domestic resource mobilisation, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection

SDG 17.8

Fully operationalise the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

SDG 17.9

Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation

How the SDGs relate to financial strategies

The design of urban projects should integrate considerations about the financial strategies that are going to sustain the projects' execution and long-term maintenance. The present key driver highlights the importance to implement mechanisms that enable municipal revenue generation, as a means to enhance the government's financial resources and its capability to promote equality and an inclusive approach to urban development (SDG targets 5.1, 10.2, 10.3, 10.4, 11.3). The implementation of sustainable financial strategies requires a mix of revenue sources that can increase budget stability; some of these include income tax, property tax, user charges and fees, land-based finance tools and consumption taxes (SDG targets 17.1, 17.3)

Urban projects should be backed by a background assessment of existing and new potential revenue streams for project finance, including an assessment of the legal regulation, and the government's capacity to enforce the rule of law (SDG targets 16.6, 17.1). While capital investment can be funded through a combination of sources that includes public funds, private sector contributions, and donor grants among others (SDG target 17.3), the long-term debt, operations, maintenance and depreciation costs should have a dedicated funding stream to draw from (SDG target 17.4).

Finally, the key driver builds upon the importance of enhancing data-oriented capacities of civil servants and stakeholders (SDG targets 17.8, 17.9), as an enabler of revenue generation. Building capacity of data-driven urban management in municipal departments would increase their accountability capacities while strengthening the mechanisms for own-source revenue collection (SDG target 16.7). Furthermore, promoting data literacy and capacity building among diverse citizen groups, enhances technology development, research, and innovation (SDG target 9.b), that can increase formal employment opportunities of marginalised and vulnerable communities (SDG target 8.3).

09

Conclusion



The United Nations' Sustainable Development Goals are a common language for a common vision: a world in which no one is left behind. During the Decade of Action, in which Member States, local governments, the private sector, philanthropy, academia and civil society are all called upon to accelerate efforts to achieve the SDGs by 2030, the Global Future Cities Programme represents an important milestone: It translates the abstract language of the SDGs down to the urban project level. Indeed, for the first time at scale, UN-Habitat has shown how to incorporate the 17 goals and 169 targets of the SDGs into concrete components at the design phase is essential because rarely does the local level speak the same language as the global level. However, in an era when multi-level governance is vital to achieving sustainable development, the ability to build partnerships across different levels of government through a shared vision will unlock opportunities, especially in emerging economies.

But in order to seize on those opportunities for sustainable urban development, local authorities and delivery partners alike must move away from business as usual. Instead, they should move toward a more holistic approach that goes beyond traditional urban planning projects and embraces multi-disciplinary approaches to urban development, in which what might have once been considered just a “data project” will now encompass social inclusion, economic development, spatial planning, environmental resilience, local capacity building, urban governance, legal frameworks and financial strategies.

This report is a playbook for how cities can design such an approach with a series of recommendations based on the ecosystem of drivers that underpin the GFCP. The programme likewise relies on UN-Habitat's three-pronged approach that well-planned, -managed, and -financed cities are the pillars of sustainable urban development. At its core, the GFCP offers cities the opportunity to “learn by doing” as well as learn from their previous experiences. Small pilot projects offer a testing ground to work towards innovative practices. In turn, the iterative workshop process of the SDG Project Assessment Tool creates a pedagogical feedback loop.

Most importantly, city authorities built their own capacity through participation in the GFCP. They gained experience serving as clients who could steward a project to fruition with an array of international partners. Different from business as usual, city authorities and the private sector co-created project solutions that address a common vision of local needs through an SDG lens.

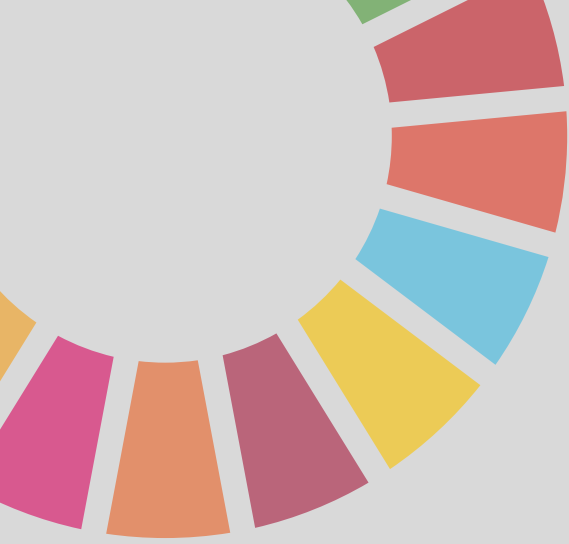
Cities are living in a reality in which there are many uncertainties, from the ongoing COVID-19 pandemic to the long-term impacts of global climate change to the economic disruptions of the Fourth Industrial Revolution. The GFCP is an innovative model for how to deal with such uncertainties. It teaches cities to deploy systems thinking and experiment with new interdisciplinary tools and technologies to address urban issues. Through this process, cities change their mindset. They do not just discover what type of city they are, but rather figure out what kind of city they want to become.



Figure 34: Bangkok city view, Thailand © UN-Habitat

ENDNOTES

- 1 UN-Habitat. 2020. World Cities Report 2020: The Value of Sustainable Urbanisation. https://unhabitat.org/sites/default/files/2020/10/wcr_2020_report.pdf
- 2 United Nations Department of Economic and Social Affairs. 2021. The Sustainable Development Goals Report 2021. <https://unstats.un.org/sdgs/report/2021/The-Sustainable-Development-Goals-Report-2021.pdf>
- 3 UN-Habitat. 2020. The New Urban Agenda Illustrated. https://unhabitat.org/sites/default/files/2020/12/nua_handbook_14dec2020_2.pdf
- 4 The World Bank. 2013. Inclusion Matters: The Foundation for Shared Prosperity. <https://openknowledge.worldbank.org/bitstream/handle/10986/16195/9781464800108.pdf> UN-Habitat. 2010. State of the World's Cities 2010/2011: Bridging the Urban Divide. <https://unhabitat.org/sites/default/files/download-manager-files/State%20of%20the%20World%20Cities%2020102011%20-%20Cities%20for%20All%20Bridging%20the%20Urban%20Divide.pdf>
- 5 United Nations Department of Economic and Social Affairs. 2016. Leaving No One Behind: The Imperative of Inclusive Development. <https://www.un.org/esa/socdev/rwss/2016/full-report.pdf> and UN-Habitat. 2013. State of the World's Cities 2012/2013: Prosperity of Cities. <https://unhabitat.org/sites/default/files/download-manager-files/State%20of%20the%20World%20Cities%2020122013.pdf>
- 6 UN-Habitat. 2015. Programmatic Guidance Note for UN-Habitat Staff: Promotion and Protection of Human Rights. <https://unhabitat.org/sites/default/files/download-manager-files/Guidance%20Web-Document.pdf>
- 7 Julia Carmel, "Nothing About Us Without Us': 16 Moments in the Fight for Disability Rights," The New York Times, 22 July 2020. <https://www.nytimes.com/2020/07/22/us/ada-disabilities-act-history.html>
- 8 UN-Habitat. 2020. Human Rights, Rule of Law and the New Urban Agenda. https://unhabitat.org/sites/default/files/2020/07/human_rights_rule_of_law_and_new_urban_agenda_un-habitat_2020.pdf
- 9 UN-Habitat. 2021. Cities and Pandemics: Towards a More Just, Green and Healthy Future. https://unhabitat.org/sites/default/files/2021/03/cities_and_pandemics-towards_a_more_just_green_and_healthy_future_un-habitat_2021.pdf
- 10 UN-Habitat. 2020. World Cities Report 2020: The Value of Sustainable Urbanization. https://unhabitat.org/sites/default/files/2020/10/wcr_2020_report.pdf
- 11 UN-Habitat. 2020. Iskandar Malaysia City Context Report. https://www.globalfuturecities.org/sites/default/files/2020-08/Malaysia_Iskandar_CCR.pdf
- 12 UN-Habitat. 2015. International Guidelines on Urban and Territorial Planning. https://unhabitat.org/sites/default/files/download-manager-files/IG-UTP_English.pdf
- 13 UN-Habitat. 2013. Streets as Public Spaces and Drivers of Prosperity. https://unhabitat.org/sites/default/files/2020/08/streets_as_public_spaces_and_drivers_of_urban_prosperity.pdf
- 14 Peter Oborn and Joseph Walters, Planning for Climate Change and Rapid Urbanization: Survey of the Built Environment Professions in the Commonwealth (London, Commonwealth Association of Architects, 2020). https://issuu.com/comarchitect.org/docs/survey_of_the_built_environment_pro_c499b16b18d4fa?fr=sY-jFmODEzNzg1MDY
- 15 UN-Habitat. 2020. Johannesburg South Africa City Context Report. https://www.globalfuturecities.org/sites/default/files/2020-07/City%20Context%20Report_Joburg.pdf
- 16 Patrick Kingsley, "Soweto, Once Unified Against Apartheid, is Now Divided by Wealth," The New York Times, 29 September 2019. <https://www.nytimes.com/2019/09/29/world/africa/soweto-south-africa-inequality.html>
- 17 UN-Habitat. 2020. The New Urban Agenda Illustrated. https://unhabitat.org/sites/default/files/2020/12/nua_handbook_14dec2020_2.pdf
- 18 United Nations Development Programme. 1997. Report of the International Conference on Governance for Sustainable Growth and Equity, New York, 28-30 July 1997 (United Nations publication, Sales No. 98.III.B.7).
- 19 UN-Habitat. 2017. Habitat III Policy Paper 5: Municipal Finance and Local Fiscal Systems. <https://uploads.habitat3.org/hb3/Habitat%20III%20Policy%20Paper%205.pdf>
- 20 UN-Habitat. 2020. The New Urban Agenda Illustrated. https://unhabitat.org/sites/default/files/2020/12/nua_handbook_14dec2020_2.pdf



This report provides concrete recommendations to guide the design of urban projects that seek to enhance the implementation of the SDGs at the local level. These recommendations build upon the learnings from the Global Future Cities Programme, a four-year multi-partner programme, funded by the UK Foreign Commonwealth and Development Office (FCDO), that promotes sustainable development and increased prosperity in 19 cities across 10 countries, with a focus on accelerating local SDG implementation and building the capacity of city authorities.

To prepare these recommendations, UN-Habitat relied on its experience applying the SDG Project Assessment Tool, a digital framework to guide the development of urban projects against specific performance criteria drawn from the SDGs and the New Urban Agenda. UN-Habitat analysed all 31 projects in the Global Future Cities Programme to see where the projects encountered challenges and created innovations, then drew on that dataset to generate the set of recommendations comprised in this report.

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UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME
P.O. Box 30030 00100 Nairobi GPO KENYA
Tel: +254-020-7623120 (Central Office)
Email: unhabitat-globalfuturecities@un.org

