



Indicator 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"

Robert P. Ndugwa,
Head, Global Urban Observatory Unit,
Research and Capacity development Branch,
UN-Habitat.



Background and international standards



Cities that improve and sustain the use of public space, including streets, enhance community cohesion, civic identity, and quality of life which is also a first step towards civic empowerment and greater access to institutional and political spaces.

- **Methodological refinements** and piloting activities are concluded :
 - EGMs with diverse and inclusive partners – including NSOs and city managers
 - Detailed documentation on methodology and concepts
 - Pilot testing of the indicator methodology in various cities,
 - Development of capacity development guides, partnership agreements and database development.
- **City definitions:** UN-Habitat and partners have worked on these definitions as a cross-cutting issue for all spatial indicators.





City definition for spatial indicators

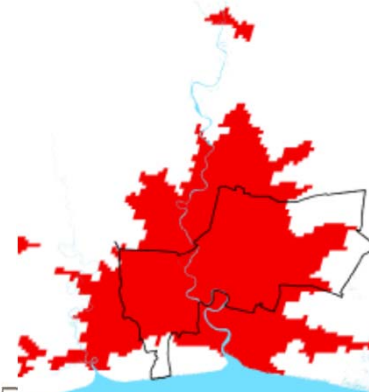
- EGMs were organized that brought together leading experts on the detection of built-up area and on the identification and classification of what is urban and what is rural.
- To ensure comparability of reported results, [a harmonized global definition](#) is needed. This will facilitate data exchange and comparison within and across nations.

Two methods have been proposed for defining what is rural and what is urban, and for identifying the area of the city.



The NYU method relies primarily on an assessment of the density of built-up area, and applies various rules to create a unified urban boundary for cities.

(NYU/UNH).



The EC method relies on population density and city size at a 1km grid level. (EC/UN-H).





Method of computation

Indicator 11.7.1 is composed of three parts:

1. Spatial analysis to delimit the **built-up area of the urban agglomeration**
2. Computation of **total area of open public space**.
3. Estimation of **land allocated to streets**.

Share of the built up area of the city that is open space in public use %

$$\left(\frac{\text{Total surface of open public space} + \text{Total surface of land allocated to streets}}{\text{Total surface of built up area of the urban agglomeration}} \right) \times 100$$



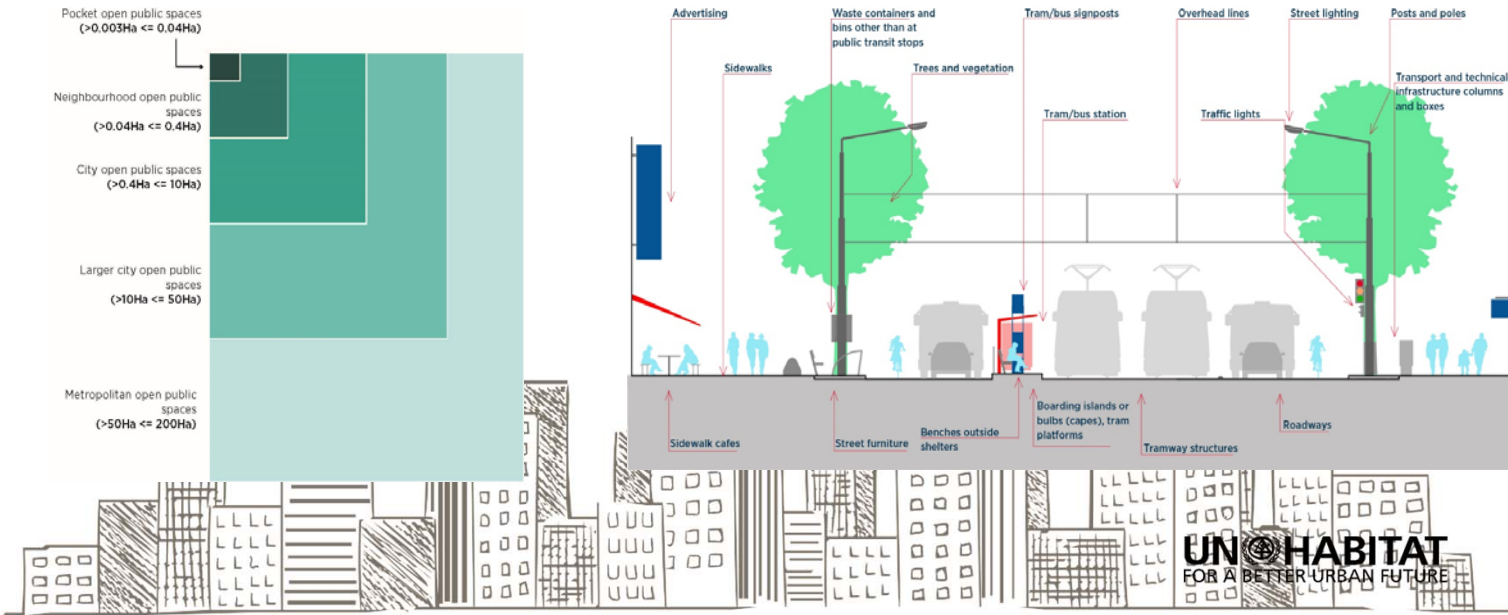


Definition of terms for indicator computation

Urban extent is defined as the total area occupied by the built-up area and the urbanized open space. The built-up area is defined as the contiguous area occupied by buildings and other impervious surfaces.

Open public spaces are those areas within the urban environment that are freely accessible to the public for use, regardless of ownership, and are intended primarily for outdoor recreation and informal activities irrespective of size, design or physical feature.

Streets are defined thoroughfares that are based inside towns, cities and neighbourhoods most commonly lined with houses or buildings used by pedestrians or vehicles in order to go from one place to another in the city, interact and to earn a livelihood.





NSO and Expert Consultations

The 1st EGM in Oct 2016

Focused on **methodological refinements and concretizing the institutional partnerships** for the indicator development and data collection

- Participants included NSOs, Urban Observatories, EU, World Resources Institute, UCLG, Arab Urban Development Institute, WHO, ESRI, NYU, among others

The 2nd EGM held in Feb 2017

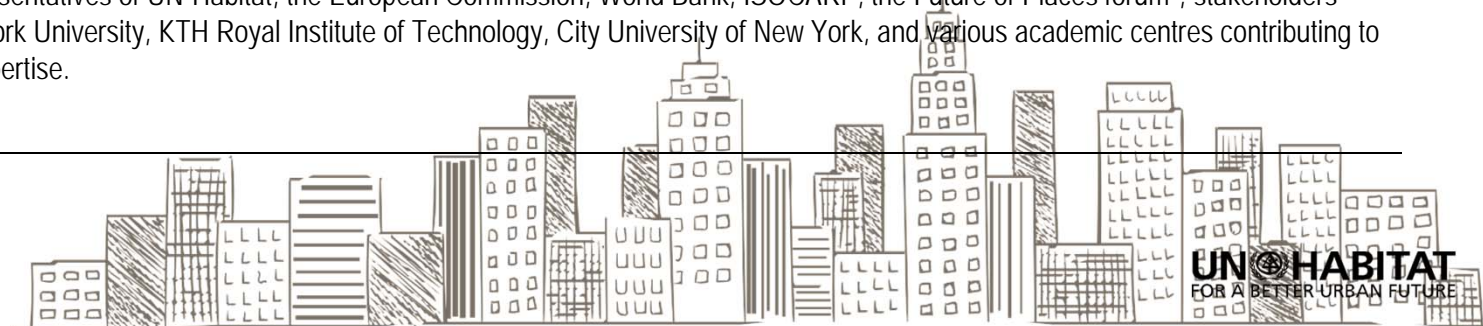
Focused on **challenges of data collection and review of preliminary data** made available through efforts of collecting city-based monitoring the human settlements data at local levels.

- The meeting was attended by representatives from NSOs, Urban Observatories, European Union, World Resources Institute, United Cities and Local Governments, ESRI, Arab Urban Development Institute UNESCO, Women in Cities (WICI), Universities and private planning firms, senior statisticians from governments, academic institutions, urban planners, etc.

The 3rd consultative in July 2018

A Meeting was held as a side event of the HLPF in New York and review accuracy of available data and methodology.

- Participants included representatives of UN-Habitat, the European Commission, World Bank, ISOCARP, the Future of Places forum*, stakeholders from various cities, New York University, KTH Royal Institute of Technology, City University of New York, and various academic centres contributing to technical and research expertise.





Feedback from consultations and activities

Outcomes of consultations:

The 1st EGM

resulted in agreement on key conceptual parameters of the indicator, the metadata content, approach for data collection, and identification of country specific needs and areas of support from experts and agencies

The 2nd EGM

agreed on the technical aspects of computing the indicator and the proposed methodology. It also identified the challenges and opportunities of improving the methodology as well as strategies for scaling up and capacity building for National Statistics Offices (NSOs).

The 3rd consultative meeting

concluded that, available data and the proposed methodology combining remote sensing with statistical sampling and social surveys is an effective and practical approach for the indicator computation across countries/ cities

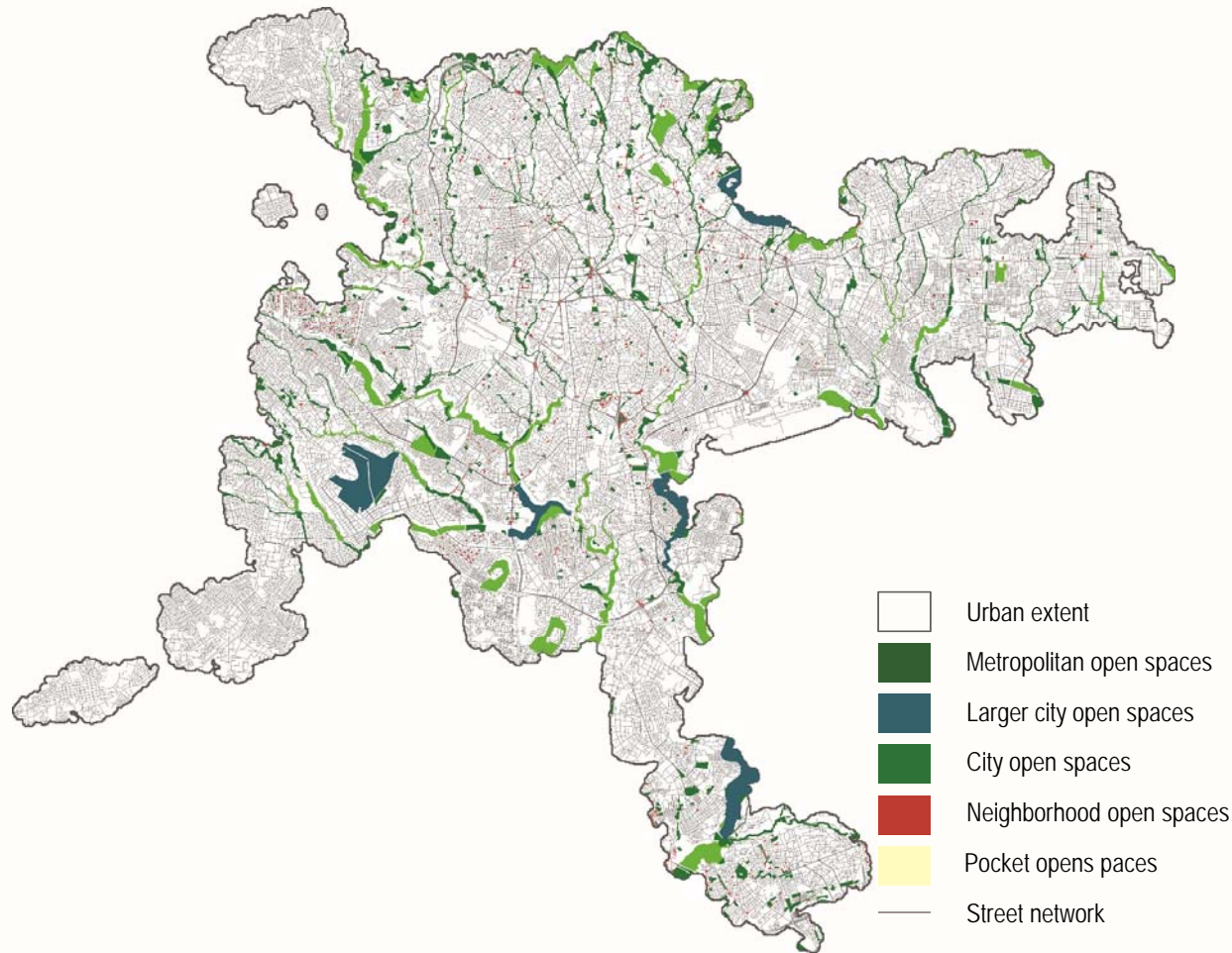
As a result of consultations:

- Data for the indicator is now available for **289 cities in 94 countries** and other data collection initiatives are on-going.
 - UN-Habitat's City Prosperity Initiative (CPI) has collected data on the indicator in various cities distributed across Latin America & Caribbean, Africa, Asia and Europe.
 - UN-Habitat's Global Public Spaces Programme has conducted city-wide public space assessments in 9 cities in close collaboration with cities and local governments, NSOs and urban observatories. The process helped to refine the methodology for city wide data verification and disaggregation
 - UN-Habitat worked with New York University to conduct a worldwide mapping of amount of land occupied by open spaces covering a global sample of 200 cities using the agreed upon methodology. This data has been shared with countries for validation
 - Additional data from EC is under review
 - A database compiling available data on the indicator is available ([SDG 11.7.1 Database](#))
 - Tools for data collection on the indicator have been developed and pilot tested in several countries/ cities ([SDG 11.7.1 data collection form](#)).
- A **multi-country capacity assessment** for several cities on the ability and preparedness to report on 11.7.1 was conducted by UN-Habitat and regional partners.





Addis Ababa, Ethiopia Snapshot




1. Start with satellite imagery
2. Extract Urban extent
3. Extract open spaces and streets within urban extent
4. Correlate the extracted data with data from open source and local authority
5. Classify open spaces by 5 categories: Pocket spaces, Neighbourhood spaces, City spaces, Larger city space and Metropolitan spaces





Data disaggregation



	Feasible	Piloted	Data tool
Age	Yes	Yes	Kobo mobile app questionnaires
Sex	Yes	Yes	Kobo mobile app questionnaires
Disability	Yes	Yes	Kobo mobile app questionnaires
Location (city center or outskirts)	Yes	Yes	Kobo mobile app questionnaires

Data is collected the old-fashioned way, by deploying researchers out on all public spaces identified via inventory. GPS locations are collected as part of the administered questionnaire on smart mobile phones





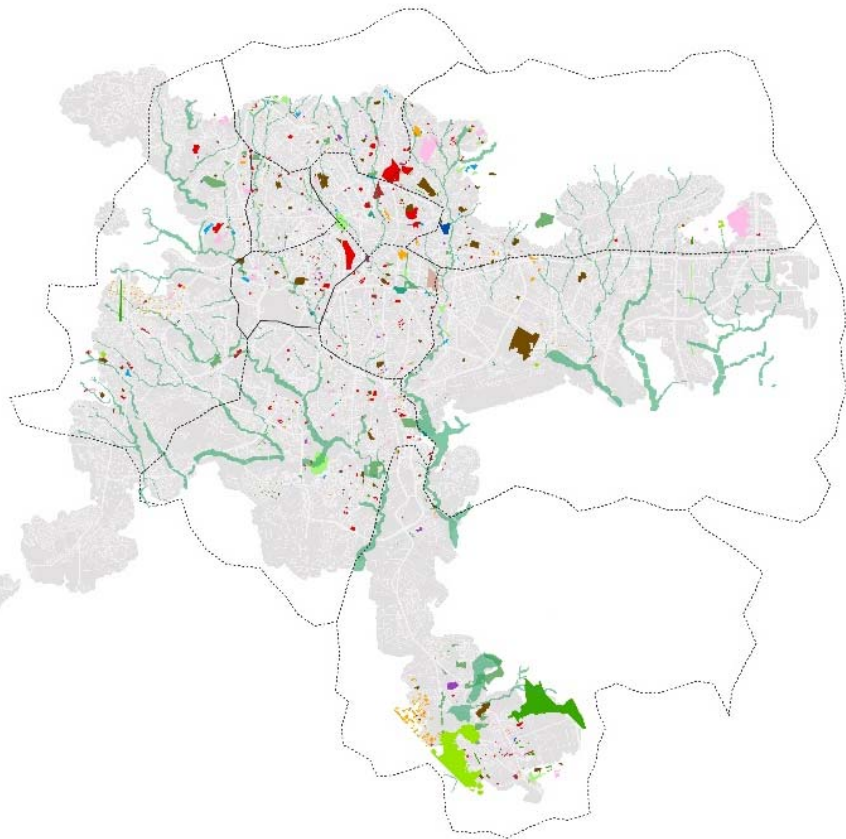
Field survey to validate and disaggregate the data

Calculation of land allocated to open space for public use within the urban extent

$$\left(\frac{\text{Total surface of open public space} + \text{Total surface of land allocated to streets}}{\text{Total surface of built up area of the urban agglomeration}} \right) \times 100$$

$$\left(\frac{14.63\text{km}^2 + 65.22\text{km}^2}{296.46\text{km}^2} \right) \times 100 = 26.93\%$$

Disaggregate the data by typology and the use by age, gender and disability



Typology

- Agriculture
- Plaza/Square
- Water body
- Riparian Area
- Sidewalk
- Waterfall
- Community Yard
- Garden
- Park
- Playground
- Parking Lots
- Stations
- Business
- Institutional
- Vacant Space



32%



22%



39%



34%



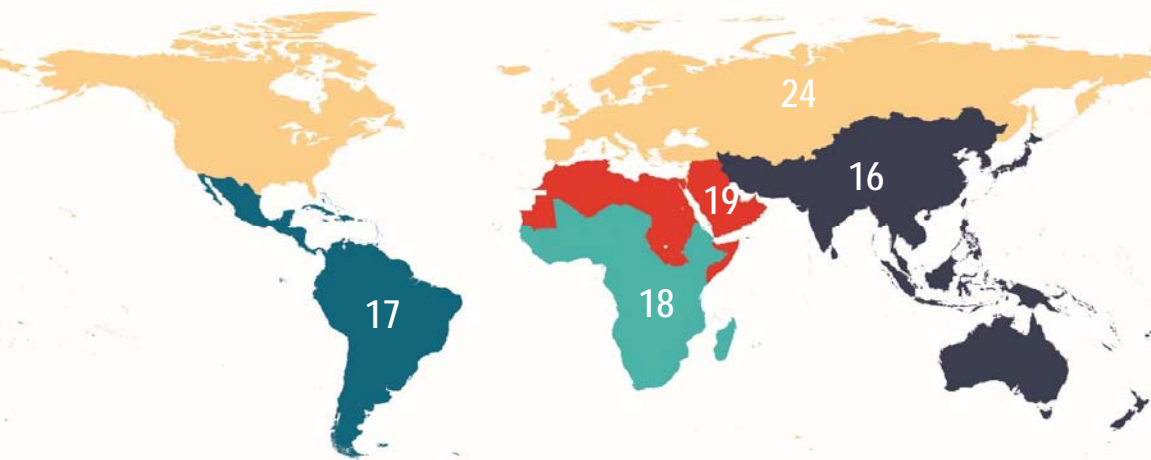
17%

Percentage of public spaces with different user groups present



Summary of data availability on indicator 11.7.1

Countries with data available on the indicator



Region	Cities covered as of December 2017	Countries covered as of December 2017
Asia and the Pacific	91	16
Europe and North America	66	24
Latin America and the Caribbean	55	17
North Africa and Arab States	47	19
Sub-Saharan Africa	30	18
Total	289	94

City	Country	Region	DATA AVAILABILITY		
			Share of Built-up Area Occupied by Streets	Share of Built-up Area Occupied by Open Space	Share of Built-up Area Occupied by potential public space
Melborne	Australia	Asia and the Pacific	19.5	0.09	19.59
Dhaka	Bangladesh	Asia and the Pacific	12%	32%	44%
Leshan, Sichuan	China	Asia and the Pacific	18%	40%	58%
Vinh Long	Vietnam	Asia and the Pacific	10%	41%	51%
Vienna	Austria	Europe and North America	18%	31%	49%
Gomel	Belarus	Europe and North America	16%	30%	46%
Antwerp	Belgium	Europe and North America	13%	43%	56%
Montreal	Canada	Europe and North America	19%	21%	40%
Astrakhan	Russia	Europe and North America	20%	33%	53%
Madrid	Spain	Europe and North America	29%	34%	63%
Chicago	United States	Europe and North America	25%	27%	52%
Buenos Aires	Argentina	Latin America and the Caribbean	15%	24%	39%
Cordoba	Argentina	Latin America and the Caribbean	21%	31%	52%
Cochabamba	Bolivia	Latin America and the Caribbean	19%	36%	55%
Curitiba	Brazil	Latin America and the Caribbean	16%	30%	46%
Santiago	Chile	Latin America and the Caribbean	18%	21%	39%
Kabul	Afghanistan	North Africa and Arab States	20%	34%	54%
Algiers	Algeria	North Africa and Arab States	25%	38%	63%
Baku	Azerbaijan	North Africa and Arab States	18%	27%	45%
Cairo	Egypt	North Africa and Arab States	24%	32%	56%
Ahvaz	Iran	North Africa and Arab States	23%	32%	55%
Tel Aviv	Israel	North Africa and Arab States	22%	39%	61%
Shymkent	Kazakhstan	North Africa and Arab States	17%	35%	52%
Luanda	Angola	Sub-Saharan Africa	17%	28%	45%
Kinshasa	Congo Dem. Rep.	Sub-Saharan Africa	13%	26%	39%
Ndola	Zambia	Sub-Saharan Africa	13%	39%	52%

*Link to full database: [SDG 11.7.1 Database](#)





Conclusions

- With our partners (EC, KTH university, NYU, Local governments, NSOs, ESRI, urban observatories, etc) we have demonstrated both in principle and in practice that **cities and NSOs are accurately collecting data for this indicator** i.e. using a generally agreed upon methodology, and data has been gathered in several cities with relevant disaggregation's.
- **A complete set of all latest data** by countries/cities and disaggregation is available at [SDG 11.7.1 Database](#)
- **A data collection form** for the indicator has been developed and pilot tested in several countries/cities and is available at [SDG 11.7.1 data collection form](#).
- Global guides for NSOs and city teams are available
- Also **a complete guide on public spaces** is available at [Global Public Space Toolkit](#)
- The body of evidence provided linked alongside the criteria for reclassification is the basis for seeking a Tier II for this indicator.





Thank You