GUIDEBOOK

A GUIDE TO SETTING UP AN URBAN OBSERVATORY

UN HABITAT
FOR A BETTER URBAN FUTURE

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Table of Contents

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Introduction

In many parts of the world, lack of good quality, relevant, accessible and timely data on cities is a key element impeding progress in monitoring and reporting on global agendas such as the 2030 Agenda for sustainable development and its related Sustainable Development Goals (SDGs) and the New Urban Agenda (NUA). The lack of sound urban data also affects the formulation of evidence-based policies and designing of programs that respond to urban dynamics and related challenges. Indeed, many countries are still in need of tools and capacities to improve their data collection, validation, and reporting practices, as well as the necessary connection to policies. As a result, many urban planners and decision-makers are operating in an environment of uncertainty, allocating resources to immediate and pressing issues (reactive processes) rather than investing in progressive change over the long term.

As countries move towards increased decentralization and localized decision-making, there is need for local monitoring systems that can support tracking of progress, identification of setbacks using new approaches and techniques and supporting the formulation of evidence-informed policies. Local authorities also require periodic assessments of their state of development and accurate tools to evaluate policy outcomes and the impact of specific plans and actions. Moreover, the SDGs introduced a new reporting territorial level—the city—whereby a significant number of indicators will not only be reported at the urban and rural levels, but also at the city and sub -city levels as a unique entity of analysis. As such, effective monitoring and timely implementation of SDG 11 - *Make cities and human settlements inclusive, safe, resilient and sustainable* - as well as other urban related SDGs requires a strong involvement from both local and

BOX 1

In September 2015, the international community recognized urbanization and city growth as a transformative force for development by endorsing a goal on cities (Goal 11)– Make cities and human settlements inclusive, safe, resilient and sustainable, as part of the global Sustainable Development Goals (SDGs) framework. This goal was further reinforced by the adoption of the 2016 New Urban Agenda (NUA) in Quito—which is the urbanization action blueprint for member states, UN-Habitat and other UN agencies, civil society, communities, the private sector, professionals, and the scientific and academic community. These two complimentary frameworks are central to the achievement of the people-centered sustainable urban development goals. There are substantive linkages between SDG 11 and NUA; with the later focusing on a wide range of strategic actions necessary for making cities and human settlements vehicles of attaining sustainable development.

regional governments in data collection, analysis and reporting. Doing so requires a concerted effort to institutionalize urban development monitoring systems. As stated in the NUA, strengthening data and statistical capacities at national, subnational and local levels should be a priority to effectively monitor progress achieved in the implementation of sustainable urban development strategies and to inform decision-making and policy formulation (Art. 158). The importance of improved data collection and disaggregation was also recognized by the 2030 agenda in order to leave no one behind.

As the UN specialized agency on human settlements, UN-Habitat has been at the forefront in finding solutions to the urban information crisis, helping countries increase access to reliable information that provides insights into urban conditions and trends worldwide, and supporting the monitoring and reporting on global agendas. Specifically, the Data and Analytics Unit of UN-Habitat (formerly known as the Global Urban Observatory Unit) has been leading the development of tailor-made urban monitoring solutions to understand and measure urban development trajectories and conditions. This ranges from the development of the urban observatory model; management of the urban indicators database; the Millennium Development Goals indicators monitoring, including the design and global monitoring of slums; development of the City Prosperity Index; development and refinement of methodologies for the SDGs, among others.

This technical guide aims to describe the urban observatory model and to provide the necessary guidance on how to set up and maintain an urban observatory by local and national governments, city leaders and various stakeholders involved in monitoring, reporting and making investment and policy decisions at the local and national urban levels. This is part of UN-Habitat's efforts to provide the necessary technical support to national and city governments and meet their needs in terms of urban monitoring and data-driven decision-making processes.

THIS TECHNICAL GUIDE AIMS TO DESCRIBE THE URBAN OBSERVATORY MODEL AND TO PROVIDE THE NECESSARY GUIDANCE ON HOW TO SET UP AND MAINTAIN AN URBAN OBSERVATORY BY LOCAL AND NATIONAL GOVERNMENTS, CITY LEADERS AND VARIOUS STAKEHOLDERS INVOLVED IN MONITORING, REPORTING AND MAKING INVESTMENT AND POLICY DECISIONS AT THE LOCAL AND NATIONAL URBAN LEVELS.

A busy street in Mathare slum Nairobi, Kenya 2016 © Julius Mwelu / UN-Habitat

CHAPTER 1

WHAT IS AN URBAN OBSERVATORY?

A section of Dar es salaam city, Tanzania 2019 © UN-Habitat / Julius Mwelu.

This chapter aims at providing information about what an urban observatory is, the various formats it can take, its activities and composition, as well as the existing tools and methods that can be leveraged in an urban observatory.

1.1 Definition and objectives

An urban observatory is a local network of stakeholders responsible for producing, analyzing and disseminating data on a meaningful set of indicators that reflect collectively prioritized issues on sustainable development in a given area or country. Data and information resources produced by the local network are used to support decision-making and the formulation of evidence-informed policies. An urban observatory is therefore a focal point for urban monitoring at the local or national level, provides a platform to facilitate data collection, analysis, interpretation and reporting on performance against different indicators, and supports effective knowledge exchange and evidence-based governance. Specifically, an urban observatory aims at achieving the following:

NOTE 1

Specific aims of an urban observatory

- Develop, collect and analyze data on a set of localized **indicators** to monitor a range of local or national priority issues – e.g. social development, economic performance, service delivery, etc.
- Disseminate information to **strengthen accountability and transparency**
- Establish permanent mechanisms for **monitoring SDGs and Urban indicators**
- Promote **local ownership of urban indicator systems** and a culture of monitoring and assessment
- Promote the **use of urban data** in planning and policymaking at local and national level

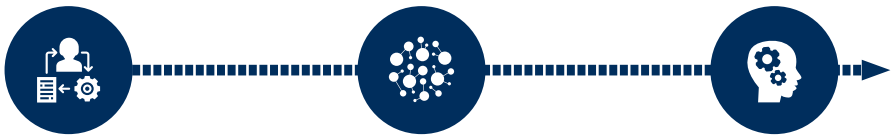
The three main areas of work for an urban observatory include

1. Providing assistance to governments and local authorities to reinforce their ability to collect, manage and maintain and use information on urban development;
2. Enhancing the use of knowledge and urban indicators for policy formulation, planning and urban management through participatory process; and
3. Facilitating collection and dissemination of results of global, national and city level monitoring activities, as well as disseminating good practices in the use of urban information world-wide.

At every level, urban observatories strive to provide high-quality, up-to-date and timely city information. They are driven by the need for improved coordination in the measurement and monitoring of urban indicators in key areas, such as demography, socio-economic development, urban development and environmental issues, among others. Urban observatories are also driven by the desire to develop a knowledge-based information system that can ultimately be used to support evidence-informed urban programmes and policies.

The beneficiaries of an urban observatory are policymakers at all levels and all organizations involved in local sustainable urban development.

Figure1: The architecture of Urban Observatories



Data
Indicators and their monitoring frameworks.

Network of partners and actors
Actors engaged in all operations of observatory - data procedures, validation procedures.

Data collection, validation and dissemination interface
System that supports data validation, dissemination, feedback

Observatory core system
Standard and advanced system that connects all parts of an observatory.

Enables linkage between local, national and global observatories.

Decision making interface
Structures through which data is used for informed decision making.

Includes in-built system for report production.

1.2 Rationale

In general, cities and local authorities require a monitoring system that can help them collate, analyze and translate data into simple-to-understand information for policies and actions. Such a system enables cities to track progress and identify setbacks to development and supports the formulation of evidence-based policies. Local partners may establish an urban observatory for a variety of reasons that contribute to overall urban sustainability. These include:

Generating value-based urban data and distributing information by coordinating various sectors and partners within the city or country;

Facilitating the participation of communities and public and private stakeholders in the development process of their neighborhoods by producing urban data at the appropriate scale;

Supporting decision-making processes and enhancing governance within the urban sector by producing local knowledge-based information.

1.2.1 Generating value-based urban data and distributing information

Urban observatories provide a framework for coordination among and within local organizations for the production and use of urban data for policies and actions through:

- Developing an information repository that can gather, collate, package and distribute locally relevant information;
- Empowering local authorities with information in an analytical but easily accessible format supported by geographical information systems (GIS) tools;
- Creating conditions to decentralize the use of the information;
- Developing a strategy to communicate the information to decision-makers, providing them with a set of comparable data that enables informed planning over the long term.

Information plays a vital role in creating public awareness of urban issues and improving accountability of decision-makers. Reliable and timely information stimulates dialogue and actions to reverse negative trends and to understand positive trends for possible replication. The establishment of urban observatories enables local authorities and other stakeholders to generate information on social and economic issues or challenges in a community or city including their causes or associated factors, and address or mitigate their effects through appropriate policies and actions.

INFORMATION PLAYS A VITAL ROLE IN CREATING PUBLIC AWARENESS OF URBAN ISSUES AND IMPROVING ACCOUNTABILITY OF DECISION-MAKERS.

1.2.2 Facilitating participation

Local and national urban observatories promote a participatory approach to developing urban indicators, collecting and disseminating data and using the information for urban development that meets citizens' needs and aspirations. Multi-partner and stakeholder engagement and coordination are at the core of the urban observatory model. Facilitating participation serves several aims, including:

- Building the capacity of various stakeholders and engaging them in the decision-making process using accurate, up-to-date and timely urban information;
- Informing communities, policy makers and other development agents about city- and neighborhood-related information on key measures for the city's top priority issues;
- Increasing flow of information within all levels of decision-making
- Increasing data production through community and multi-stakeholder avenues and sources, which in itself also improves data transparency

In many cases, the users and producers of urban data neither know each other nor understand each other's needs and methods. Urban observatories offer the possibility of greater collaboration, coordination and data flow among actors. A participatory approach seeks to meet the needs of all key players for collaborative and inclusive collection, management and use of urban data.

1.2.3 Supporting decision-making

An urban observatory is not a policy think tank or an isolated academic research center, it is a coordinated knowledge- and decision-making body that serves to generate high-quality data on specific indicators that inform urban planning, resource allocation and development. Governments, as urban managers and policymakers must be fully engaged in data production and analysis in order to ensure that the information is utilized for the good of citizens. Urban data that is transformed into good-quality information has the capacity to stimulate dialogue and promote its integration into policy.

The ultimate objective of a local urban observatory is to bring together people and institutions to work collaboratively on a common vision for their community aimed at providing high-quality information for efficient decision-making. Urban observatories contribute to improving local governance by providing a framework for transparency and accountability as they facilitate access to relevant, timely and accurate information on locally relevant indicators.

BOX 2

The Kingdom of Saudi Arabia is one of the leading countries when it comes to functioning urban observatories. Many of these were set up through a partnership with UN-Habitat starting in 2003. Today, the Kingdom boasts of 17 urban observatories, which continuously generate data on locally and nationally important urban indicators and use it for informed decision making. The Al Qassim Urban Observatory (QUO) stands out as a good example of how urban observatories can support local decision-making processes. The observatory was set up in 2009 to provide timely and relevant data at city level to inform local decision-making and investments in Buraidah city. Since then, QUO has heavily invested in local data collection and management systems, increasing availability of local data across various sectors and reliance on data in policy and decision-making processes. The success of the urban observatory in Buraidah city led to the expansion of its operational scope and mandate to the entire Al Qassim region covering all the major cities. Today, QUO produces data on 229 indicators in 13 cities, providing city authorities with previously unavailable timely and relevant data for policy and decision-making

1.3 Types of Urban Observatories

There are typically two types of urban observatories:

1. Local Urban Observatory [LUO]
2. National Urban Observatory [NUO].

1.3.1 Local Urban Observatories

Local urban observatories are typically housed in an existing city department, non-governmental organization or university. They serve to produce, manage and analyze data on the performance of a city on key urban indicators and other thematic issues relevant to both local decision-making and global monitoring. UN-Habitat therefore encourages the designation of Local Urban Observatories (LUOs) as city-level institutions:

1. To generate data and information on local issues
2. To promote dialogue between local policymakers and other stakeholders such as civil society organizations, research institutions, academia, etc.
3. To encourage policy responses to locally felt needs and priorities

LIST 1

Typical roles of a LUO as a local platform for policy information;

i) Work with partner groups to develop and apply appropriate indicators, indices and evaluation mechanisms for the urban area and its communities

ii) Maintain information management systems and undertake evaluations and impact analyses at the request of local authorities and partners groups

iii) Build capacity for the generation, management, analysis and dissemination of urban information, including empirical information, on a regular and consistent basis and to apply the information in decision-making

iv) Identify conditions, trends and priority issues through research and consultative processes involving local officials and civil society organizations

v) Propose options for harmonizing sectoral policies and strategies in the context of the local plan of action

vi) Cooperate with other Local Urban Observatories in sharing lessons, resources, exchanging substantive and methodological knowledge and disseminating information to the national, regional and global levels

vii) Assist other local urban observatories in developing their capacity to collect and use urban indicators

viii) Maintain an online data and information platform and a news/trends avenue for sharing data and information on the city and for reporting on activities of the LUO and its partner groups

ix) Produce a State of the City report, including analysis of progress towards sustainable development, local targets of SDGs/NUA, policy scenarios and best practices in terms of investments and actions (recommended to be produced biennially).

1.3.2 National Urban Observatories

National urban observatories coordinate and consolidate urban data collection at the national level using the results for evidence-based policymaking. They can either coordinate the activities of local urban observatories in the country or produce their own data and information resources at the national, regional or local level.

UN-Habitat encourages the establishment of National Urban Observatories (NUOs) to monitor national trends and conditions and to inform national level policy and decision-making as wells progress towards achieving SDGs and NUA. NUOs could take many forms and can be part of an existing national consultative structure or agency; act as a national coordinating body for LUOs; act as secretariat to the National Habitat Committee (NHC) which is established in most countries in preparation for global conferences such as the Habitat II and III Conferences; or be part of an academic or research institution, NGO or professional association. NUOs serve as consultative bodies on national urban policies (NUP) or national urban forums when it comes to urban data systems. For example, NUOs could be invaluable in coordinating, collecting and identifying data needs for the NUP preparation, interpretations and be part of the preparation committees.

LIST 2

To these ends, it is recommended that NUOs:

i) Conduct broad-based consultations to review or to formulate the National Plan of Action (NPA) considering the commitments and recommendations of the New Urban Agenda and priorities expressed through consultative processes

ii) Propose a national urban policy framework to guide the implementation of the NPA and the formulation and implementation of Local Plans of Action (LPAs)

iii) Propose options for harmonizing sectoral objectives, based on urban indicators and best practices analysis

iv) Provide a coordinating framework for the collection, analysis and application of urban indicators at the national and local levels

v) Organize, in conjunction with other partners, national best practices competitions and exhibitions

vi) Organize training programmes, for policy makers and technicians at the national and local levels, on the generation and use of empirical information

vii) Maintain an indicators programme to monitor implementation of the NPA

viii) Coordinate the assessment and provision of capacity-building resources for the implementation, monitoring and evaluation of NPA and of LPAs

ix) Organize, with relevant partners at all levels, networks for training and peer-to-peer learning among agencies, local authorities and civil society organizations engaged in improving living conditions

x) Maintain an online data and information platform and a newsletter for sharing data and information on the city and for reporting on activities of the NUO and its partner groups

xi) Produce a biennial State of the Nation's Cities report, including analysis of progress towards sustainable development, national targets of SDGs/NUA, policy scenarios and best practices in terms of investments and actions.

1.4 Composition and Activities of an urban observatory

1.4.1 Composition

Local urban observatories are comprised of a consortium of local stakeholders coordinated by a municipal government office, university research center, community-based organization or private entity. Several local urban observatories with different objectives may work simultaneously within a city; those addressing similar issues in different parts of a city may get together for mutual assistance and information exchange. UN-Habitat recommends that groups with complementary interests in one city partner to set up one observatory rather than replicate efforts.

In some countries, networks of local urban observatories are facilitated by a national-level partner that coordinates capacity-building assistance and compiles and analyzes urban indicator data to assess national trends and needs. A national urban observatory may be housed in a central government agency, a national university, a prestigious private research center, a non-governmental organization, or other institution. In KSA, for instance, the Ministry of Municipalities and Rural Affairs coordinates 17 local urban observatories that produce data on various urban issues. Some national urban observatories are not linked to local partners, but instead take on the responsibility of collecting, analyzing and disseminating all urban data for the country.

Local and National Urban Observatories are governmental agencies, research centers or educational institutions where monitoring tools are developed and used for policymaking through consultative processes. A Local Urban Observatory for a city or town is the focal point for urban policy development and planning where collaboration among policy makers, technical experts and representatives of partners groups is fostered. Networks of Local Urban Observatories are facilitated by National Urban Observatories where necessary. National Urban Observatories co-ordinate capacity building assistance and compile and analyze urban data for national policy development.

1.4.2 Activities

To achieve their aims, urban observatories typically work with partner groups to develop and use appropriate indicators, indices and evaluation mechanisms. They maintain information systems and undertake evaluations and impact analyses at the request of local authorities and partner groups; they build capacity for the generation, management, analysis and dissemination of urban data and information on a regular and consistent basis. Urban observatories produce various knowledge products – including general and thematic reports, empirical studies, policy briefs, factsheets, indicators databases, data visualization platforms, newsletters – that stimulate dialogue among stakeholders around priority issues. This information is distributed in locally appropriate ways to support decision-making

QASSIM URBAN OBSERVATORY IN SAUDI ARABIA PRODUCED THE 'BURAIDAH VOLUNTARY LOCAL REPORT 2018'. IT OUTLINED THE STATUS OF THE CITY'S PERFORMANCE AGAINST SDG 11 INDICATORS AND THE REQUIRED ACTIONS TO ACCELERATE ATTAINMENT OF SUSTAINABLE DEVELOPMENT IN THE CITY.

and the development of evidence-informed policies. It is important to note that urban observatories should make efforts to develop data and visualization platforms and these can be connected to UN-Habitat's Global Urban Indicators Database (https://urban-data-guo-un-habitat.hub.arcgis.com/). Such platforms play a great role in disseminating the data and evidence generated by the observatory to local, national and global audience.

Urban observatories strengthen the community-wide base of urban knowledge. Increased knowledge can contribute to better use of the information produced by the observatories in the development of local plans of action and in harmonizing sectoral policies and strategies. Urban observatories cooperate with others in the global network to share resources, exchange substantive and methodological knowledge and to disseminate information to various audiences at national, regional and global levels. As part of their reporting structure, urban observatories may maintain a web site or newsletter for providing citizens with information on their cities and may produce a biennial "state of the city" report that provides an updated status of urban development. For instance, Qassim Urban Observatory in Saudi Arabia produced in 2018 the Buraidah Voluntary Local report 2018, which outlined the status of the city's performance against SDG 11 indicators and the required actions to accelerate attainment of sustainable development in the city. In general, cities and local governments that have functional urban observatories are more likely to develop with ease Voluntary Local Reviews (VLRs), which are increasingly being produced and used by cities and local authorities as a way of engaging and being accountable to citizens, peer cities, and the global community around the progress towards achieving the SDGs. As such, VLRs are an important mechanism for developing Voluntary National Reviews for monitoring and reporting on SDGs and NUA given the key role that cities and local governments play in achieving sustainable development.

Several municipalities in a city-region may coordinate their efforts to develop urban indicators, data and planning strategies for the benefit of all. In South Africa, the Gauteng City-Region Observatory (GCRO) was established in 2008 to support local authorities efforts to develop a city-region that is competitive, spatially integrated, environmentally sustainable and socially inclusive, through generation of timely and relevant data at the local level. GCRO is a partnership between two academic institutions - the University of Johannesburg and the University of the Witwatersrand, and local authorities - the Gauteng Provincial Government and local government in Gauteng.

URBAN OBSERVATORIES COOPERATE WITH OTHERS IN THE GLOBAL NETWORK TO SHARE RESOURCES, EXCHANGE SUBSTANTIVE AND METHODOLOGICAL KNOWLEDGE AND TO DISSEMINATE INFORMATION TO VARIOUS AUDIENCES AT NATIONAL, REGIONAL AND GLOBAL LEVELS.

What urban observatories offer

1. Dynamic, multi-layered, easy to use and adapt monitoring system that:

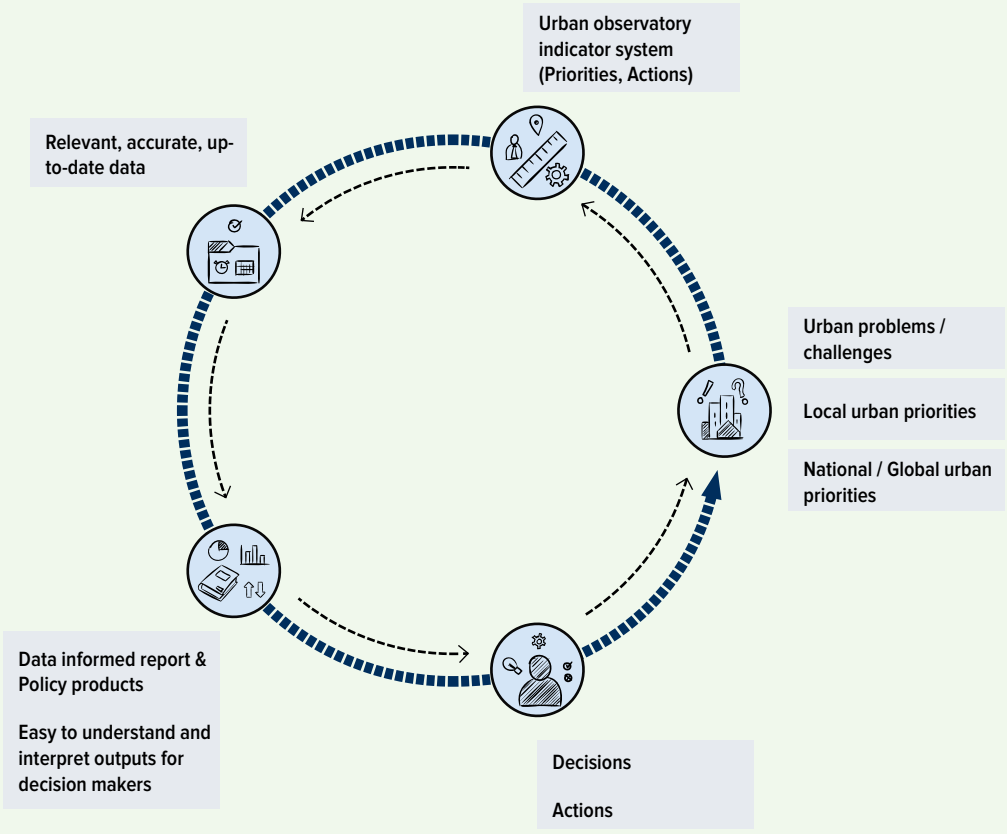
- *Supports and guides collection and collation of relevant, accurate and up-to-date data*
- *Supports analysis of urban data and its translation into simple to understand information*
- *Supports production of data-backed reports to inform decision making processes*

2. A feedback system in the planning cycle

- *Assess current situation*
- *Formulate policies and programs prioritize objectives and set targets*
- *Monitor implementation*
- *Provide feedback to make mid-course changes; and*
- *Communicate results*

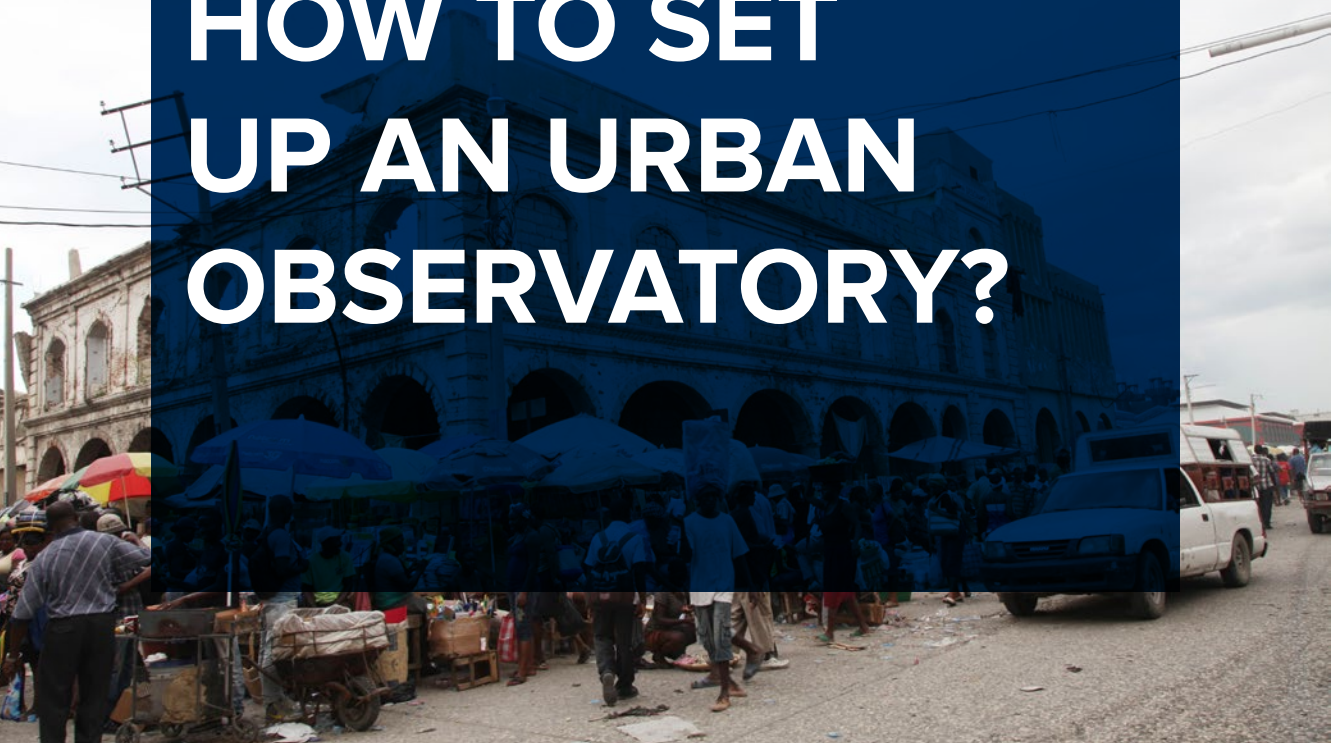
3. Urban observatories promote

- *Data-informed local decisions and actions, and;*
- *Link local priorities to national and global agenda*



CHAPTER 2

HOW TO SET UP AN URBAN OBSERVATORY?



A busy street in downtown Port-au-Prince, Haiti © Julius Mwelu / UN-Habitat.

This chapter provides a step-by-step process for developing a national or local urban observatory. It is important to note that the implementation process may differ slightly from one context to another. Developing an urban observatory divided into two major phases:

1. Inception and feasibility assessment
2. Organizational development

Each phase consists of several sequential steps that lead an urban observatory team toward its ultimate objective of building a coordinated data collection and management entity.

Qassim Urban Observatory Launch.

Setting up an Urba

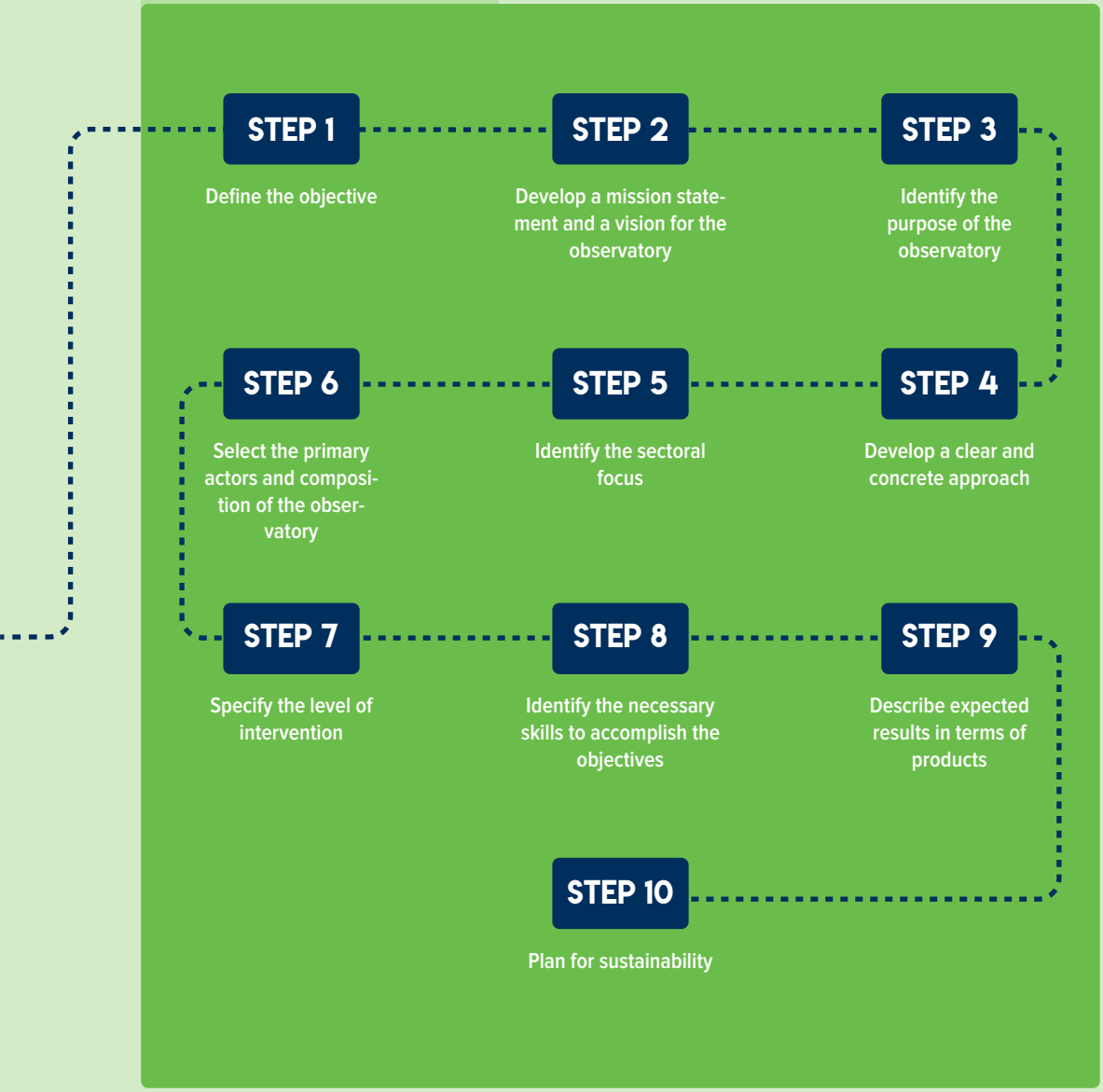
Phase 1

Inception and feasibility assessment

an Observatory

Phase 2

Organizational development



2.1 Inception and feasibility assessment

The **inception phase** of an urban observatory includes the identification of the major development priorities, reforms, policies and programmes in the urban sector that could provide a framework for monitoring, including measuring progress towards Sustainable Development Goal 11 and the New Urban Agenda (NUA). Partners should understand the current and potential use of monitoring in urban policymaking, planning and management, and in the promotion of good governance in the context of their country or city. This phase relates to the **demand** for monitoring urban development, municipal performance, and in general the progress towards achieving the SDGs and NUA.

At this preliminary stage, it is important to assess the **feasibility** of setting up an urban observatory in the country or city. As such, countries or local authorities can contact UN-Habitat through the Data and Analytics Unit (DAU) to learn how other urban observatories managed their early development. UN-Habitat' DAU certifies urban observatories that follow specific guidelines for indicator development, monitoring and reporting. DAU can also support with identifying relevant stakeholders and create awareness among stakeholders about the usefulness of urban indicators for the sustainable development in their country or locality.

Local or national staff involved in coordinating the development of the observatory need to assess potential data sources – including census data, household surveys, other existing or planned surveys and existing mapping and satellite imagery – and identify information needs for the project. At the end of this phase, project partners and other relevant stakeholders should be aware of the potential usefulness of urban indicators and monitoring. Some level of commitment is needed from all relevant partners to institutionalize an indicator system through an urban observatory, defining their contribution to the collection, analysis and use of urban data.

Assessing the feasibility of the urban observatory requires that initial partners express some degree of commitment to make available financial and in-kind resources for the implementation of the project. A report on feasibility of the urban observatory is required at the end of this phase.

BOX 3

Assessing demand for monitoring in the context of existing urban development planning and management processes

The main precondition for the successful development of an urban observatory and monitoring system is local demand – an indicators system should not be imposed on a government (at the national or local level). This step will help in considering incentives as well as disincentives or "roadblocks" to developing the monitoring system and the urban observatory. Some guiding questions may help in assessing demand: *Are there sources of local demand or are stakeholders developing monitoring systems mainly because of demands or pressures from development agencies? Is there a "champion" at the national or local level who can take the initiative forward? Where is the local demand focused? Will the indicators support planning, policymaking, management, accountability or reporting to donors?*

The inception and feasibility phase is comprised of seven steps, outlined below.

Step 1

Create a steering committee

An urban observatory is a network of local stakeholders that express interest in working together on the collection, analysis and dissemination of urban data. The main partners of the project should all be represented in the steering committee. Apart from the local policy makers, UN-Habitat recommends including representatives from national statistics agencies, academia, private sector, entities that are potential sources of funding, civil society organizations and relevant agencies that are producers and/or users of data on key urban outcomes (e.g. transport, waste management, air quality, public spaces, cultural heritage, etc.). These organizations influence government's resource allocation decisions, management of sectors and programmes, and resulting accountability. They have responsibilities in one or more of the following areas: public expenditure management; strategic urban planning; management of public investment programmes; policy dialogue and formulation; monitoring and evaluation. The steering committee plays a role in building consensus on the creation of the observatory and guiding its general orientations. Phase 2 on "Organizational development" provides further details on steps in defining the objective and nature of the observatory.

Step 2

Develop stakeholder participation strategy

The steering committee should work closely with local policy makers, professional associations and representatives of non-governmental and civil society organizations to:

- Identify existing key structures or organizations involved in the collection of urban data and the monitoring of urban development.
- Assess government policies and programmes in the urban sector, their formal inter-relationships and their data needs.
- Bring policy makers, practicing professionals and the community together to engage and dialogue urban issues and the need for an urban observatory.
- Identify priority urban indicators and types of expertise required to gather and analyze the required urban data.
- Sensitize stakeholders about the state of urban development.

Step 3

Assess local capacity

Assess the capacity of existing entities to:

- Collect, analyze urban data as well as establish benchmarks for monitoring urban conditions and trends.
- Map options for developing or strengthening monitoring capacity.
- Identify and learn from best practices in urban data management worldwide
- Involve all interested groups use data and evidence generated for policy making, implementation and assessment of policy impact at local level.

BOX 4

Identify existing structures and organizations involved with monitoring in the urban sector

As part of Step 3, this activity will help in describing existing key structures or organizations involved with monitoring urban development, and government policies and programmes in the urban sector. Key organizations are those that are important to monitoring within national and local authorities. These organizations influence government's resource allocation decisions, management of sectors and programmes, and resulting accountability. They have responsibilities in one or more of the following areas: public expenditure management; strategic urban planning; management of public investment programmes; policy dialogue and formulation; monitoring and evaluation. These organizations include national level ministries and agencies, local authorities, NGOs, local governmental agencies, academia and the private sector.

Step 4

Nominate a host institution

Designate an institution from among competent partner entities to host the urban observatory including its data platform that will:

- Identify its own capacity-building needs and propose the necessary solutions.
- Develop the work programme and budget for the activities of the urban observatory.
- Mobilize financial resources from local authorities but also other funding organizations.
- Lead the development of the observatory including the consultative process with partners.

Step 5

Build local capacity

In contexts where technical capacities are weak, there is a need to organize training and capacity-building sessions in various areas, particularly in the design of the monitoring system and the development of an action plan. In countries and cities where technical capacities are strong, it may be necessary to hold further consultations to define priority areas of intervention and a meaningful set of inter-related urban indicators. Capacity building activities will aim to support the local team to:

- Design the monitoring system, identify key areas of intervention and urban indicators framework that can be adapted from monitoring frameworks of global agendas (SDGs, NUA, Paris agreement, etc.) or developed locally in line with local or national development agendas.
- Develop a general action plan for the urban observatory, identify milestones and targets as per the objectives pursued by the observatory.

At the end of this step, partners should agree on key indicators and formalize the institutional agreements.

BOX 5

Assessing the existing monitoring capacity

Building local capacity requires an assessment of the quality of the information infrastructure i.e. the processes and systems for making urban data available. It includes an assessment of the monitoring capacity and activities of ministries, local authorities and other institutions such as NGOs, research institutes and universities. Assessment typically considers: a) level of skills in the existing technical and managerial systems of data collection; b) existing data systems including those related to geospatial data and their quality; d) tools and methods available; e) institutional experience in data collection, management and analysis; and f) level of coordination between different stakeholders producing and using data.

WHY ARE INDICATORS IMPORTANT?

Indicators are needed to:

- Support the design of policies and programmes and monitor progress towards achieving local, national and global development goals;
- Allocate resources more effectively;
- Raise awareness on urban issues and mobilize community support;
- Make local governments accountable for their actions and decisions.

Step 6

Initiate the certification process

This step involves preparing and processing the formal application to become an urban observatory recognized by UN-Habitat in order to be part of the Global Urban Observatory network with all the associated benefits (capacity building activities, peer-to-peer sharing of knowledge and best practices, etc.) At the end of this step, an **action plan** for the urban observatory should be prepared and submitted to UN-Habitat (see box below).

BOX 6

Preparation of an Action Plan for an Urban Observatory

While there is no one-fits-all approach to prepare an action plan, a plan should ideally include the following components

1. Background

Describe the rationale for the creation of the urban observatory, presenting a justification of data needs and assessing the local demand and need for an urban monitoring system. How does the action plan align with local and national development priorities in the city or country?

2. Objective

What are the key objectives of the plan? How will the chosen approach contribute to improvements in local monitoring to produce value-based urban data that will support evidence-based decision-making and to strengthen accountability?

3. Description of the Urban Observatory and Monitoring System

Describe key functions, scope and components of the proposed observatory and monitoring system (refer to steps in Phase 2, “Organizational development”).

4. Expected Outcomes

These should refer to what the action plan is expected to achieve in terms of its results: increased capacity, improved use of data for policies and actions, improved accountability at local level, etc.

Examples:

Local monitoring systems and local urban observatories successfully established in cities X, Y and Z.

Enhanced technical and institutional capacity to adopt a national monitoring framework as urban transformation systems that produce reliable, timely, and disaggregated data.

Slum upgrading policies evaluated and reviewed in line with implementation of SDG 11

5. Activities

Describe the specific activities the urban observatory will undertake to achieve the above outcomes.

Examples:

Create a steering committee and designate a host institution.

Develop a range of key indicators related to local/national priorities and reporting needs on SDGs/NUA through multi-stakeholder consultations.

Develop baseline urban indicators and create a local/national database.

Prepare and distribute thematic reports to government planners and policy makers at local and national levels for general policy development and evaluation purposes.

Disseminate findings to relevant stakeholders via local/national workshops, policy briefs, factsheets, media including social media, online platforms, etc.

Organize and conduct training programmes targeting policymakers and technical staff.
Prepare an annual work plan and budget for the urban observatory.

6. Partners

Describe and demonstrate the commitment of government and/or local authorities (supporting documentation should be provided and specific commitments and actions taken by the government described). What other local and international partners have been identified and how have they been involved in the preparation of the plan? Describe the activities all the partners will undertake.

7. Implementation Plan

Describe the implementation schedule, including the starting and ending date of all activities, as well as major milestones.

8. Monitoring

Describe how the success and impact of the plan will be measured, including key performance indicators and mechanisms for monitoring.

9. Sustainability Plan

Describe how the observatory will be financially sustainable and how it will be embedded into the local data-production systems.

10. Scaling Up

Describe the potential for replication and scaling-up of the observatory and monitoring system through the transfer of experiences and expertise to other cities.

11. Budget

Provide a summary budget for establishing the observatory.

2.2 Structural and organizational development

After coordinating a coalition of partners, completing all necessary background research and assessing the institutional and technical feasibility of the observatory, the group or institution planning to set up an urban observatory should follow a series of planning processes to ensure consistency, professionalism and quality of data collection over time. This section of the guide provides a step-by-step overview of the ***organizational development*** of an urban observatory.

SAMPLE OBJECTIVES?

- To strengthen local capacity to develop, select, manage and apply urban indicators and other information in policy analysis.
- To improve access to a variety of municipal information to improve urban management and planning.
- To strengthen accountability and transparency through public dissemination of information.
- To stimulate dialogue and action on urban issues among policy makers, media professionals and citizens.

MISSION STATEMENTS THAT WORK

- "UN-Habitat promotes transformative change in cities and human settlements through knowledge, policy advice, technical assistance and collaborative action to leave no one and no place behind" (UN-HABITAT)
- "End extreme poverty within a generation and boost shared prosperity." (The World Bank)
- "GEO works to unlock the power of Earth observations by facilitating their accessibility and application to global decision-making within and across many different domains" (Group on Earth Observations)

SAMPLE PURPOSES

- Produce data and evidence to understand how cities function as social and economic systems, improve local or national policies.
- Enhance democratic and participatory processes through information sharing.
- Contribute to eradicating urban poverty through generation and use of disaggregated urban data.

POSSIBLE APPROACHES FOR ACHIEVING OBJECTIVES/TARGETS

- Produce new information and/or systematize existing information by implementing a meaningful urban database and developing value-based urban data.
- Sensitize stakeholders to urban issues that are collectively agreed-upon by using indicators and urban data processed in easy-to-understand formats, such as maps and visual aids.
- Support a sound communication strategy using geo-referenced and statistical information and promote broad public access to that information.
- Guide decision-makers on proposing specific solutions to urban issues based on reliable information and monitoring mechanisms.

Step 1

Define the objective

Question: *What overarching, concrete goal will this urban observatory serve to achieve?*

The objective refers to what the urban observatory ultimately intends to do or achieve. It should respond to specific contextual challenges and problems facing the city or city-region.

The objective should describe the overall desired achievement involving a process of change in a particular sector or area.

Step 2

Develop a mission statement and a vision for the observatory

The mission statement reflects the urban observatory's reason for being. It should be developed in a consultative manner by relevant stakeholders at the early stages of developing the urban observatory.

In one concise statement, the mission summarizes the long-term objective of the urban observatory and states the vision of the organization. The statement helps to build consensus on the nature of the observatory and describes the observatory's added value to existing systems.

Step 3

Identify the purpose of the observatory

Questions: *What contribution will the observatory make to overall sustainable urban development? How can original value-based urban data influence decision-making on urban issues?*

The purpose derives from the mission statement. It refers to how the urban observatory will be embedded in the overall institutional, political and social context of the city or city-region and the role it will play at the local or national level.

The purpose reflects the overarching orientation of the urban observatory and its general mandate. It responds to what needs to be changed for the benefit of the city, neighborhood or society.

Purpose points: *The urban observatory should be seen to strengthen ongoing policy-making processes by providing relevant information and enhancing collaboration between communities and institutions. It can generate information for advocacy that may lead to the development of new policies, decisions on new investments and implementation of actions.*

Step 4

Develop a clear and concrete approach

Questions: *What methodology will the urban observatory use to attain the defined objectives and targets? How will each partner contribute to the development of the urban observatory's methodology?*

The approach describes the methodology of the urban observatory, explaining how the partners will work towards achieving the stated objective. It is the logic under which the observatory will work, in general terms, to achieve its mandate.

The approach highlights the broad framework for the efforts that the observatory will undertake but does not provide details on specific activities and actions or the resources they will require.

The approach also links action agendas, methodologies and indicators of different institutions, building bridges based on issues that are no one institution's mandate but are in the interest of all.

Approach point: *The approach of the urban observatory should respond to the real and potential use of indicators and information in the specific policy context within which the observatory is set.*

Step 5

Identify the sectoral focus

The focus refers to the specific sectors or fields that the urban observatory should address through data collection and analysis. In other words, these are development priorities or issues that need to be considered, and for which policies and/or actions can be designed.

Consultative processes involving a wide range of actors and institutions should identify these priorities.

Focus points: *The urban observatory should be flexible enough to respond to new questions or demands from data users, local decision makers or clients. The focus could therefore change while the approach is maintained. Additional topics or fields can be added to the initial focus of the observatory as it proves its capacity for producing valuable information. The observatory should focus on those areas or indicators for which data is readily available or data can be "easily" collected in the near future.*

Notes on focus:

- Most urban observatories adopt a multi-sectoral approach in collecting and analyzing urban indicators relevant to different thematic areas and departments within the city.
- Urban observatories can also focus on one or two specific areas, such as health, environment and quality of life; basic service delivery and urban infrastructure; or urban poverty eradication.

Step 6

Select the primary actors and composition of the observatory

Questions: *In addition to the steering committee, who should be enlisted in the ongoing development of the urban observatory? Which organizations are likely to support the observatory and provide required resources, including funding, data and time?*

The purpose, objective and focus of the observatory will determine its composition. In general, the urban observatory should include among its primary actors, local decision makers, national statistical offices officials, representatives of civil society and experts on the chosen focus areas. To ensure that the information produced by the urban observatory is used to inform policy, public institutions and local decision-makers must be involved in its implementation.

Establishing an urban observatory does not imply the creation of a new governmental or non-governmental organization. An existing entity should house the observatory activities.

For effectiveness and sustainability, an observatory should be a coalition of stakeholders, not a single entity.

Step 7

Specify the level of intervention

Questions: *How broad will the geographical focus of the urban observatory be? Are the activities of the observatory likely to overlap with other existing observatories?*

The level of intervention refers to the geographic area that the urban observatory operates within. It is determined by the institutions involved, the thematic focus, the scope of the work and the problems the observatory will address.

An urban observatory should foster and help develop systems for producing data that can be disaggregated at appropriate scales for conducting intra-city analyses.

Intervention points: *UN-Habitat advises that urban observatories determine the level of intervention based on data availability, building on existing sources and systems of information and expanding indicators accordingly. A metropolitan or regional observatory could initially collect data on the city proper, for example, and progressively extend to other municipalities that are part of the urban agglomeration. Topics and sectoral foci of the observatory also help determine the level of intervention.*

Step 8

Identify the necessary skills to accomplish the objectives

Questions: *What skills do the observatory staff and personnel of participating organizations bring to the urban observatory? Will the observatory rely on external skills and technical expertise, and if so, what will be needed?*

The skill sets of urban observatory staff and professionals in participating organizations should complement each other according to the objectives and focus of the observatory.

The observatory core team should combine professional staff, including statisticians, GIS experts and data analysts, with advisory service and communications experts. Decision-makers and civil society representatives should be part of the steering committee to ensure broad participation and representation.

STAFF SKILLS

- Observatories that work on multi-sectoral issues require staff with a wide range of competencies in each area covered.
- Statistical experts are required for data collection and analysis.
- GIS experts are essential for processing geo-referenced data, performing spatial analyses, as well as for conducting participatory workshops that use GIS tools and technologies.
- Communication experts are necessary for disseminating findings and engaging with policy makers and other evidence users.
- The observatory should also include staff with negotiation skills and political savvy to help facilitate the work.

Step 9

Describe expected results in terms of products

Questions: *What knowledge products will the observatory generate? Who is likely to use this information?*

The products – outputs or results – derived from an urban observatory exemplify its utility for urban knowledge generation and decision-making support.

The more successful urban observatories produce a variety of products. Products generated should respond to the nature and objectives of the observatory and the type of indicators used. These indicators provide a picture of the existing situation and possibly scenarios for change, allowing for development of programmes and actions.

An urban observatory facilitates processes that continuously produce compatible data sets and transform them into a variety of products. A clear linkage should be established between the inputs and outputs of the observatory: the information and data sets processed into new knowledge products. The observatory should also remain flexible enough to develop new products as needed by data users.

The urban observatory team must carefully assess the target audience for the observatory's products and find simple and effective means of communicating its information and messages. Indicators and related information are used differently by different audiences. The urban observatory team should clarify whether the knowledge products will be used for advocacy, engagement or other purposes.

Product points: *The products produced by an urban observatory should inform local or national urban policy and decision-making processes. The focus of the observatory should be linked to existing urban issues, thus providing crucial information that impacts directly on relevant processes.*

OBSERVATORY COMPOSITION

- The core team of the observatory should ideally be composed of the following staff:
- Managing director
- Chief statistician
- Senior GIS expert
- IT/Database management expert
- Data analysis expert
- Data entry staff
- Communications expert

URBAN OBSERVATORY PRODUCTS

- Information products can be used for improving overall city performance or the performance of actors in specific sectors addressed.
- Observatories produce studies, reports, maps, newsletters, policy guideline documents, databases and other information products as necessary for achieving their objectives.
- Dissemination of information from the observatory may be accomplished through a variety of means including annual or quarterly reports, articles, studies, posters, social medias updates, brochures and broadcasts on radio and television.
- Popular products recently produced by urban observatories include thematic reports, voluntary local reviews, policy briefs, data visualization platforms, etc.

Step 10

Plan for sustainability

Questions: *Does the observatory enlist the support of well-established local institutions? Are the observatory partners committed to its financial stability, now and into the future?*

To ensure the long-term viability of the urban observatory, adequate institutional and financial support is essential.

Institutional support includes national or local government commitment to:

- Endorse the observatory;
- Establish horizontal linkages with different departments or units as possible data users and participants;
- Ensure that information is used to strengthen decision-making and policy formulation.

An urban observatory should engage all institutions that can provide technical and institutional support in the data collection and analysis process, such as national statistics offices, civil society organizations, academic research centers and non-governmental organizations.

At the proposal stage, the urban observatory team should prepare a well-defined implementation framework plan that specifies clear and feasible timelines and delivery mechanisms to ensure institutional commitment.

In addition to institutional sustainability in terms of outputs, observatory administrators can leverage the fact that the observatory will inspire change and add value to existing data collection and decision-making efforts to gain the financial support of relevant institutional partners.

Financial support requires the provision of funds for the day-to-day operations of the observatory by one or more stakeholders. A resource mobilization strategy will ensure that resources are available for all projected expenses, including hiring experts to support the implementation of activities. Financial support can be secured through a governmental budgetary allocation for a three- to five-year programme or through donations from partners. National urban observatories should encourage and facilitate replication of local urban observatories, considering their sustainability plans, potential to develop local partnerships and networking plans to ensure participation of local actors.

PLANNING FOR SUSTAINABILITY:

Urban observatories are sustainable when:

- There is a clear political commitment from the national government and the local authorities to their success;
- They are conceived through participatory processes involving local stakeholders, including the private sector, NGOs, community organizations and others;
- Financial provisions are made by a variety of stakeholders in a clear and systematic manner;
- Efforts are made toward building consensus among different constituencies;
- Sufficient capacity and leadership exist including the presence of an institutional or individual "champion".
- Potential sustainability risks in each of the above areas are properly assessed.

BOX 7

Support from UN-Habitat for the inception phase

Groups or institutions planning to set up an urban observatory are eligible to receive information and technical support from UN-Habitat. This support broadly includes the following:

- **Monitoring frameworks (guides and manuals on SDG 11/NUA and other urban indicators)** – urban observatory coordinators will receive a package of documents that are used for urban monitoring and especially monitoring and reporting on SDGs/NUA including metadata, training modules, city definition guide, City Prosperity Index technical guide, national sample of cities approach and other materials.
- **Institutional assessments and needs assessment consultations** – UN-Habitat supports urban observatories to determine appropriate institutional partners and personnel, and to conduct initial needs assessment activities.
- **Urban observatory design including development of indicators framework and capacity development**– UN-Habitat support includes design of new urban observatory systems, capacity building activities on adopting locally relevant indicators and developing related appropriate methodologies, and technical advice on setting up necessary partnerships and collaborations with relevant partners and other municipalities .
- **Partnership** – UN-Habitat can assist in establishing relationships with other urban observatories to learn from past experiences regarding methods and approaches to the participatory process, how to engage a wide range of stakeholders in the implementation of the urban observatory, how to use indicators to influence meaningful change, etc.

A woman washing her feet at kalobeyei new settlement camp for refugee in Turukana, Kenya 2016 © Julius Mwelu / UN-Habitat.

2.3 Issues to avoid when setting up an urban observatory

For urban observatories to succeed and become integral assets for urban strategic thinking and planning over a long period, they must be carefully designed and managed. Many urban observatories have failed to develop into vital resources for their cities and countries, often owing to problems encountered at the beginning of the process. The following list describes some of the common issues faced by urban observatories:

No clear mission, vision or objectives

For urban observatories to succeed at any scale, they must serve a clear purpose that is championed by all partners. Proponents of an urban observatory should take time to thoughtfully develop the mission, long-term vision and clear, concrete objectives of the urban observatory as a committed team at the beginning of the process.

Lack of financial sustainability and institutional support

No matter how important the urban data collection and reporting that an urban observatory does, it cannot develop high-quality products or accomplish its goals without the financial and institutional support of its partners. All urban observatory coordinators should carefully assess the sustainability risks they face when developing their proposals and develop plans to reduce or mitigate those risks. During the development of a new urban observatory, partners should honestly examine the viability of the project, given their city's unique institutional environment.

Lack of political support and clear linkage between urban observatory and decision-making structures

Political support tends to be stronger in countries where observatories are primarily coordinated by government entities. Initiatives driven by non-governmental organizations and academic institutions appear to have less support from their governments. For urban observatories that are not directly coordinated or managed by local governments, linking data and evidence with policy decisions that bridge issues and promote improvement of lives in the community is important for engendering political support. Observatories that are supported by one person – a political "champion" – should seek political support from other institutions to avoid becoming irrelevant at the end of the primary supporter's term of office.

Indicators not directly connected to local concerns

For plans to be successful and sustainable, the urban observatory concept and indicators must be practical and relevant to the needs of each community and its local decision-makers. Many existing urban observatories are in cities and countries that face challenges of managing their urban areas under severe resource constraints. They cannot afford to invest their limited resources on wasteful or meaningless data collection exercises. Arguably the most important achievement in the planning process is often to establish clear linkages between the indicators development and data collection process and specific policy or planning areas in each urban observatory. This process has helped to mobilize interest in the indicators and their value as a planning tool among the officials and other stakeholders. The global SDGs indicators framework, the NUA indicators framework as well as the urban indicators framework are a good guide and reference for localizing urban indicators.

Too many urban indicators

Some urban observatories have created monitoring mechanisms with more than 200 indicators covering a wide range of urban issues. Experience shows that the monitoring system of an urban observatory should be condensed into a small number of indicators, responding to the main focus of the observatory. These “key indicators” should be SMART (Specific, Measurable, Achievable, Relevant and Time-bound) to be politically relevant.

Lack of coordination among actors

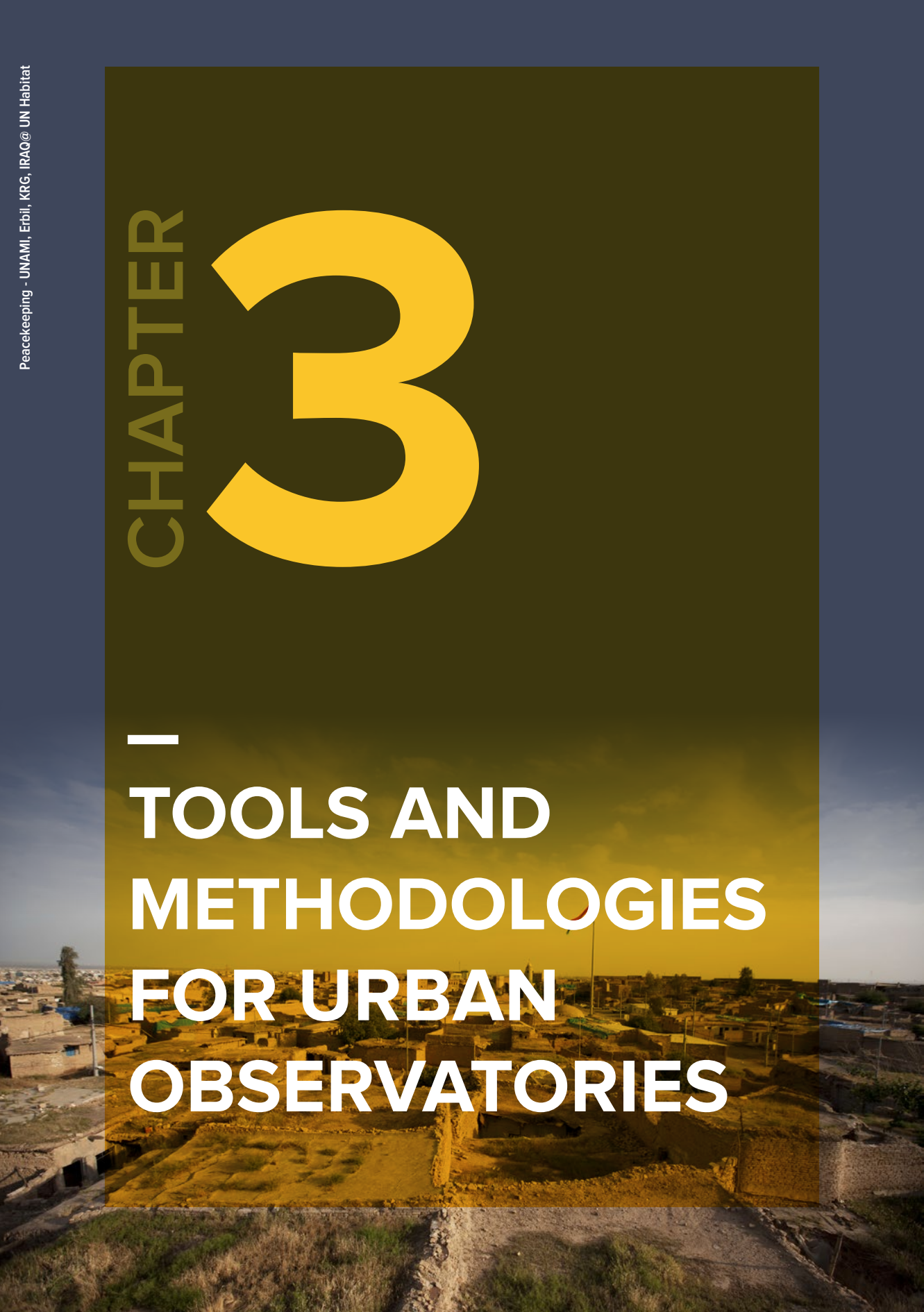
One cannot overemphasize the importance of collaboration in the development and maintenance of an urban observatory. True collaboration means working together to accomplish the objectives of the observatory – not recruiting “big-name” supporters who cannot dedicate staff resources and their own time to help with the work that needs to be done. All partners – including government representatives, staff of local organizations and members of the public – should be made aware of their responsibilities regarding their contributions to the management of the urban observatory. Observatory coordinators should also take care to create realistic expectations and a workplan that suits the needs of those involved.

Lack of clear outcomes and a sound communication strategy

Urban observatories should ensure their work is recognized through innovative, user-friendly and demand-driven products. One of the first processes urban observatory partners should undertake is a detailed discussion of exactly what the observatory will produce and how the partners will disseminate it. Without concrete outcomes, social, financial and political support for urban observatories quickly wanes.

Lack of investment in training

A major weak link in developing urban indicators systems and observatories is the difficulty that government employees and other stakeholders have in implementing and using the developed processes. Both high-level and mid-level managers, as well as technical staff, should receive training in what indicators and observatories are all about and how the tools can help them in their work. Training is needed in the initial and late stages of implementation. A key challenge is the turnover among staff and particularly senior management staff, in many cities, which necessitates continuous training efforts.



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CHAPTER 3

TOOLS AND METHODOLOGIES FOR URBAN OBSERVATORIES

UN-Habitat has developed tools and methodologies such as the City Prosperity Initiative and its related Index (CPI) and the City Performance Monitoring Framework (CPMF) and that are well aligned to supporting good governance approaches and harnessing sustainable urban development. These tools can be easily deployed as integral part of an urban observatory for periodic assessments of the performance of various dimensions of urbanization and the overall conditions of cities based on a common structure and a comparable approach over time and space.

Design Charrette in Johannesburg © UN-Habitat.

3.1 The City Prosperity Index

UN-Habitat's City Prosperity Index (CPI) is a practical and flexible framework developed for the formulation, implementation and monitoring of policies and practices on sustainable development to increase prosperity and sustainability of cities. The CPI integrates indicators for urban SDGs to address, in a single framework, the environmental, social and economic components of city prosperity and sustainability. The CPI relies on six dimensions that are contextually specific and globally comparable: **productivity, infrastructure development, quality of life, equity and social inclusion, environmental sustainability, governance and legislation**. The index, which is computed using city level data measures how cities create and distribute socio-economic benefits and prosperity. The level of prosperity of a city is measured through the extent to which the city has achieved all these six dimensions of prosperity. The CPI incorporates new analytical tools based on spatial indicators that facilitate a systematic disaggregation of information along the key dimensions of urban development. In some cities and countries, the CPI has been used as a tool for assessing competitiveness and good governance and accountability.

Figure 1: CPI Dimensions

Summary of measurements of each dimension

Productivity

Measures the average contribution of cities to economic growth and development, generation of income, provision of decent jobs and equal opportunities for all.

Infrastructure Development:

Measures the average achievement of a city in providing adequate infrastructure for accessing clean water, sanitation, good roads, and information and communication technology, which are essential in improving living standards and enhancing productivity, mobility and connectivity.

Quality of Life

Measures the cities' average achievement in ensuring general wellbeing and satisfaction of the citizens.

Equity and Social Inclusion:

Measures the cities' average achievements in ensuring equitable distribution of the benefits of prosperity, reduction of poverty and the incidence of slums, protection of rights of minority and vulnerable groups, gender equality, and equal participation in the social, economic, political and cultural spheres.

Environmental Sustainability

Measures the average achievement of cities in protecting the urban environment and its natural assets. This should be done simultaneously while ensuring growth, pursuing energy efficiency, reducing pressure on natural resources and reducing environmental losses through creative and environment-enhancing solutions.

Urban Governance and Legislation

Measures the average achievement in creating an enabling environment in terms of good urban governance for catalyzing local action towards prosperity, through appropriate and effective policies, laws and regulations, and adequate institutional frameworks with strong local institutions and sound institutional arrangements.

By adopting the City Prosperity Index, urban observatories will be able to monitor city prosperity at the outcomes and impact levels in a way that allows regional and local authorities to identify opportunities for future urban development, as well as potential setbacks and constraints to pre-empt and address unintended consequences. As such, urban observatories can use the CPI framework to develop State of the Cities reports, that provide updated analysis of progress towards sustainable development, or towards achieving local and national targets of SDGs/NUA.

Since 2012, UN-Habitat has been working with various local, national governments and international organizations in the adoption of the CPI as a single, harmonized monitoring framework for the global agendas. By 2019, CPI has been applied to evaluate urban performance in 539 cities in 54 countries spread across all world regions, with most of these cities using the information generated for data-driven and informed decision-making processes (See map). Countries using this tool are able identify, quantify, evaluate, monitor and report on progress made by cities in a more structured manner.

Figure 2: Process of implementation of CPI

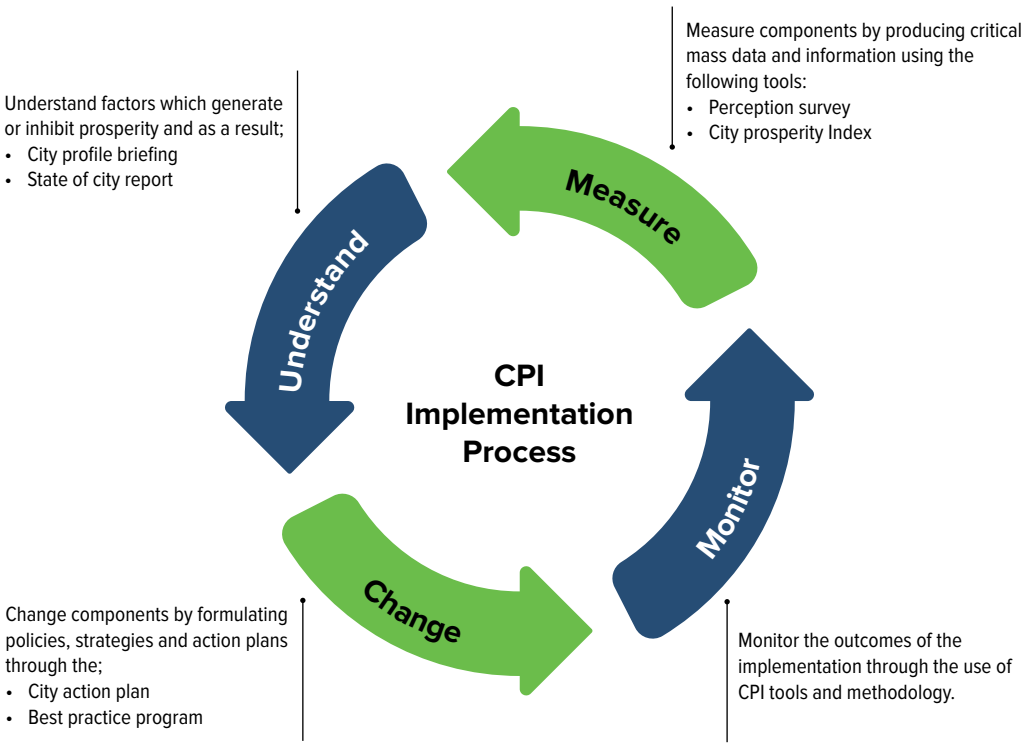
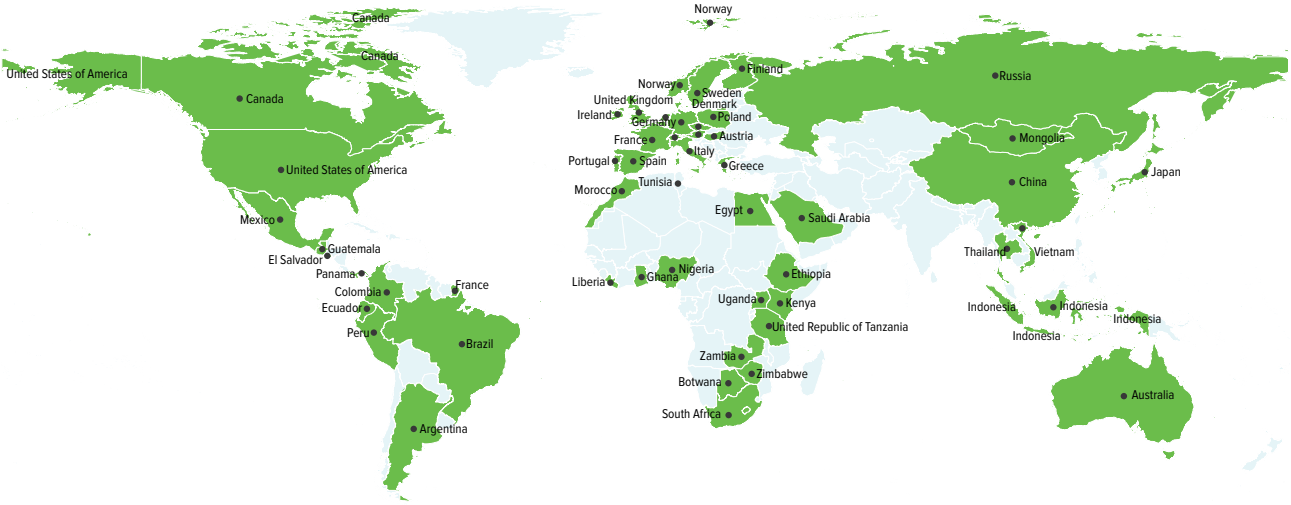


Figure 3: Countries with CPI data



Argentina	Colombia	France	Japan	Panama	Sweden
Australia	Czech Republic	United Kingdom	Kenya	Peru	Thailand
Austria	Germany	Ghana	Liberia	Poland	United Republic of Tanzania
Belgium	Denmark	Greece	Morocco	Portugal	Uganda
Botswana	Ecuador	Guatemala	Mexico	Russia	United States of America
Brazil	Egypt	Hungary	Mongolia	Saudi Arabia	Vietnam
Canada	Spain	Indonesia	Nigeria	Singapore	South Africa
Switzerland	Ethiopia	Ireland	Netherlands	Tunisia	Zambia
China	Finland	Italy	Norway	El Salvador	Zimbabwe

BY ADOPTING THE CITY PROSPERITY INDEX, URBAN OBSERVATORIES WILL BE ABLE TO MONITOR CITY PROSPERITY AT THE OUTCOMES AND IMPACT LEVELS IN A WAY THAT ALLOWS REGIONAL AND LOCAL AUTHORITIES TO IDENTIFY OPPORTUNITIES FOR FUTURE URBAN DEVELOPMENT, AS WELL AS POTENTIAL SETBACKS AND CONSTRAINTS TO PRE-EMPT AND ADDRESS UNINTENDED CONSEQUENCES.

3.2 The City Performance Monitoring Framework

The CPMF is a monitoring framework to track routine inputs and outputs connected to the implementation of the national development plans within cities. It is a tailor -made system of city performance monitoring that cover various levels of governance and sectors and allows periodic monitoring of the implementation of the urban development plans and programmes in cities using a core set of 100 indicators.

The CPMF is unique in the sense that it is a measurement tool that:

1
Is developed based on the benchmarks and the targets of development blueprints such as Visions and the associated development plans;

2
Supports measurement of performances/ implementation of the pillars of the visions at City, Regional and National levels;

3
Connects and contributes towards measuring urban prosperity in the long-term as per the six dimensions of the CPI;

4
Allows managers - as an ICT based system and decision support tool with live dashboards - to keep track of key performance indicators and provide close to real-time solutions when bottlenecks or challenges arise that could hinder effective achievement of targets.

5
Allow for cities teams through he live dashboards to check progress of other cities and learn from such experiences and challenges for their own local implementation or improvements in service delivery.

THE CPMF PROMOTES HIGHER ACCOUNTABILITY, BETTER PERFORMANCE ASSESSMENT AND STRONG COORDINATION OF THE CENTRAL/LOCAL GOVERNMENT WITH THE REGIONAL OR LOCAL/SUBNATIONAL GOVERNMENT ENTITIES.

The CPMF relies on a network of city leaders and managers and a strong ICT background to ensure real-time in progress monitoring with efficiency. The CPMF promotes higher accountability, better performance assessment and strong coordination of the central/local government with the regional or local/subnational government entities.

Urban observatories can adapt the CPMF to enable cities or regions in which they operate to make appropriate decisions on the best actions to adopt and track changes, whilst systematically documenting their performance at the input/output levels and connect these directly to the outcome and impact levels.

BOX 8

CPMF in Ethiopia

In 2018, UN-Habitat provided technical support to Ethiopia's Ministry of Urban Development and Housing that led to the development of the City Performance Monitoring Framework (CPMF)- an accountability tool that covers various levels of governance monitoring and allows periodic assessment of the implementation of the urban development plans and programs in Ethiopia. Beyond being an accountability tool, CPMF provides a mechanism for making effective policy and investment decisions at national and local levels. The CPMF system provides the foundation for the development and effective functioning of a National Urban Observatory in Ethiopia, where systematic data collection, compilation, analysis is supported, leading to an effective way of disseminating findings on a number of inter-related urban indicators.

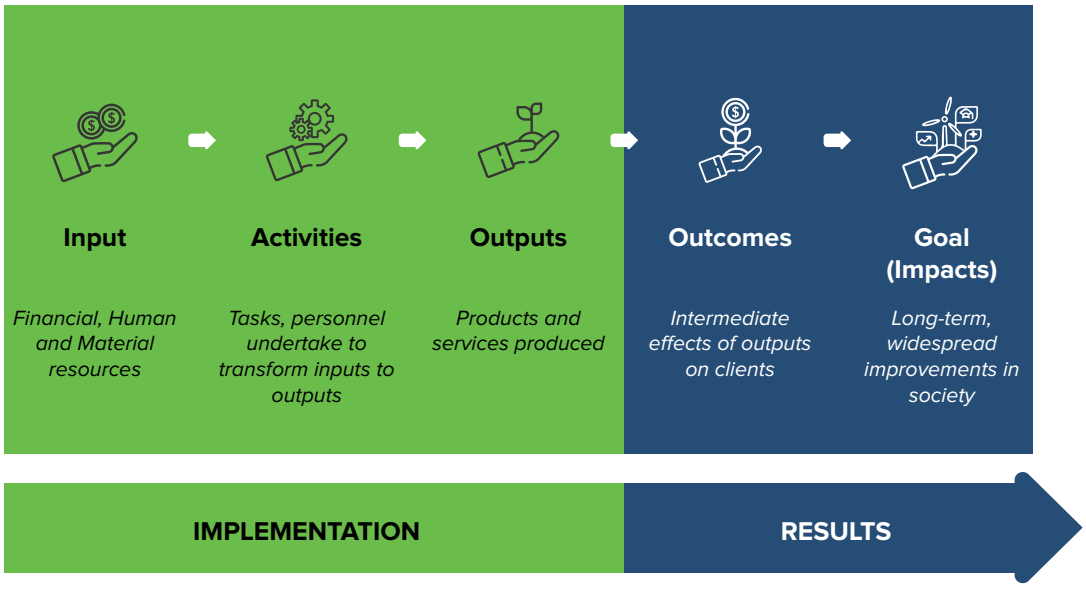


Figure 4: CPMF process of monitoring city performance

3.3 Spatial Data Integration Models

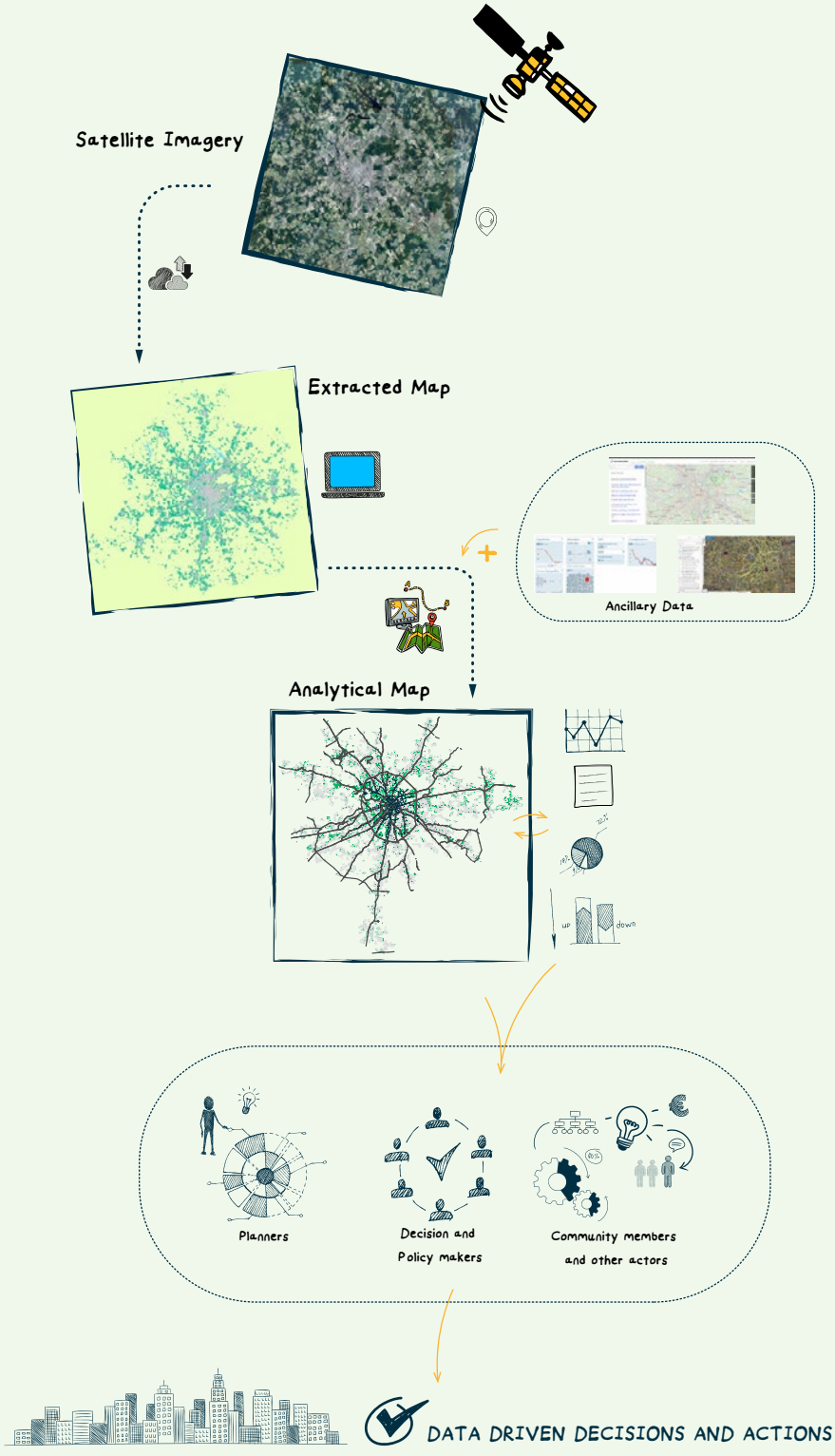
A clear understanding of urban patterns and trends require use of Earth Observation and Geospatial Information (EO & GI) technologies, which are central to not only the production of data but also critical for translating multiple data into easy to understand products for decision makers and the public. Today, EO & GI technologies are no longer an optional consideration but a must in every data management strategy at all levels. Within the monitoring and reporting frameworks for global agendas such as the SDGs and the NUA, these technologies are deeply entrenched into the data needs, with at least seven (7) of SDG 11 indicators requiring some form of spatial data collection and analysis at local/ urban level. These include indicators 11.2.1 on public transport; 11.3.1 on urbanization trends and urban land consumption patterns; 11.5.1 and 11.5.2 on disaster risk reduction; 11.6.1 and 11.6.2 on urban solid waste and air quality patterns; 11.7.1 on urban access to public space; and 11.b climate change and resilience. Computations required for these indicators can be attained through spatial analysis techniques using remote sensing and geographic information systems. In addition, these technologies are invaluable for understanding the spatial manifestation/ distribution of phenomena across all the 232 SDG indicators, and helping in sustainable urbanization and development decision making processes.

As such, UN-Habitat considers such technologies as a central component of all efforts to track urbanization and inform data-driven decisions and in turn promotes their integration into the core architecture of the urban observatory data management platforms. At the indicator level, UN-Habitat and other UN agencies and other partners working on SDG 11 have developed spatial analysis techniques and models with guides that countries can easily apply for generation of relevant SDG 11 data. For urban observatories, these technologies have opened a new era of open source data – ranging from satellite imagery and mass data resources to big data, which can be quickly and easily analyzed at the city level at minimal cost. Equally, the ability of these technologies to visualize multi-indicator data into visual products allows policy makers not only to understand trends without having to dive into long reports and complex numbers but also helps them identify deprivations and needs-distribution, and in turn to focus action when developing urban policies.

As part of its support to the urban observatories' activities, UN-Habitat shares multiple models and approaches for data processing and visualization with cities and countries, and also undertakes capacity development for their use.

UN-HABITAT, OTHER UN AGENCIES AND OTHER PARTNERS WORKING ON SDG 11 HAVE DEVELOPED SPATIAL ANALYSIS TECHNIQUES WITH GUIDES THAT COUNTRIES CAN EASILY APPLY FOR GENERATION OF RELEVANT SDG 11 DATA.

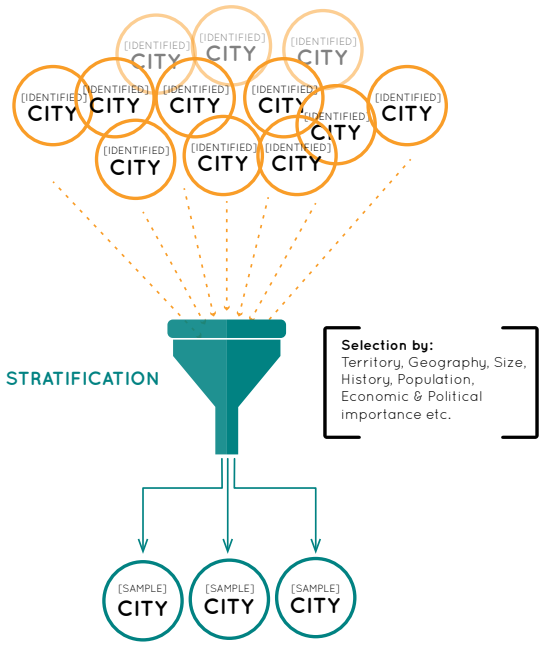
Figure 5: Using GIS to obtain useful data for planners and decision makers



3.4 The National Sample of Cities

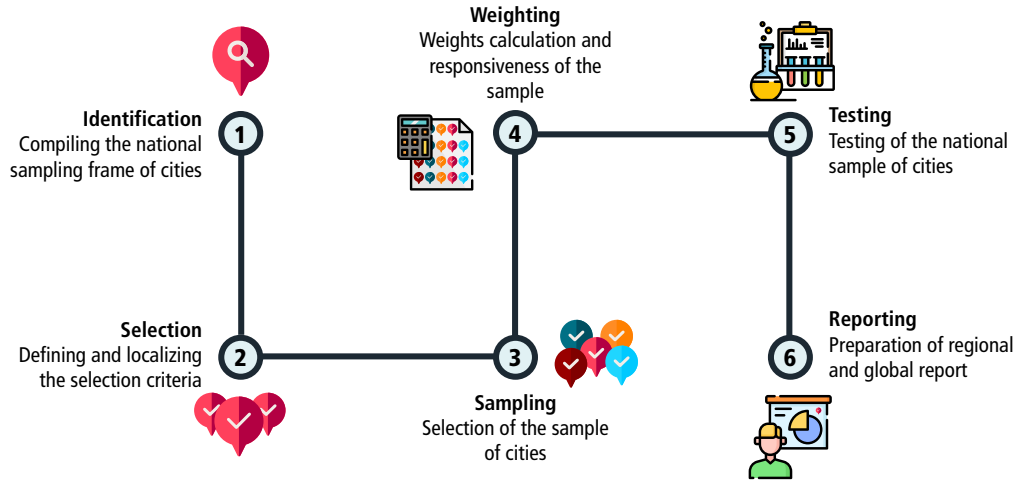
Many urban SDG indicators require data collection at the local/city level. This means that countries are compelled to define and identify the number of cities they have, collect data on all these cities and aggregate upwards the national level average performance of these city-specific indicators. For many countries, it is not possible to collect information and report on all their cities, and this is particularly true for those that have limited resources (financial, institutional, human and systems). For such countries, UN-Habitat recommends the application of the National Sample of Cities (NSC) approach which will allow them to systematically select a sample of representative cities from their territory to prepare more systematic national level reporting.

Figure 6: Selection of sample cities.



The NSC is a carefully constructed sample of cities that considers sub-regional and city specific characteristics and variances to monitor the dominant pattern in the country's cities in an aggregated manner in a given country. The NSC is one of the mechanisms that will create conditions to monitor and report on a consistent set of cities that can enable them to produce time series analysis to measure national progress in a more systematic and scientific manner. The sample of cities is drawn using sound statistical and scientific methodologies based on a number of relevant city-specific criteria/ characteristics that capture the specific contexts of countries, ensuring that the sample is consistent, and representative of a given country's territory, geography, size, history, etc. The NSC may be used by countries to select cities or urban areas in which to set up of urban observatories over time as part of the monitoring and reporting process.

Figure 7: How to construct an NSC



Railway, Bangladesh © Peter Walters / UN-Habitat

Conclusion

Despite their recognized importance in fostering sustainable development, many cities around the world lack the means to understand relationships between policy and urban outcomes or relationships between the performance of individual sectors and broader social and economic development outcomes. As a result, very few cities have the capacity to develop sound and informed policies and actions for providing adequate services to their residents because they often do not access to timely, relevant and disaggregated data.

As designed, urban observatories are well-positioned to fill this gap, meeting the frequently expressed need for reliable, high resolution urban data sets specific to the cities and immediate city-regions in which they operate. They assist in strengthening capacities at national, subnational, and local levels, providing platforms to facilitate effective knowledge exchange and promote evidence-based governance built on a shared knowledge base. In general, urban observatories play an instrumental role in leveraging local technology, innovation and analysis to support urban data collection and policy making, while supporting capacity-building, urban data literacy and awareness. In terms of urban data governance and leadership, urban observatories manage local partnerships and coordination of data originating from government departments, the private sector, non-governmental organizations, the media and academia. As such, they can directly or indirectly promote good practices and principles in data sharing, open data and data rights. They act as focal points for indicator-based urban monitoring systems and are hosted by an existing central government office, city department, non-governmental organization or university.

Urban observatories exist to bridge the interests and activities of different sectors concerned with urban development, including local authorities, non-governmental organizations, academic research centers, the private sector and civil society. As such, decision-makers must be engaged in order to ensure that information products and plans are used for the good of the public, and the public must be present in order to ensure that plans represent the interests of all stakeholders.

Over the years, UN-Habitat has been providing systematic guidance on setting up these observatories to many countries leading to the development of a global network of local, national and regional urban stations, the Global Urban Observatory Network (GUO-Net), a worldwide information and capacity-building network to help implement the New Urban Agenda at the national and local levels. This critical mass of urban

observatories constitutes a very important asset for the monitoring and reporting of the international agendas such as the NUA and the SDGs as they lead the local level engagements on collecting, analyzing and interpretations of data for urban indicators through consultative and inclusive processes.

This guide describes the process involved in setting up and running an urban observatory (at local or national level) to produce, analyze, interpret and disseminate the valuable urban data needed by local and national decision-makers to monitor progress towards achieving urban development agendas such as the SDGs, the Paris agreement, the NUA, urban practitioners and other stakeholders worldwide. The step-by-step process is easily replicable in various contexts and is supported by new tools and methods developed by UN-Habitat.

As parts of its efforts to improve capacities for generating and using urban data, UN-Habitat provides technical assistance in the development of new observatories at the national or local level. Such support starts in the early planning stages and include capacity building, sharing of best practices and key knowledge management tools and technical assistance for the inception and organizational development phases of the observatory, as well as indicator framework development, capacity building for data collection, management and analysis.

Annexes

Table A1: SDG 11 Indicators framework

Targets	Current Indicators	Tier classification	Custodian Agency
SDG target 11.1: By 2030 ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.	11.1.1. Proportion of urban population living in slums, informal settlements or inadequate housing.	Tier I	UN-HABITAT FOR A BETTER URBAN FUTURE
SDG target 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 the elderly.	11.2.1. Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities.	Tier II	UN-HABITAT FOR A BETTER URBAN FUTURE
SDG target 11.3: By 2030 enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.	11.3.1. Ratio of land consumption rate to population growth rate.	Tier II	UN-HABITAT FOR A BETTER URBAN FUTURE
	11.3.2. Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically.	Tier II	UN-HABITAT FOR A BETTER URBAN FUTURE
SDG target 11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage.	11.4.1. Total per capita expenditure on the preservation, protection and conservation of all cultural and natural heritage, by source of funding (public, private), type of heritage (cultural, natural) and level of government (national, regional, and local/municipal)	Tier II	UNESCO
SDG target 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.	11.5.1. Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population.	Tier II	UNDRR UN Office for Disaster Risk Reduction
	11.5.2. Direct disaster economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters.	Tier II	UNDRR UN Office for Disaster Risk Reduction
SDG target 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.	11.6.1. Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal solid waste generated by cities	Tier II	UN-HABITAT FOR A BETTER URBAN FUTURE
	11.6.2. Annual mean levels of fine particulate matter (for example, PM2.5 and PM10) in cities (population weighted).	Tier I	World Health Organization
SDG target 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.	11.7.1. Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities.	Tier II	UN-HABITAT FOR A BETTER URBAN FUTURE
	11.7.2. Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months.	Tier II	UNODC United Nations Office on Drugs and Crime

Targets	Current Indicators	Tier classification	Custodian Agency
SDG target 11.a: Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.	11.a.1. Number of countries that have a National Urban Policy or Regional Development Plans that (a) respond to population dynamics, (b) ensure balanced territorial development, and (c) increase local fiscal space.	Tier II	UN-HABITAT FOR A BETTER URBAN FUTURE
SDG target 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.	11.b.1. Number of countries that adopt and implement national disaster in line with the Sendai Framework for Disaster Risk Reduction 2015–2030.	Tier II	UNDRR UN Office for Disaster Risk Reduction
	11.b.2. Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies.	Tier II	UNDRR UN Office for Disaster Risk Reduction
SDG target 11.c.: 11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials	New indicator to be developed		UN-HABITAT FOR A BETTER URBAN FUTURE
SDG target 1.4: By 2030 ensure that all men and women, particularly 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	1.4.1. Proportion of population living on households with access to basic services	Tier I	UN-HABITAT FOR A BETTER URBAN FUTURE
	1.4.2. Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure	Tier II	UN-HABITAT FOR A BETTER URBAN FUTURE; WORLD BANK GROUP
SDG target 6.3: "By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally"	6.3.1: Proportion of domestic and industrial wastewater flows safely treated	Tier II	World Health Organization; UN-HABITAT FOR A BETTER URBAN FUTURE

Tier I. Indicator is conceptually clear, has an internationally established methodology and standards are available, and data are regularly produced by countries (for at least 50% of countries and of the population in every region where the indicator is relevant)

Tier II. Indicator is conceptually clear, has an internationally established methodology and standards are available, but data are NOT regularly produced by countries.

Tier III. NO internationally established methodology or standards are yet available for the indicator, but methodology/standards are being (or will be) developed or tested.

Table A2: List of CPI indicators (recommended indicators for urban observatories)

DIMENSION	SUB-DIMENSION	INDICATORS
PRODUCTIVITY	Economic Strength	City Product per capita USD
		Old Age Dependency Ratio
		Mean Household Income
	Economic Agglomeration	Economic Density
		Economic Specialization
	Employment	Unemployment Rate
		Employment to population ratio
		Informal employment
INFRASTRUCTURE	Housing Infrastructure	Improved shelter
		Access to improved water
		Access to improved sanitation
		Access to electricity
		Enough living area
		Population density
	Social Infrastructure	Physicians Density
		Number of public libraries
	ICT	Internet Access
		Home computer access
		Average broadband speed
	Urban mobility	Use of public transport
		Average daily travel time
		Length of mass transport network
		Traffic fatalities
		Affordability of transport
	Street connectivity	Street intersection density
		Street density
		Land allocated to streets
QUALITY OF LIFE	Health	Life expectancy at birth
		Under-five mortality rate
		Vaccination coverage
		Maternal mortality
	Education	Literacy rate
		Mean years of schooling
		Early childhood education
		Net enrolment in higher education
	Safety and Security	Homicide rate
		Theft rate
	Public Space	Accessibility to public open spaces
		Green area per capita

DIMENSION	SUB-DIMENSION	INDICATORS
EQUITY & SOCIAL INCLUSION	Economic Equity	Gini Coefficient
		Poverty rate
	Social Inclusion	Slum households
		Youth unemployment
	Gender Inclusion	Equitable secondary school enrolment
		Women in local government*
		Women in the workforce*
	Urban diversity	Land use mix
ENVIRONMENTAL SUSTAINABILITY	Air Quality	Number of monitoring stations
		$PM_{2.5}$ Concentration*
		CO_2 emissions*
	Waste management	Waste collection
		Wastewater treatment
		Solid waste recycling share*
	Sustainable energy	Share of renewable energy consumption
URBAN GOVERNANCE AND LEGISLATION INDEX	Participation	Voter turnout
		Access to public information
		Civic participation*
	Municipal finance and institutional capacity	Own revenue collection
		Days to start a business
		Subnational debt*
		Local expenditure efficiency*
		Land-use efficiency

Contact information:
Data and Analytics Unit,
Knowledge and Innovation Branch,
External Relations, Strategy, Knowledge
and Innovation Division,
UN-Habitat,
P.O. Box 30030,
Nairobi, 00100, Kenya.

Tel: 254-20-762 3342.
Fax: 254-20-762 6741.
Website: www.unhabitat.org

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