

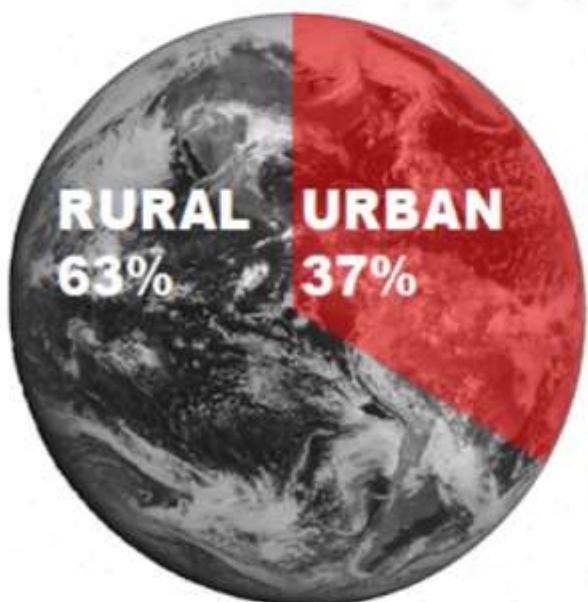
Power of Geospatial Knowledge; Building Sustainable Economies



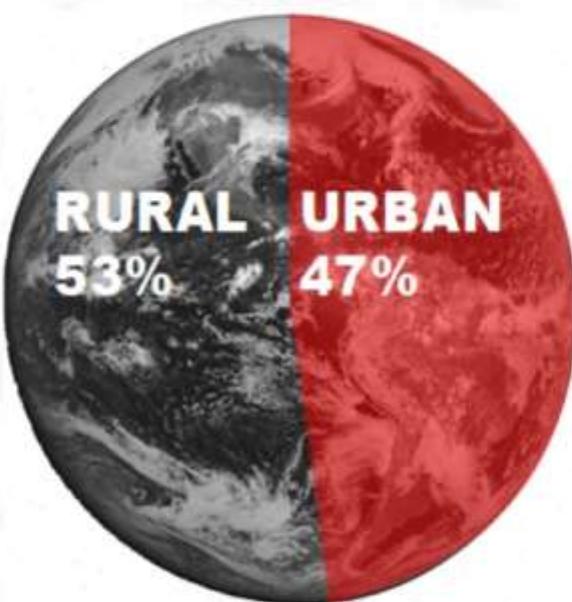
Anna Wellenstein
Director, The World Bank

Mega Trends

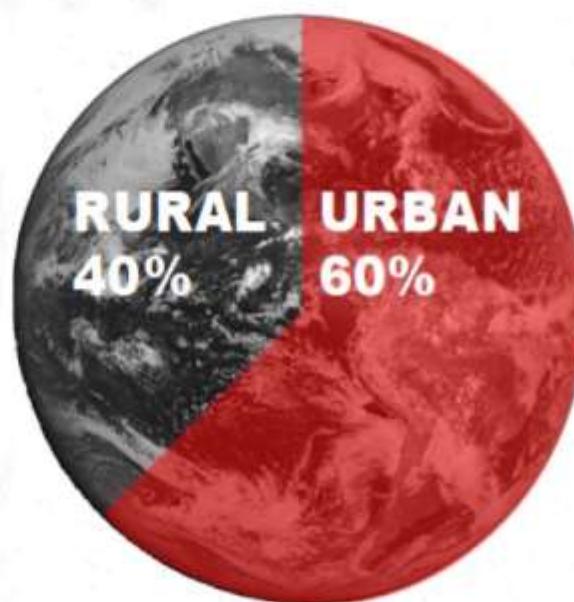
Urbanization



1970



2000



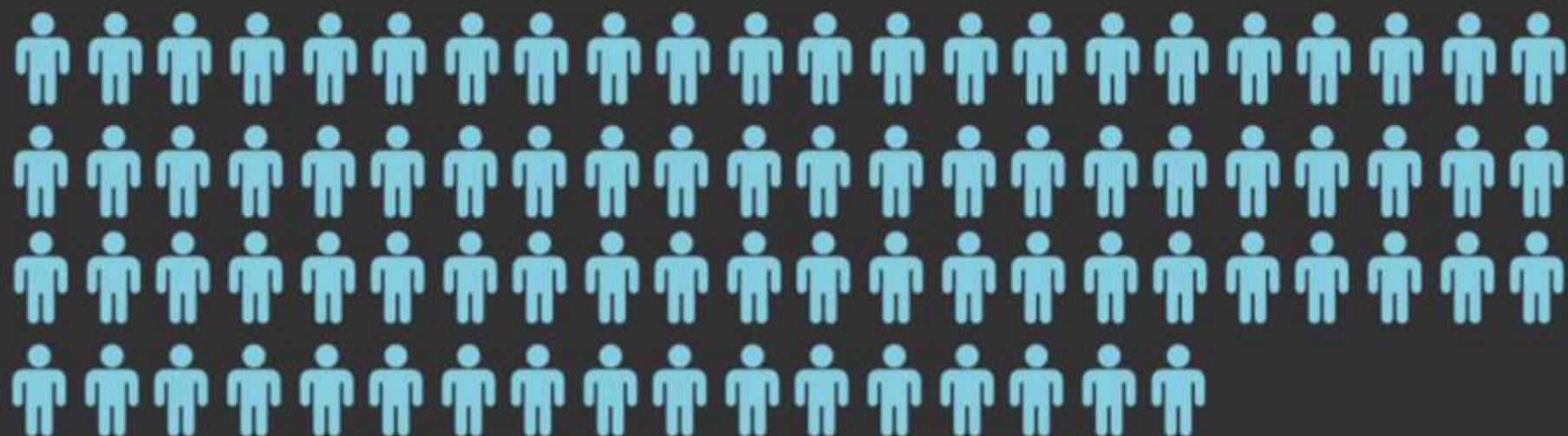
2030

- + 2 billion new urban residents
- 1.2 million new km² urban area



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Population



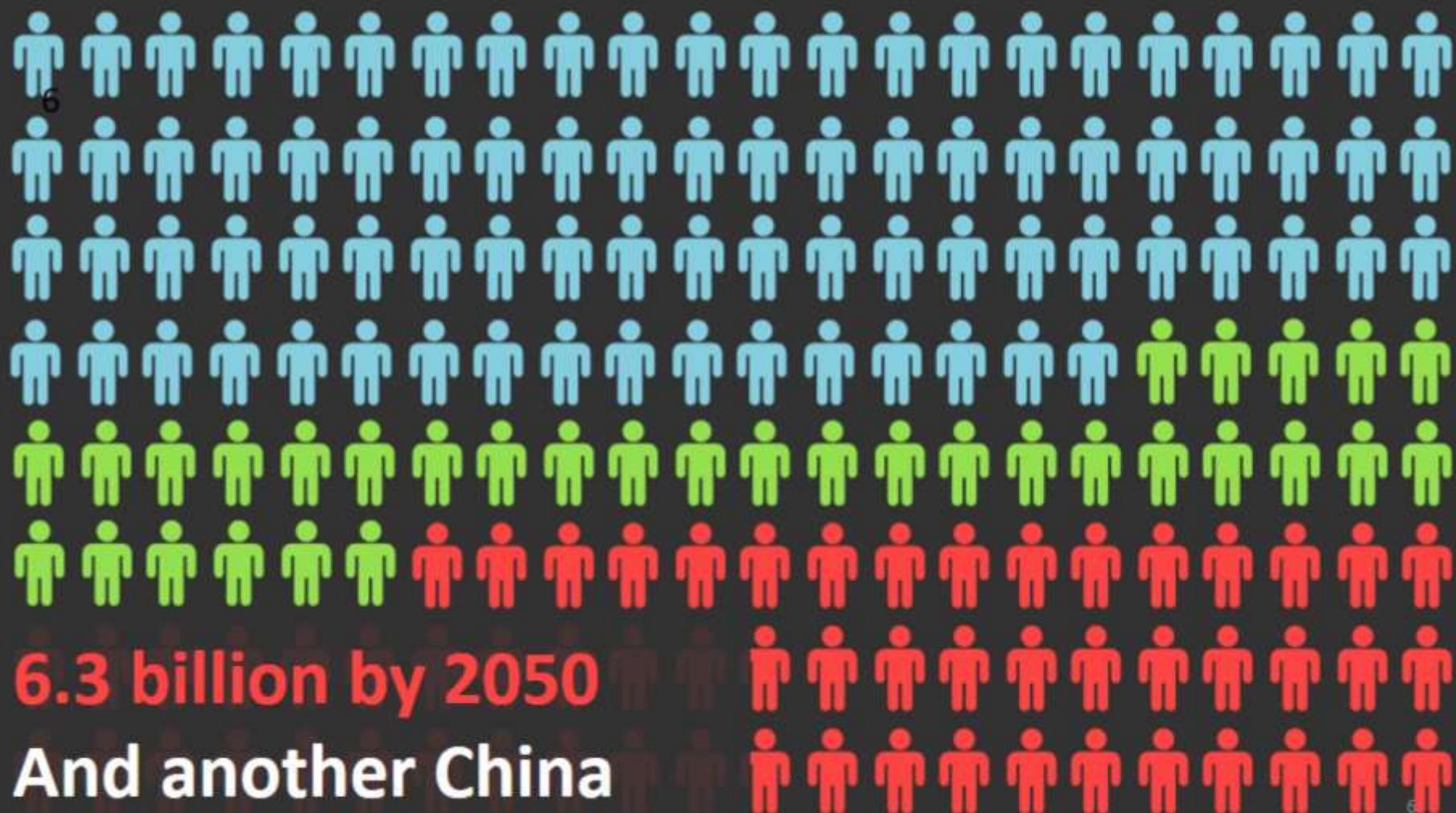
World urban population
4.2 billion today

Population



5 billion by 2030
Adding three Brazils

Population



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Demographics



Aging
Population
Growth

Old-age dependency ratios

Number of people aged 65 and over
As % of labour force (aged 15-64), forecasts

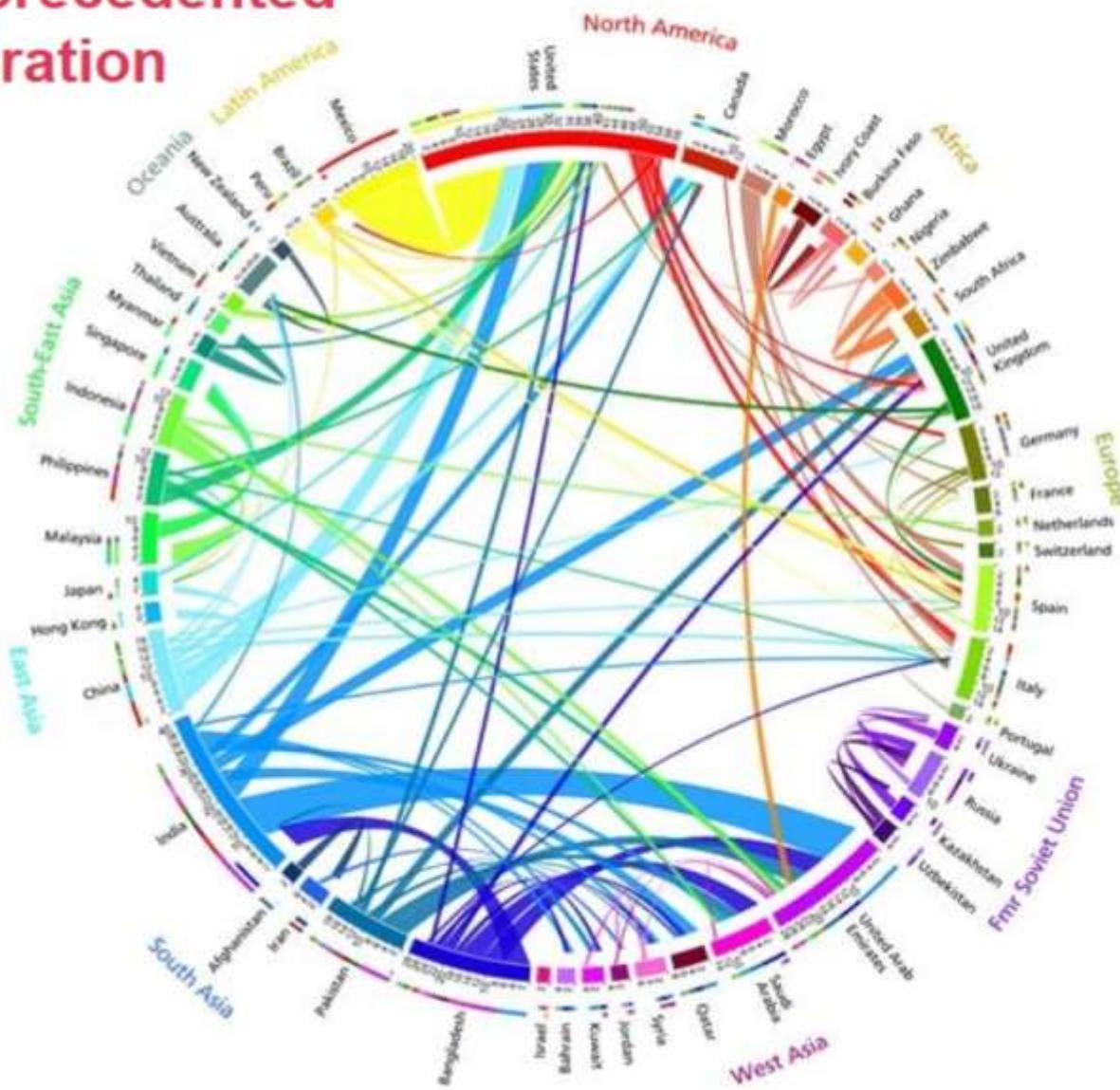


Demographics

Global
Citizens



Unprecedented Migration



Displacement



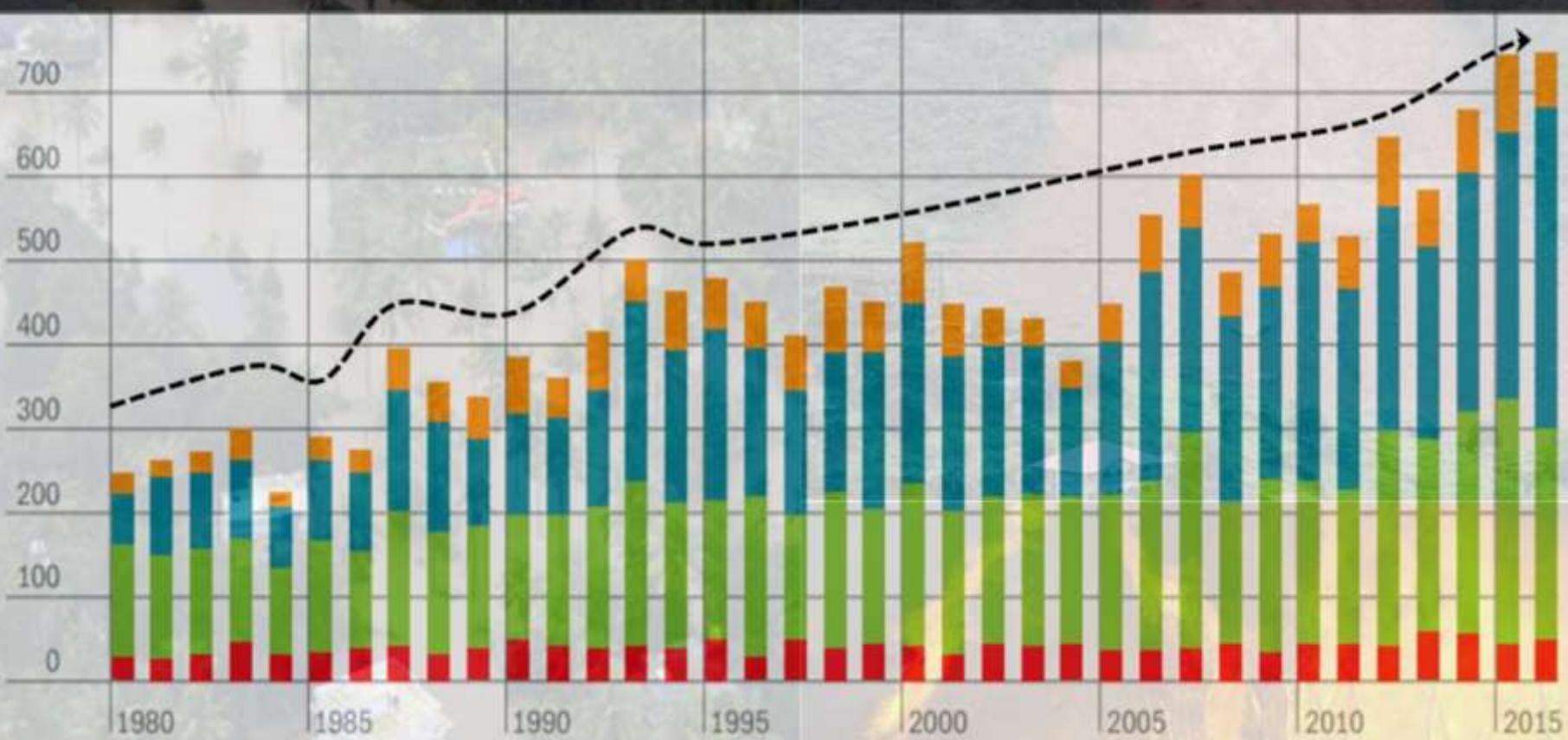
65.6 million Displaced.

22.5 million Refugees, over half under the age of 18.

10.0 million Stateless people.

Natural Disasters

Caused loss 1980 - 2016



Climatological events

Hydrological events

Meteorological events

Geophysical events



Urban Future



The 19th century was a century of empires.
The 20th century was a century of nation states.
The 21st century will be a century of cities.

Wellington Webb, former mayor of Denver



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Cities, Growth and Poverty Reduction

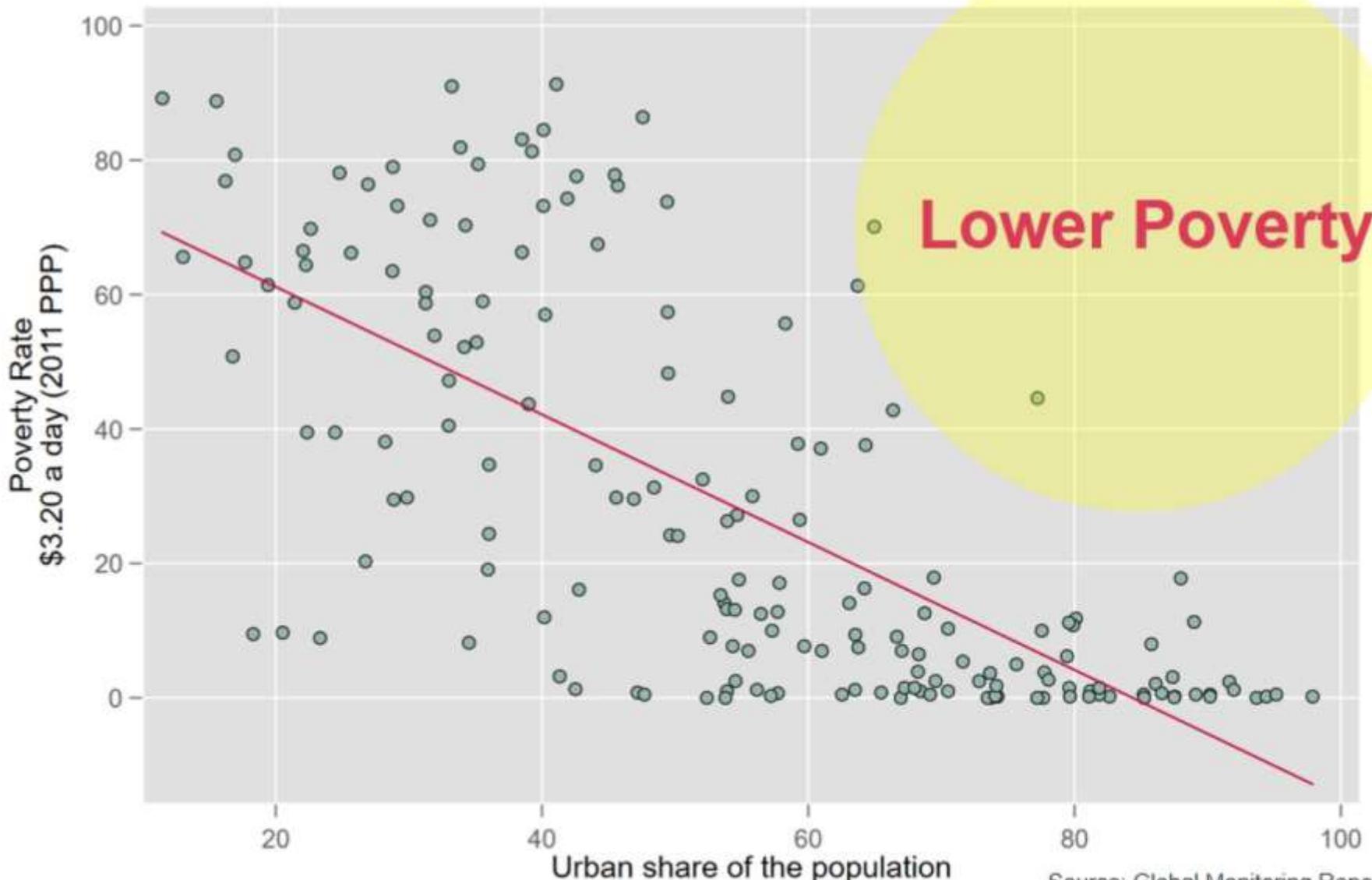
80%

**Global Economic
Activity in Cities**



**Job Creation &
Growth**

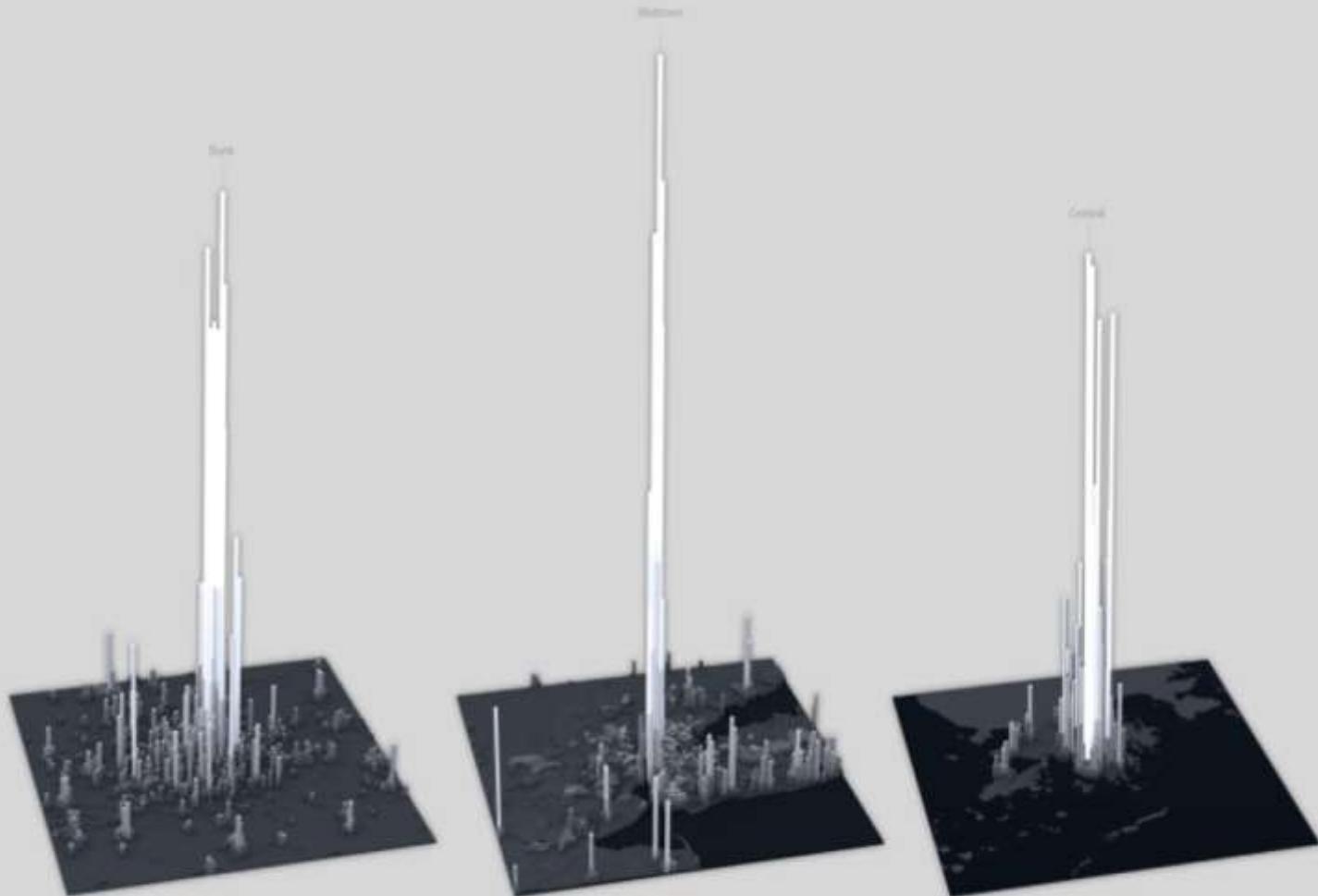
Cities, Growth and Poverty Reduction



Source: Global Monitoring Report 2013

Cities, Growth and Poverty Reduction

EMPLOYMENT
DENSITY



But not all cities are the same

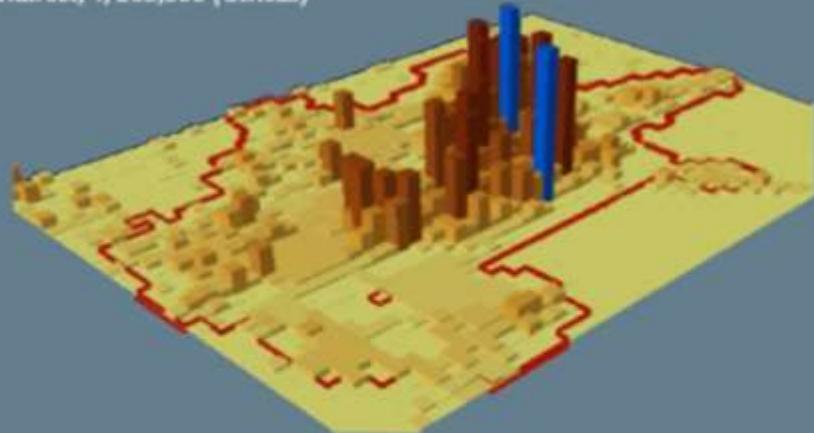
LAND

is developed as small disconnected fragments

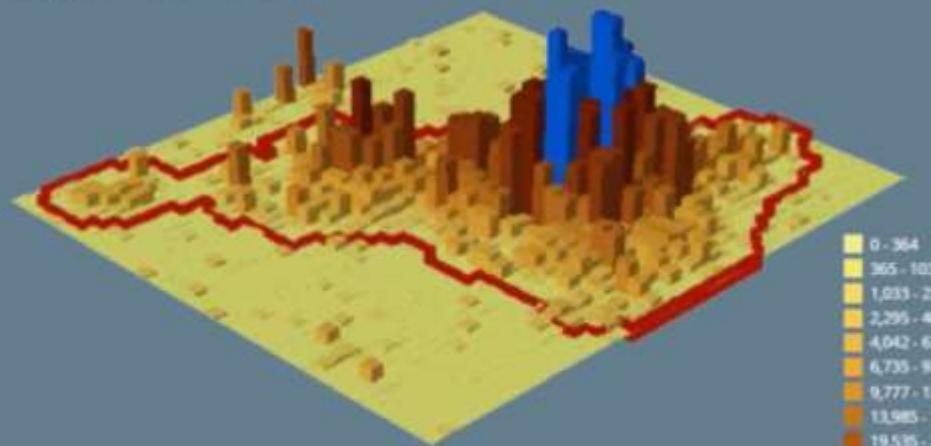
Individuals are disconnected from one another and disconnected from job opportunities.

Nairobi in Kenya and Pune in India have fragmented urban land development

Nairobi, 4,265,000 (Census)



Pune (population 5.574 million)

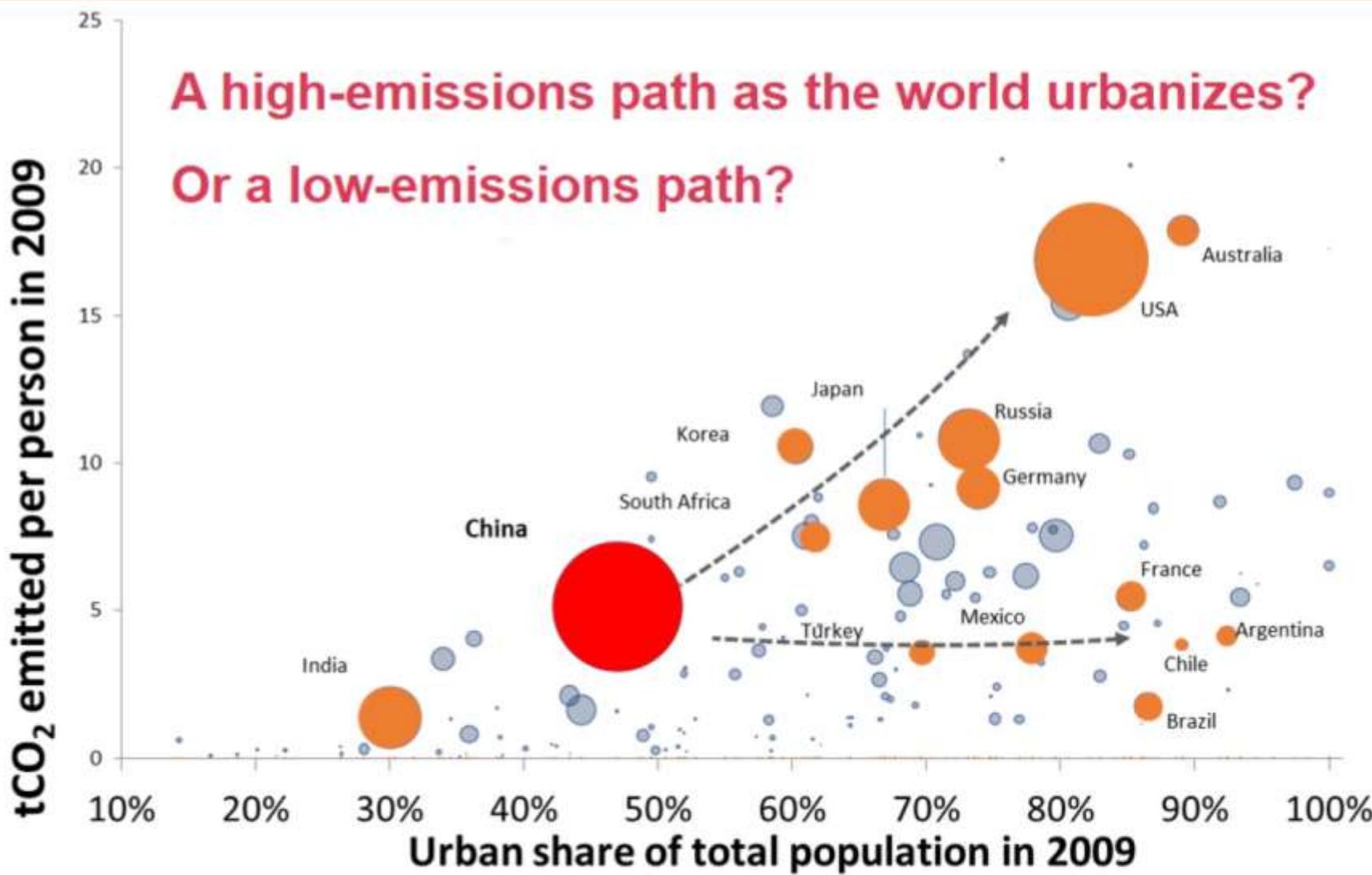


0 - 364
365 - 103
1,033 - 22
2,295 - 40
4,042 - 67
6,735 - 97
9,777 - 13,964
13,985 - 19,534
19,535 - 27,747
27,748 - 39,955
39,956 - 53,972
53,913 - 71,973



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Which way will cities go?

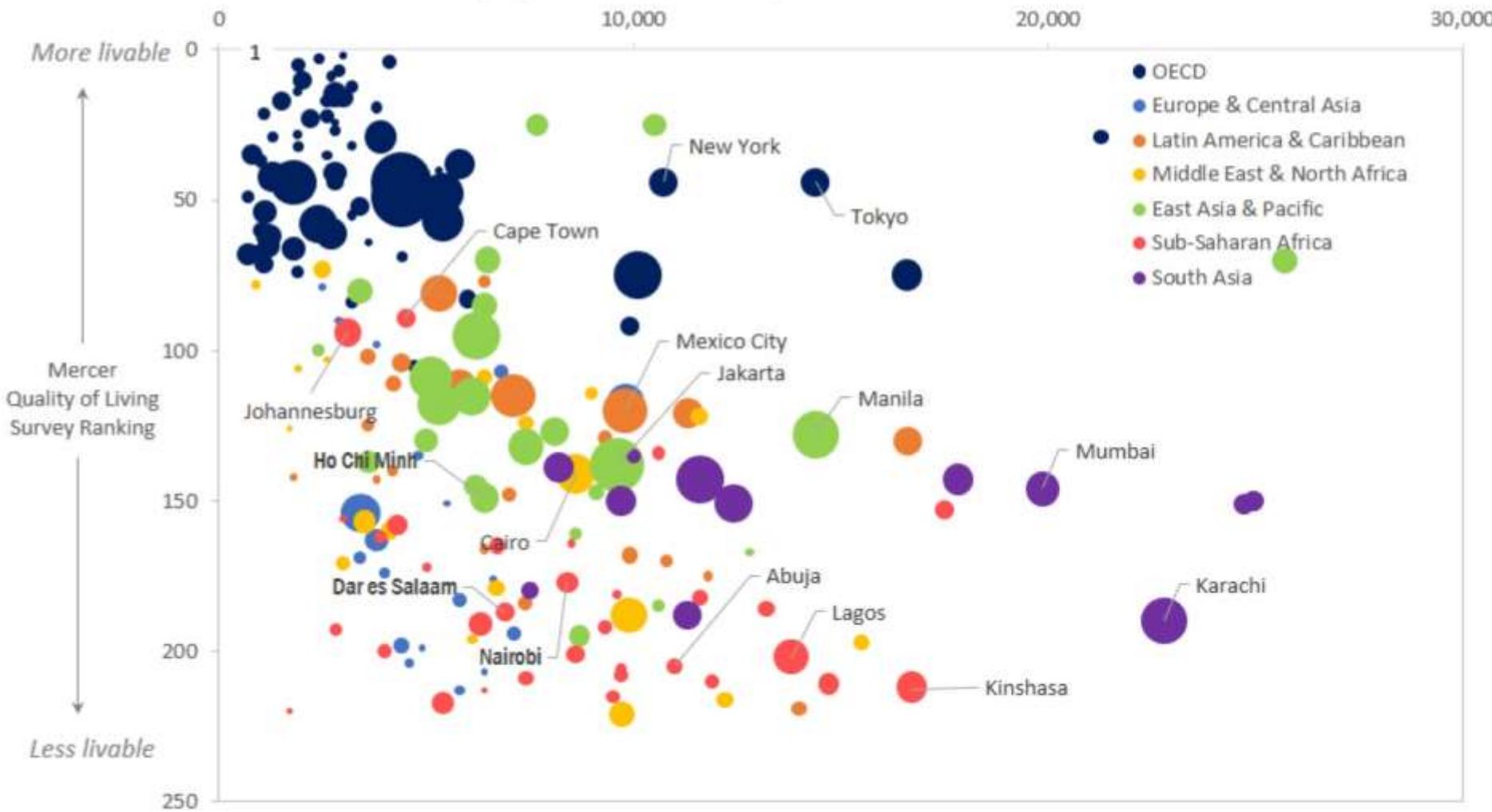


Note: Bubble size corresponds to total carbon dioxide emissions (kilotons).

Source: World Development Indicators

Poor Livability in Cities

Urban Density (persons/km²)

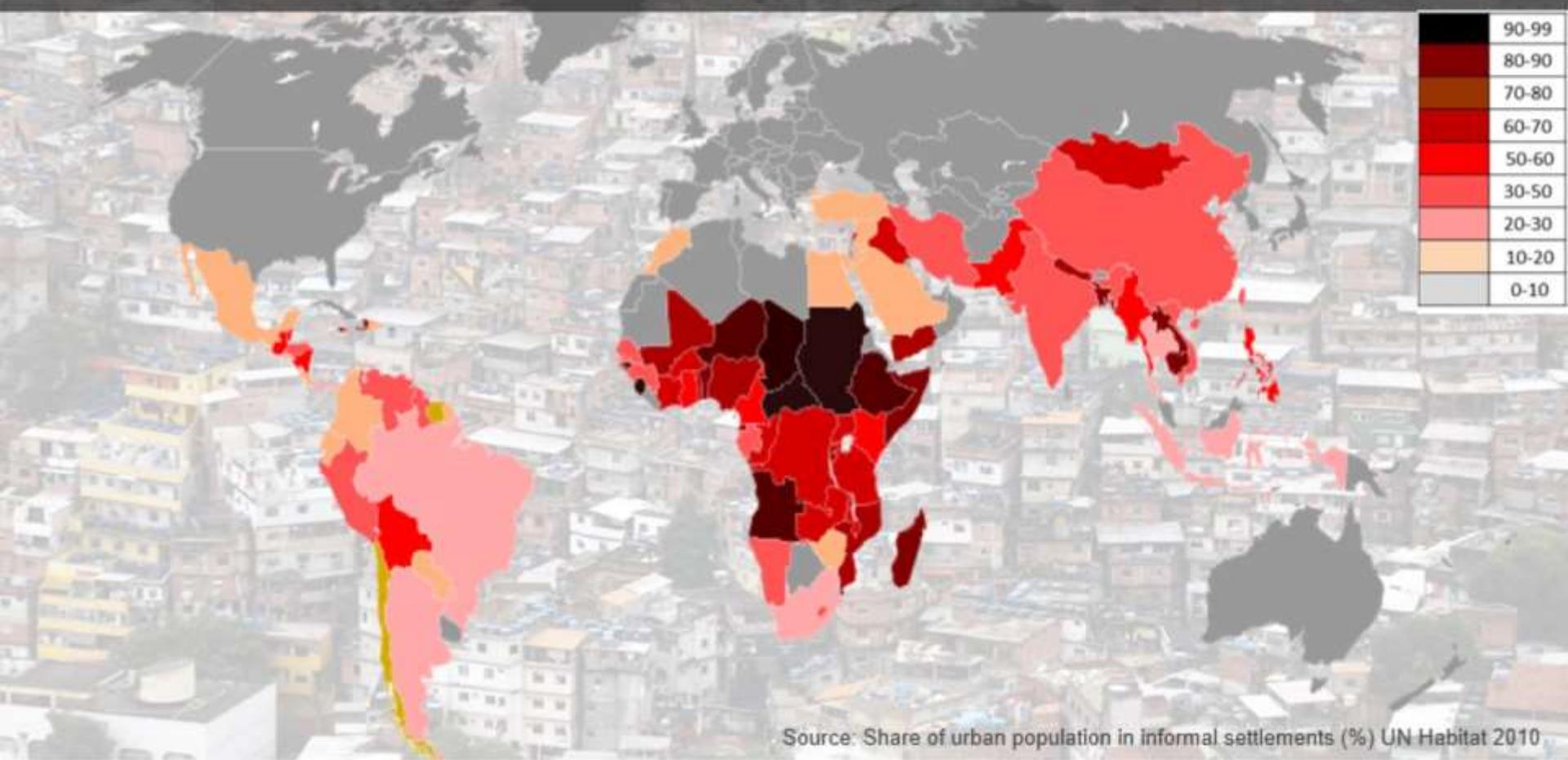


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Poor Livability in Cities

A third

of the world's urban population live in informal settlements.



Source: Share of urban population in informal settlements (%) UN Habitat 2010



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Needs for Investment

Grids and networks need big money

\$4.5 trillion/year

needed to fill urban
infrastructure financing gap



**\$125
billion**

is only a small
part of the
solution



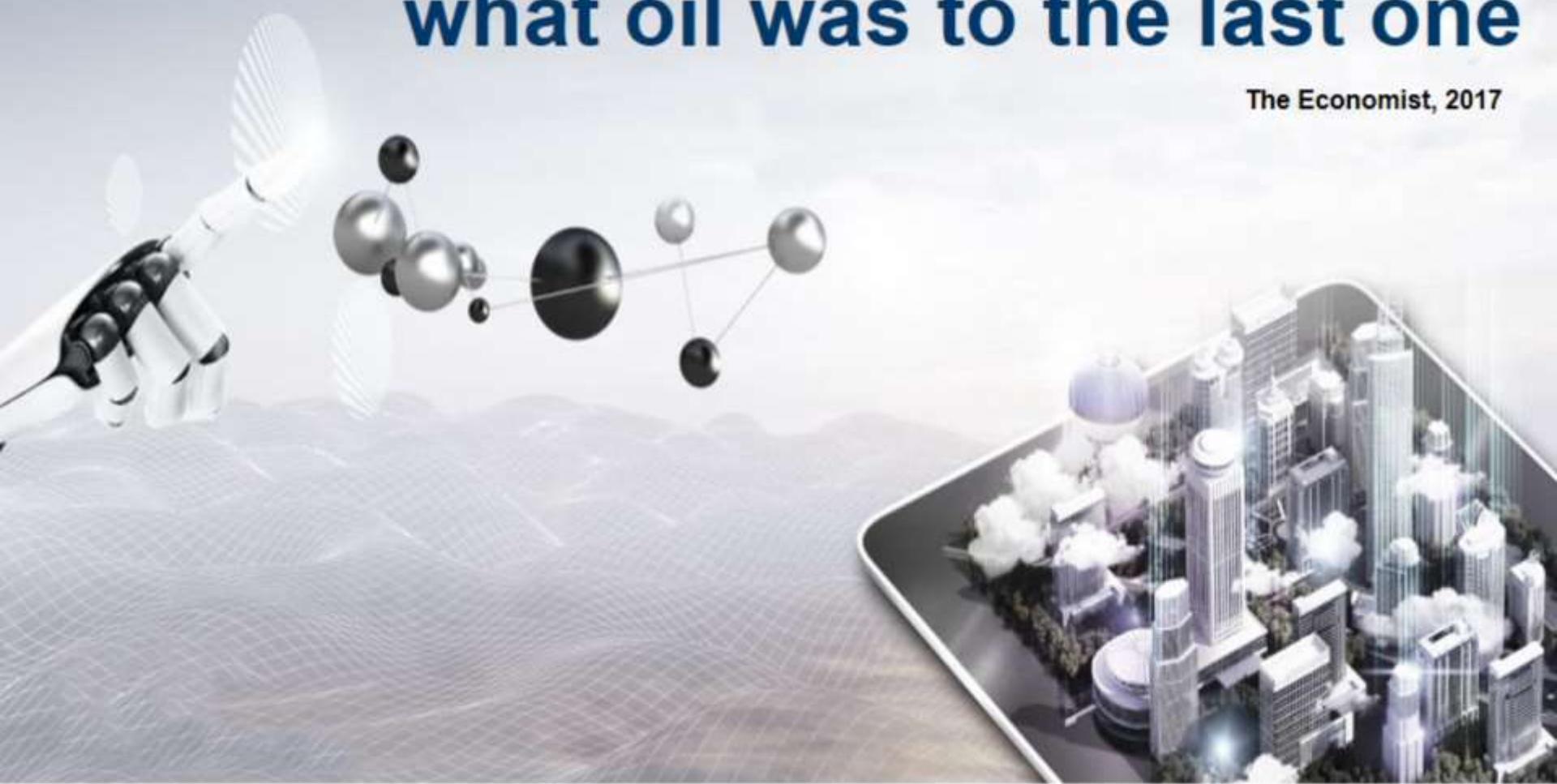
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Geospatial Mission

Data is to this Century what oil was to the last one

The Economist, 2017



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Geospatial Technology

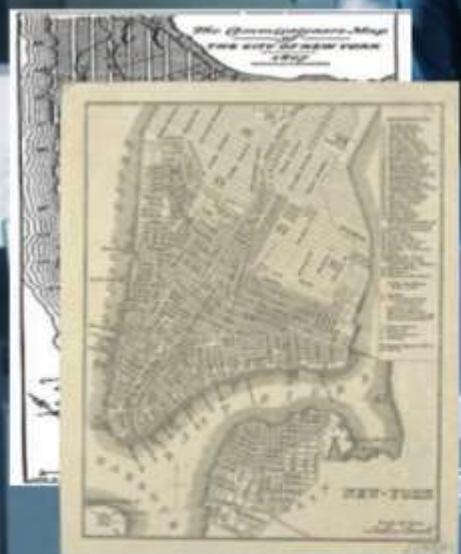
Empower land and geospatial
Location Awareness



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Urban Planning

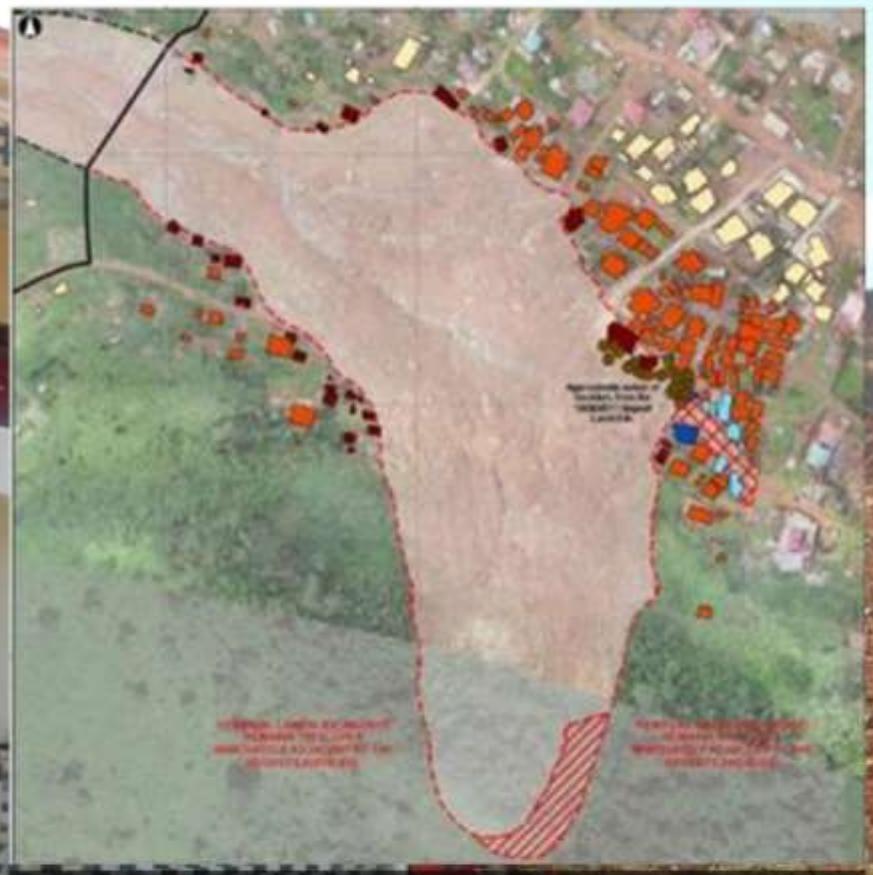
Graphics to digital, plans to models



GIS
BIM
3D
PLATFORM



Land and Geospatial Systems' Resilience



**Properties at risk
after Landslide**

Sierra Leone Landslide 2018

Intense deforestation, informal holdings and irregular buildings in the Western Area National Park's disaster-prone hilltops.

The 2018 landslide affected 6,000 people and caused 1,200 casualties and 36 million USD of losses.



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Geospatial Information for FCV

PILOT
in SYRIA



Administrative Data

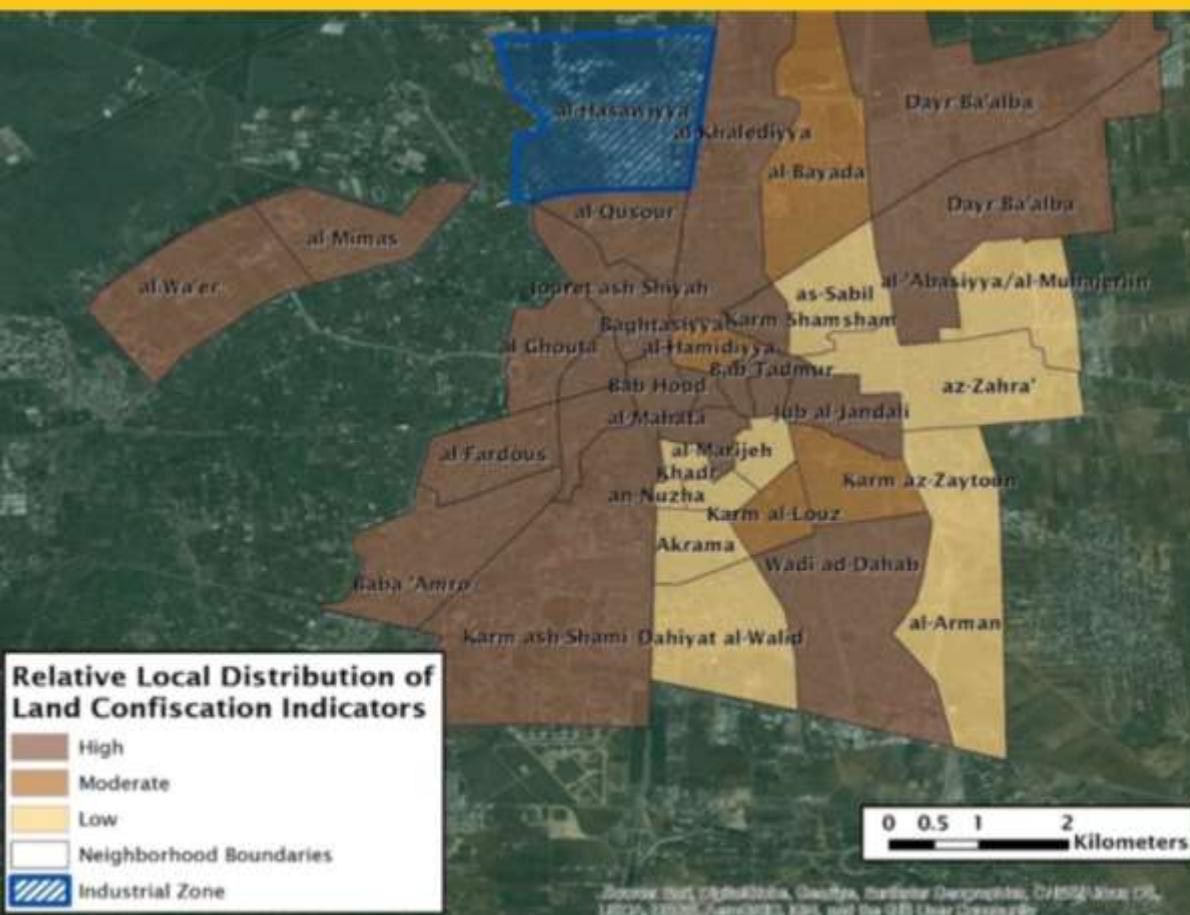


Big Data + Social Media

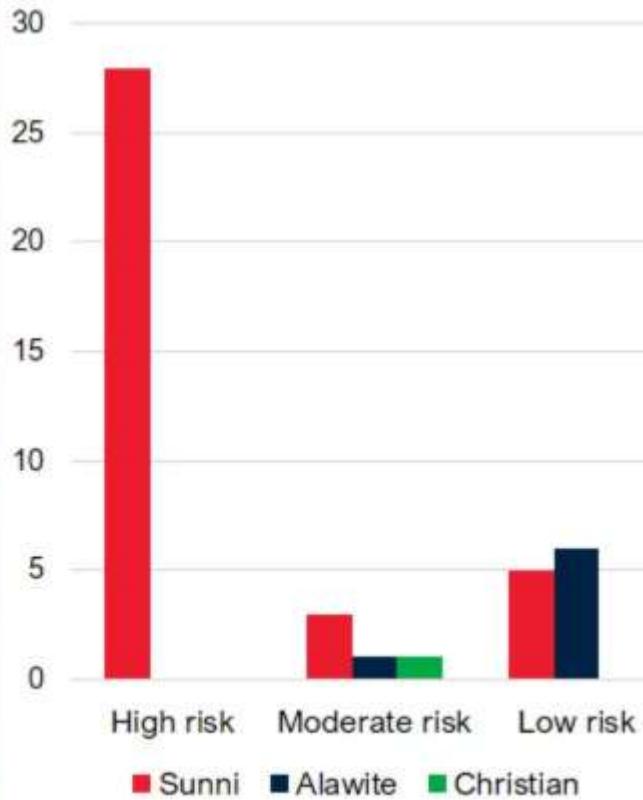


Geospatial Data

Land Confiscation Indicator Presence in Homs City, March 2017



Land Confiscation Index by Sect



Source: Courage Services (2016)

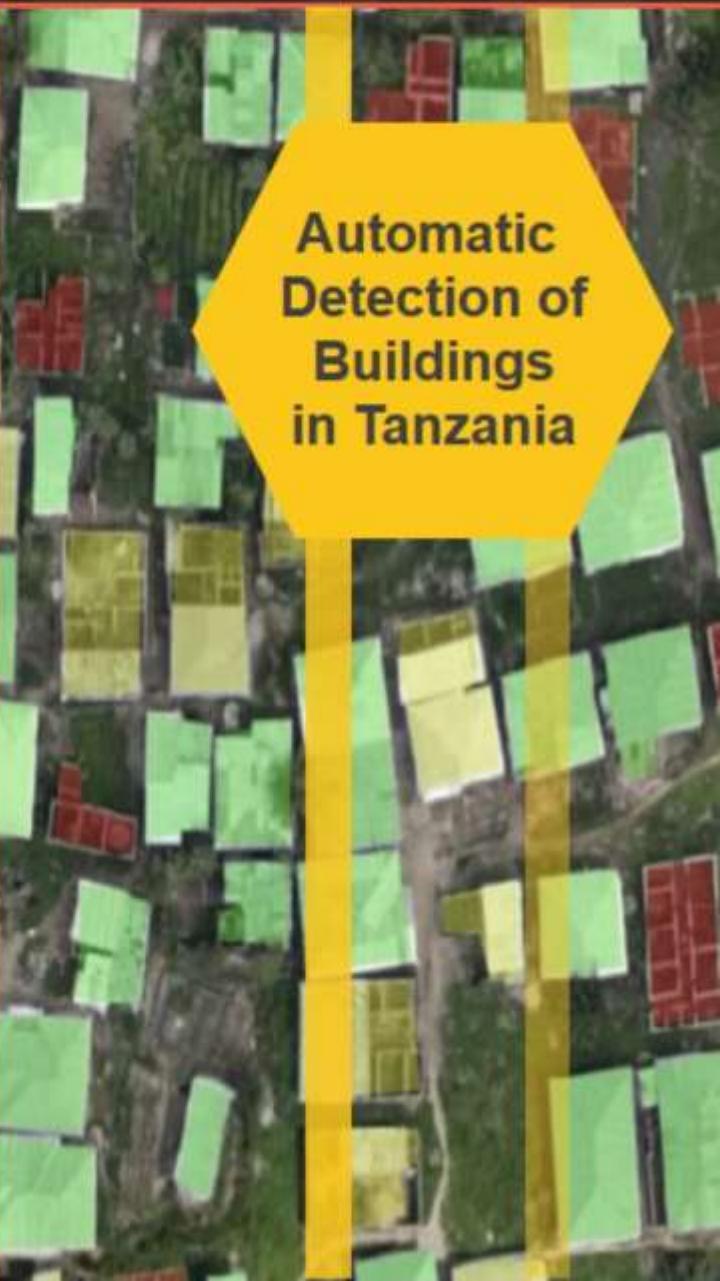
Investment in Tanzania

Property
Taxation

30%

Average Increase

Automatic
Detection of
Buildings
in Tanzania



Geospatial Information for Economic Transformation



Shared Economy



Gig Economy



Digital Platforms

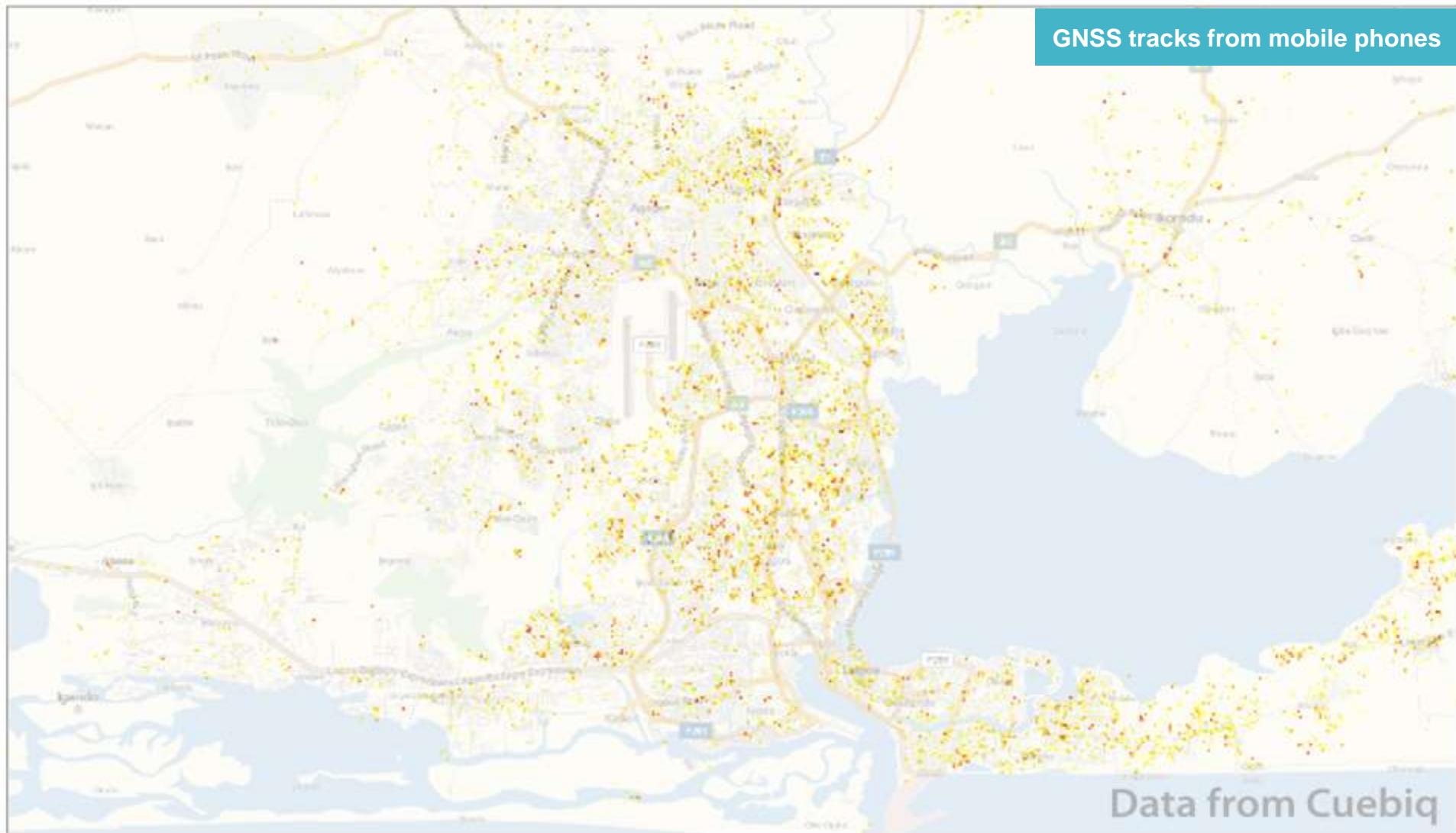


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Impact of Geospatial Information

Hour 1:00

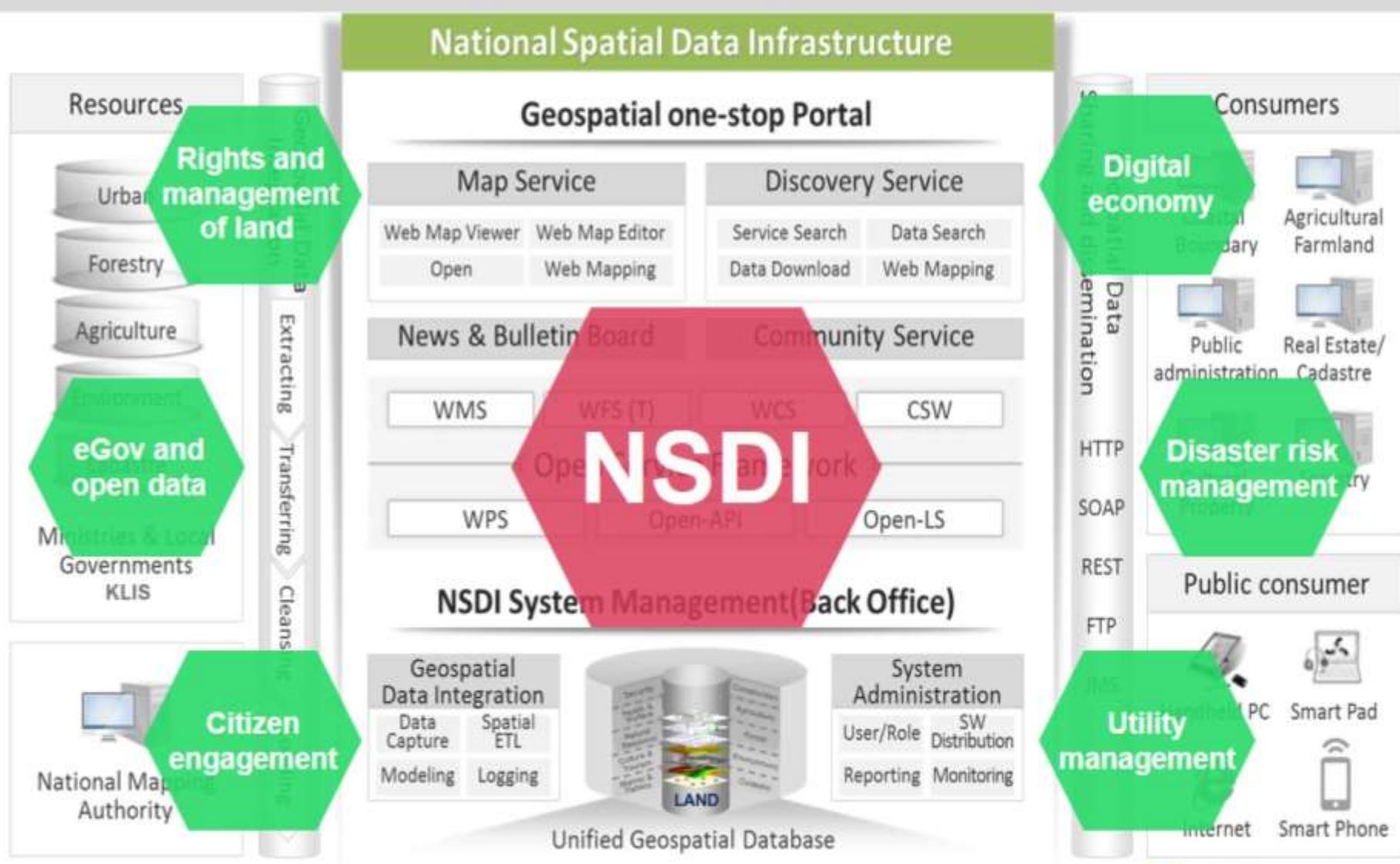
Sensing Human Mobility (Lagos, Nigeria)



Importance of Geospatial Information

Spatial Data Infrastructure (SDI)

National Spatial Data Infrastructure



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Global Frameworks, Themes and Partners



SDGs



Data
Collaboratives



EO4SD



UN-GGIM
UN GEOGRAPHIC INFORMATION SYSTEMS
GLOBAL GEOSPATIAL INFORMATION MANAGEMENT



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Integrated Geospatial
Information Framework
(IGIF)

Geospatial
Framework

Country-level
Action Plans



Thank you for listening

awellenstein@worldbank.org

