Geospatial technologies for monitoring the Urban related SDGs-
UN-Habitat experiences

Forum on the 2030 Agenda for Sustainable Development "Where is the Data?

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URBAN AREAS CONSUMPTION AND PRODUCTION

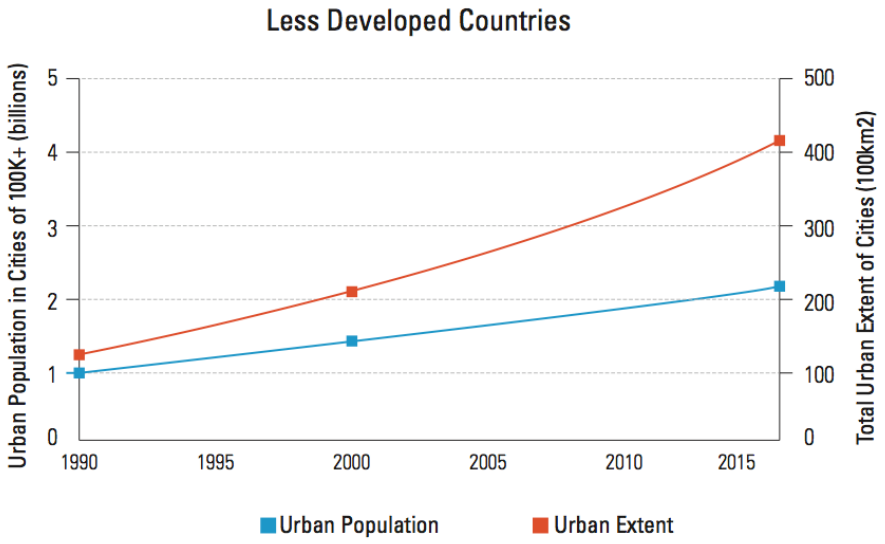
Urban areas today are:

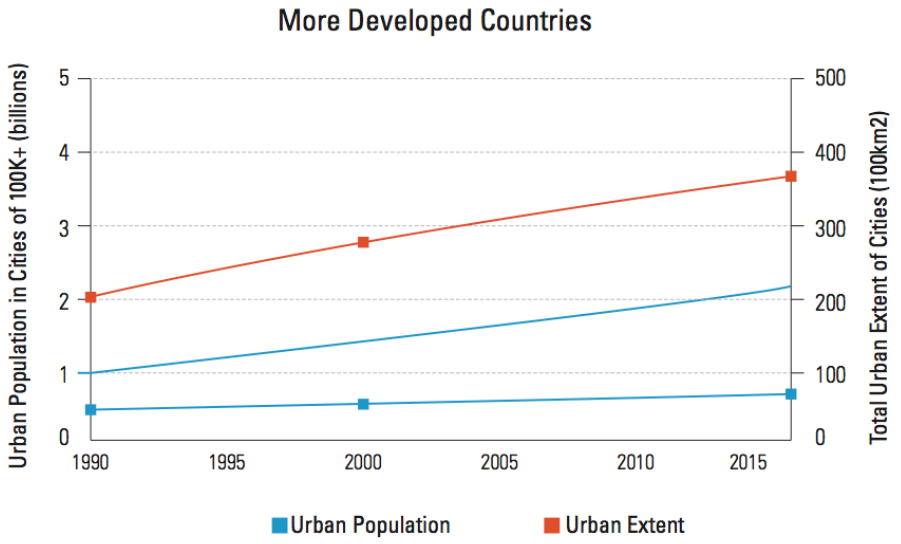
- Home to 56% of human settlements
- Consume 75% of the earth's natural resources
- Produce 60% of global GHG emissions
- Produce 50% of global waste
- Produce 80% of Global GDP

What UN-Habitat is already doing on use of EO

Urbanization: spatial analysis evidence

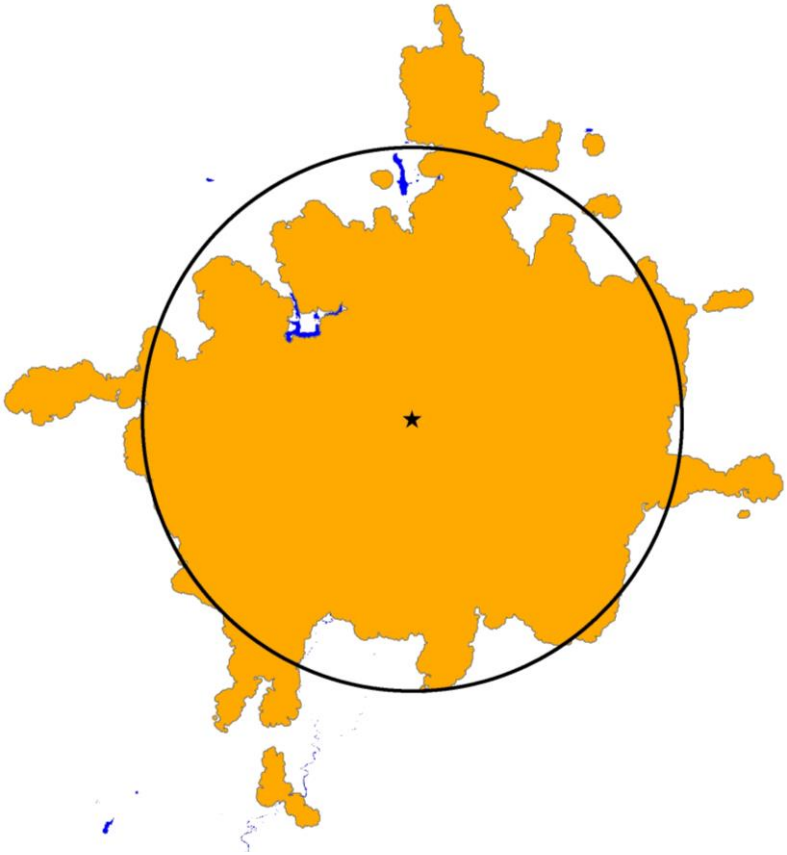
Spatial analysis/studies led by UN-Habitat on cities shows that; as cities **lose density** and **intensify sprawl**, they lock themselves into unsustainable land use patterns.



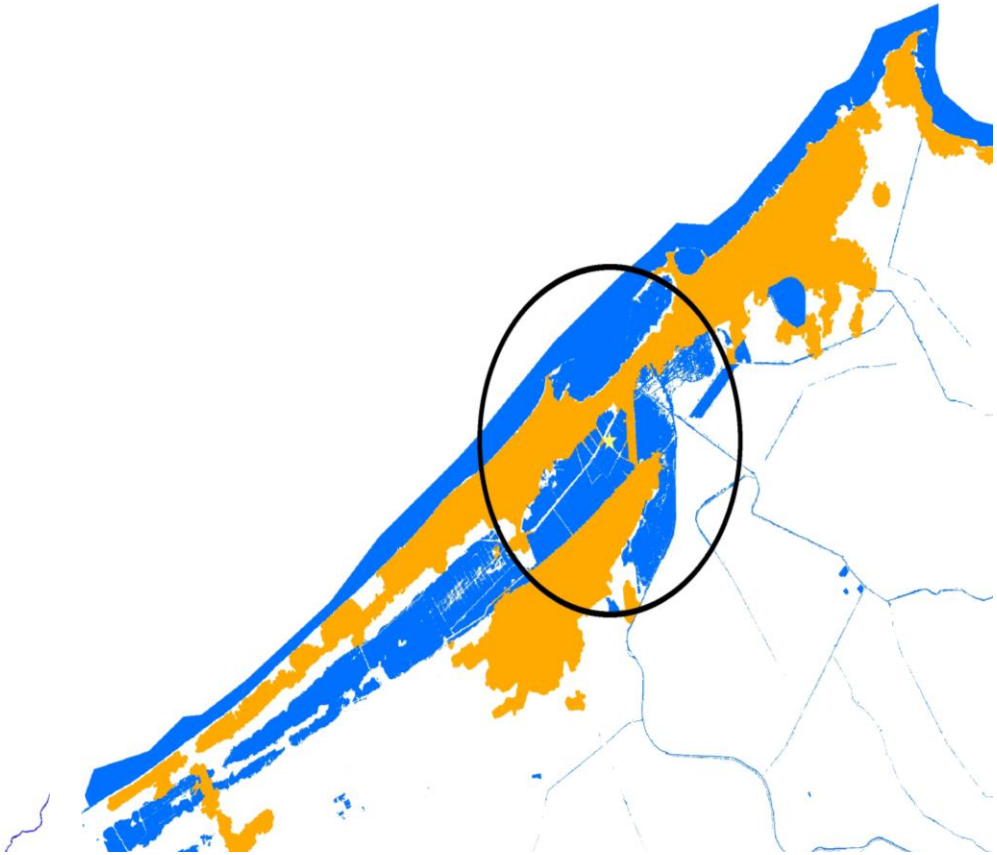


Differences in shape compactness: Ibadan and Alexandria

Ibadan, Nigeria
Cohesion Index: 0.93

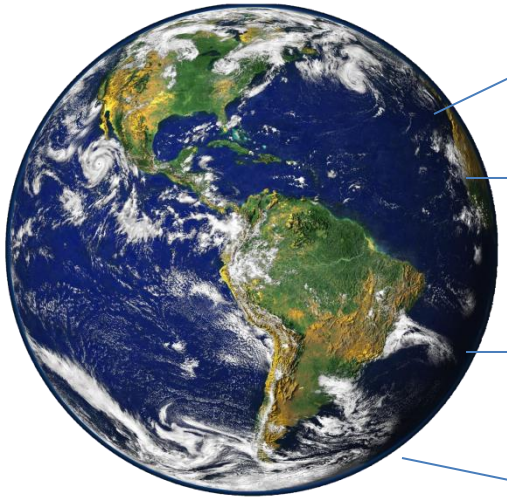


Alexandria, Egypt
Cohesion Index: 0.41



Fostering EO in urban monitoring

Custodian agencies



Methodological guidelines

Global data sets management

NSOs

Country support and capacity building

EO tools development and applications

Partners

Knowledge management and hubs

Spatial data and Monitoring of SDG11

Target 11.1 Housing & slums	11.1 Proportion of urban population living in slums or informal settlements and inadequate housing
Target 11.2 Transport	11.2 Proportion of the population that has a public transit stop (within 0.5 km ….)
Target 11.3 Planning	11.3 Ratio of land consumption rate to population growth rate – Efficient land use
Target 11.7 Public space	11.7.1 The average share of the (total) built-up area of cities that is open space in public use for all
Targer 1.4 Land and services	1.4.1. 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

UN-Habitat has partnered with many agencies/partners to measure the types of urban spaces BUT also define the urban spaces.

Some challenges ….

Reporting for urban spatial indicators

- How to scale up the spatial data needs ?
- How to deal with countries with many cities/urban centers?
- Variations in understanding spatial definitional issues of indicators at various levels
- Technological needs for monitoring
- Partnerships arrangements
- Different reporting levels

Several indicators require to be collected locally/spatially:

11.2

Public Transport

11.3

Land Consumption

11.4

Cultural heritage

11.6

Solid waste and air quality

11.7

Public Space

UN-Habitat next steps

Challenge 1: Monitoring SDGs. Spatial Indicators

Geospatial data, adequate technology and management system will be needed for the **measurement** of the spatial indicators of the Goal 11

Spatial disaggregated data provides relevant information for policy-makers to decide on local-level **allocation of resources** and monitoring of equitable outcomes

Indicators with a **spatial component**

11.1

Slums and housing

11.1

Transport

11.3

Land Consumption

11.7

Public Space

- New form of **collection**
- New form of **analysis**

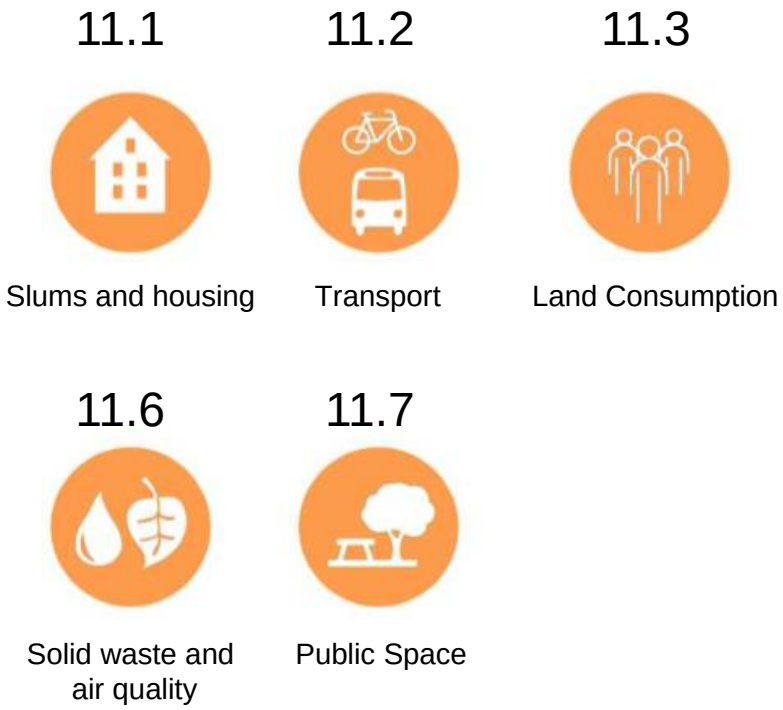
UN-Habitat next steps

Challenge 2: National Sample of Cities

National governments need to create a consistent set of cities that is representative of their territory, geography, governance and history.

UN-Habitat will support national governments in the definition of a **sample of representative cities** and in the **data aggregation process**

Indicators that need a **local collection** of data



Using the National Sample of Cities approach

Modelled after the Global Sample of Cities, the National Sample of Cities will be used to monitor urban indicators using a nationally representative sample of cities / urban centres to report on the country's urban human settlements performances

CRITERIA

- ❑ Number of cities
- ❑ Population
- ❑ Size of the city
- ❑ Geographic location
- ❑ City functionality
- ❑ Economic and political importance

Global Sample of Cities

Based on 200 cities, it represents 5% of the Universe of 4,231 cities of over 100,000 inhabitants in 2010 and 70% of the world urban population

Challenges of using EO data for urban monitoring

1. What constitutes ‘urban’ EO data?

2. What analytical methods can be applied to EO data in ways that inform our understanding of the performance of cities?
   - Identification of built up clusters from built up and open space pixels in land cover classification
3. What data must be analyzed to estimate global norms, regional norms, etc…?

4. What types of structured approaches to data analysis can we employ to enhance our understanding of trends?

5. To what extent can existing EO datasets and methods be used to monitor the SDGs and how might supplementary data collection aid these efforts?

6. ***City-level action encompasses many more areas than Goal 11***

SUSTAINABLE DEVELOPMENT GOALS

Summary

- **Localizing the EO is essential, and since** urban is cross-cutting, uniform technologies of EO should be applied among all Goals of SDGs
- **EO data is unquestionably a vital component** for any monitoring framework but supplementary **non-EO data is vital to full realization of monitoring the SDGs.**
- Considering the vast amount of EO data to be used by the SDG stakeholders at all levels, the development of **collaborative platforms and knowledge hub** is a necessity.

THANK YOU

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FOR A BETTER URBAN FUTURE

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