

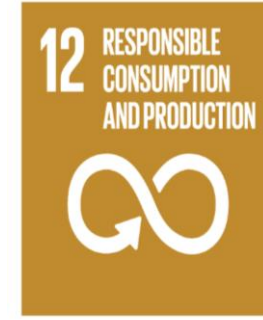
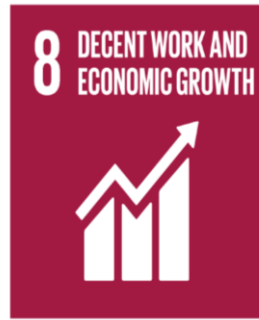
# Sustainable cities and communities: Emerging Challenges



Dinesh Mehta  
25<sup>th</sup> December 2018  
NOSPLAN  
AHMEDABAD



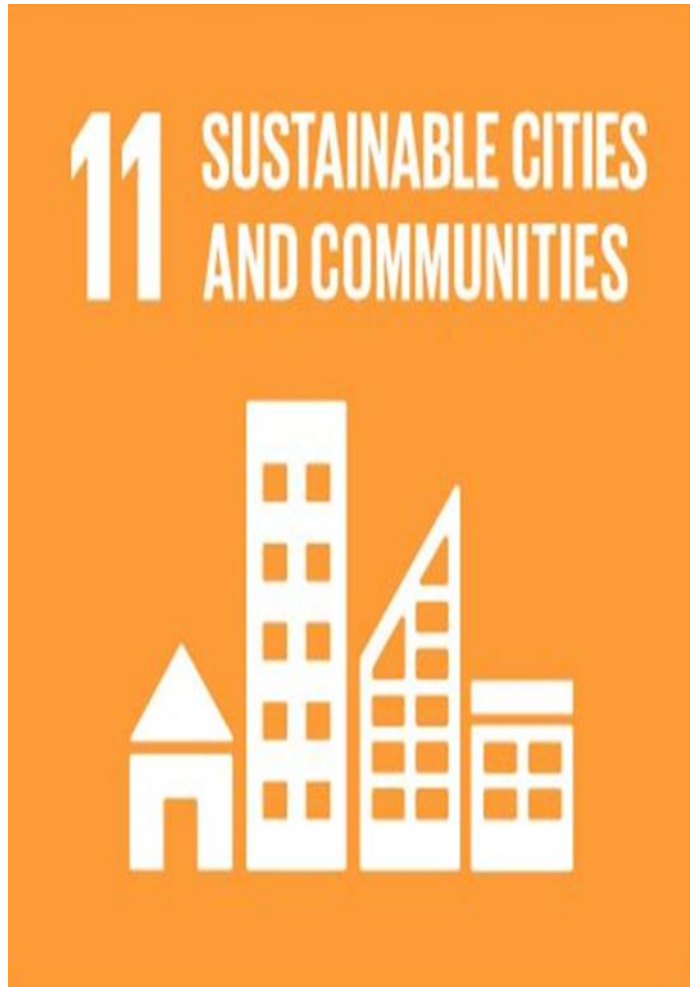
# Sustainable Development Goals



# Another Way to Look at SDGs – The Five Ps



# Urban areas hold the future of our planet





11 SUSTAINABLE CITIES AND COMMUNITIES



**MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT, AND SUSTAINABLE** ↓

GLOBALLY

HALF OF HUMANITY LIVES IN CITIES TODAY



AND BY 2030, 6 OUT OF 10 PEOPLE WILL LIVE IN CITIES



IN INDIA

BY 2030

INDIA WILL HAVE 7 MEGACITIES WITH POPULATIONS OVER

10 MILLION



31% LIVE IN URBAN AREAS

17%

OF URBAN POPULATION LIVES IN SLUMS



13%

OF URBAN HOUSEHOLDS DON'T HAVE SANITARY TOILETS



62

MILLION

TONNES PER ANNUM WASTE GENERATED

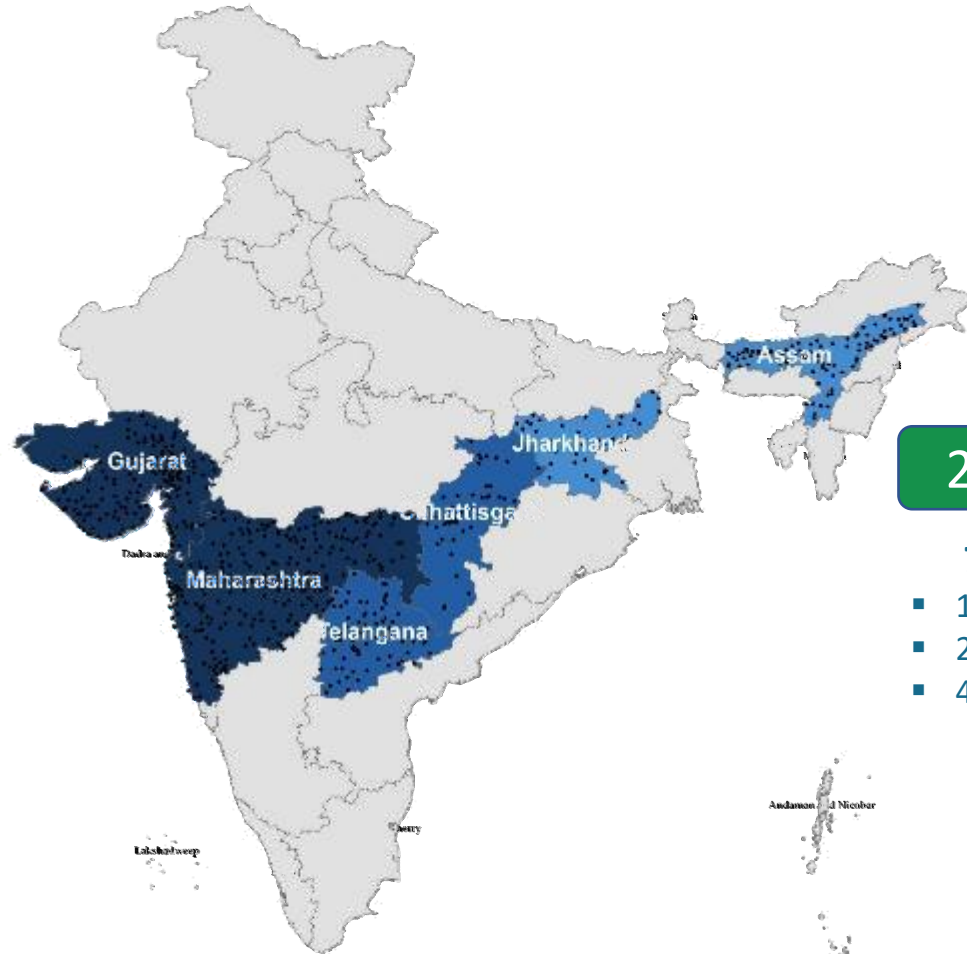
2.5 MILLION

POLLUTION RELATED DEATHS IN 2015

# SDG -11 Targets

- By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
- By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
- By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
- Strengthen efforts to protect and safeguard the world's cultural and natural heritage
- 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
- 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
- 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

# PAS - Performance Assessment System... Largest Database on 900+ cities



**2009-416 Cities**

**68 Million population**

- 167 Cities of Gujarat
- 249 Cities of Maharashtra

.....continued for 8 years

**2015- 463 Cities**

**72.8 Million population**

- 168 Cities of Gujarat
- 259 Cities of Maharashtra
- 43 Cities of Chhattisgarh

**2016- 908 Cities**

**96.5 Million population**

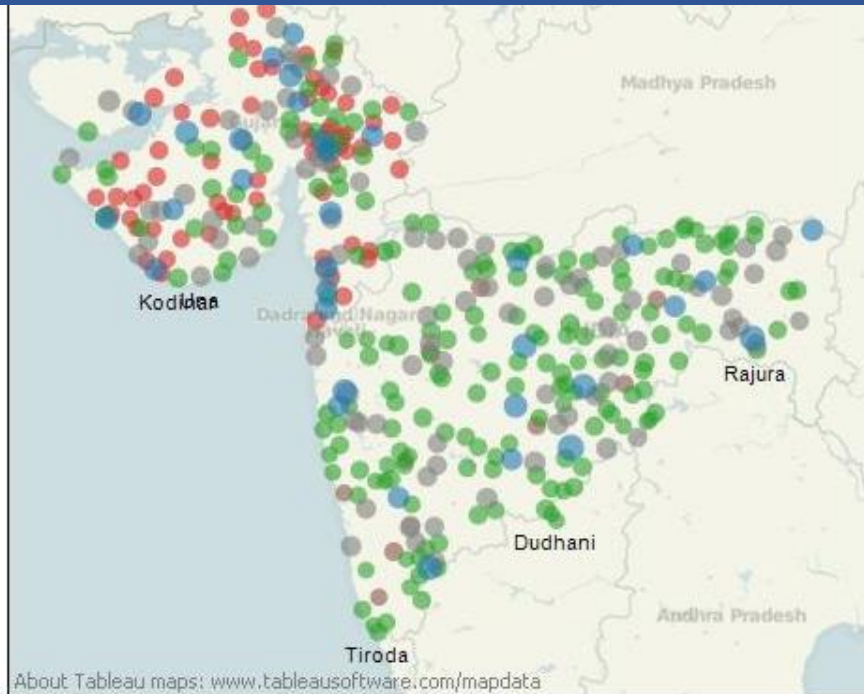
- 168 Cities of Gujarat
- 364 Cities of Maharashtra
- 168 Cities of Chhattisgarh
- 69 Cities of Telangana
- 96 Cities of Assam
- 43 Cities of Jharkhand

PAS web portal: Repository of service level indicators of more than 1800 cities covering 18 states over a period of 3 years.

Information available at [www.pas.org.in](http://www.pas.org.in)



# SANITATION IN SMALL TOWNS



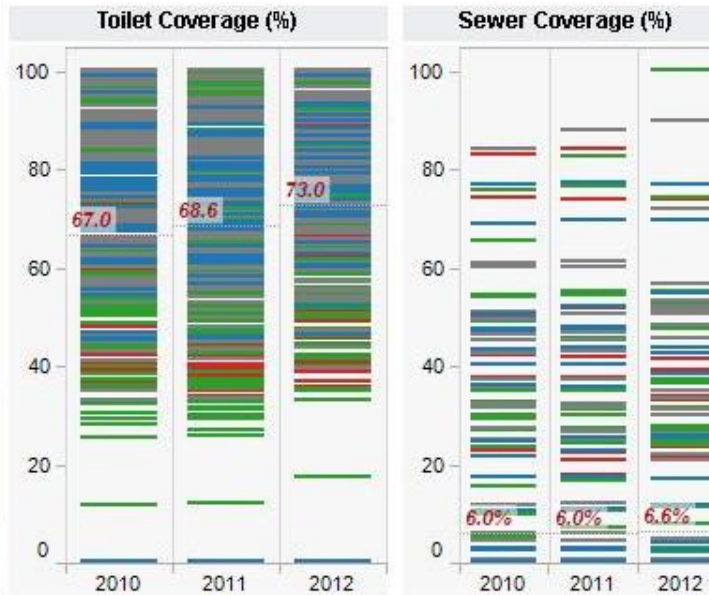
About Tableau maps: [www.tableausoftware.com/mapdata](http://www.tableausoftware.com/mapdata)

Class: A, B, C, D, NP

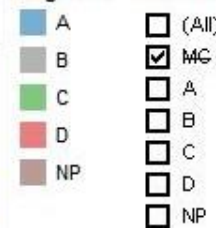
State

(All)

## Key Wastewater Indicators



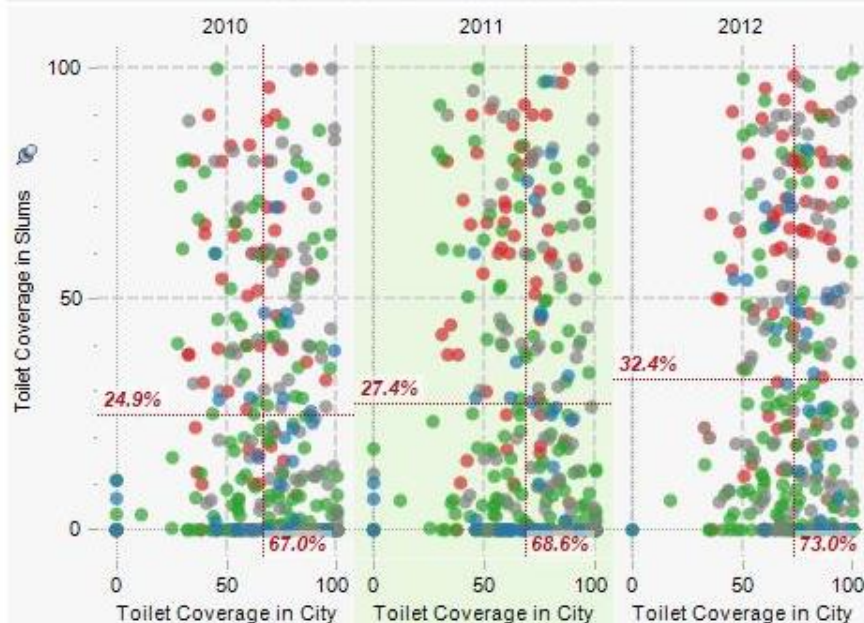
Legends



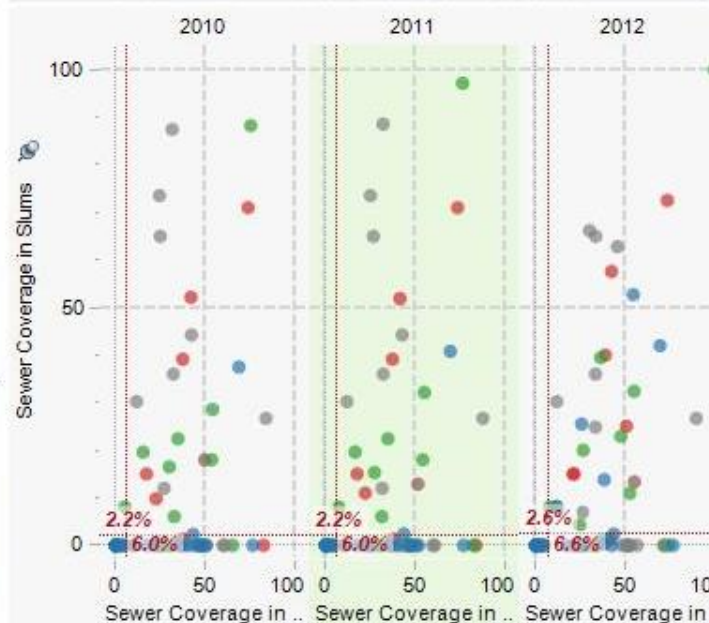
Population



## Toilet Coverage: Overall vs Slums



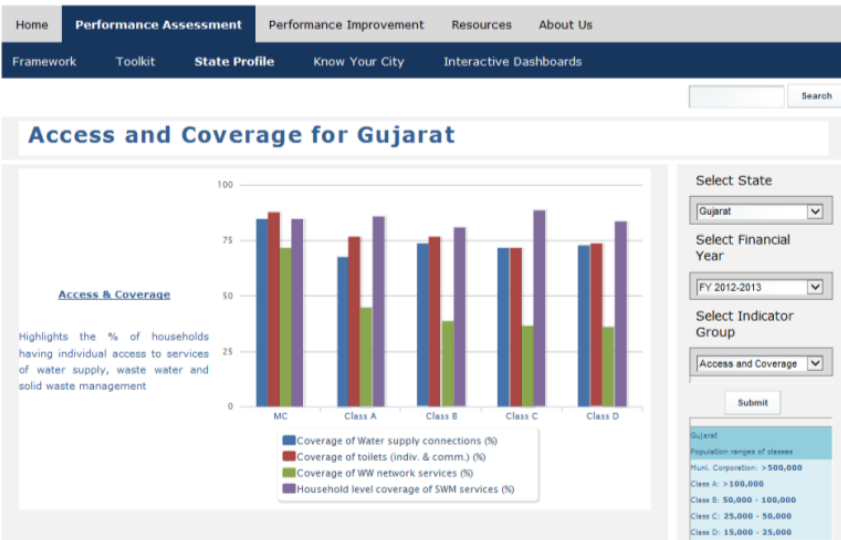
## Sewer Connection Coverage: Overall vs Slums



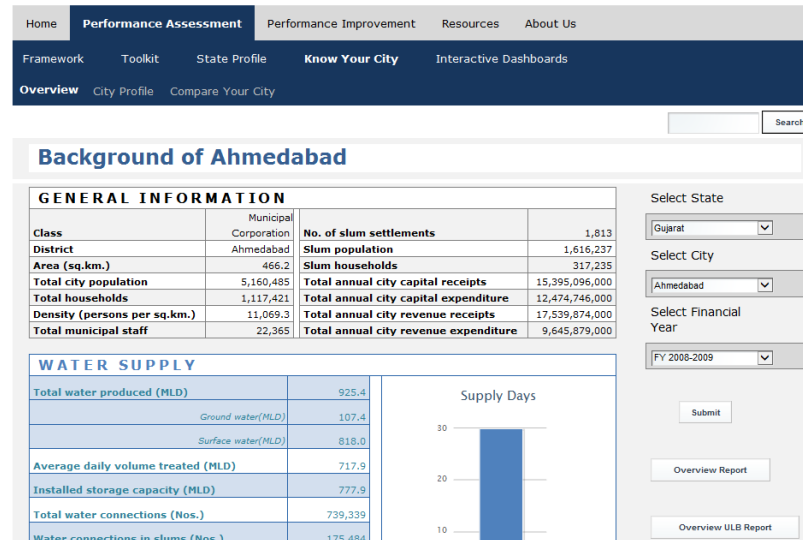
## Select ULB

- Achalpur
- Ahmadpur
- Akkalkot
- Akot
- Alandi
- Alibagh
- Amalner
- Ambad
- Ambajagai
- Ambarnath
- Amod
- Amreli
- Anand
- AnjangaonSurji
- Anjar
- Anklav
- Ankleshwar

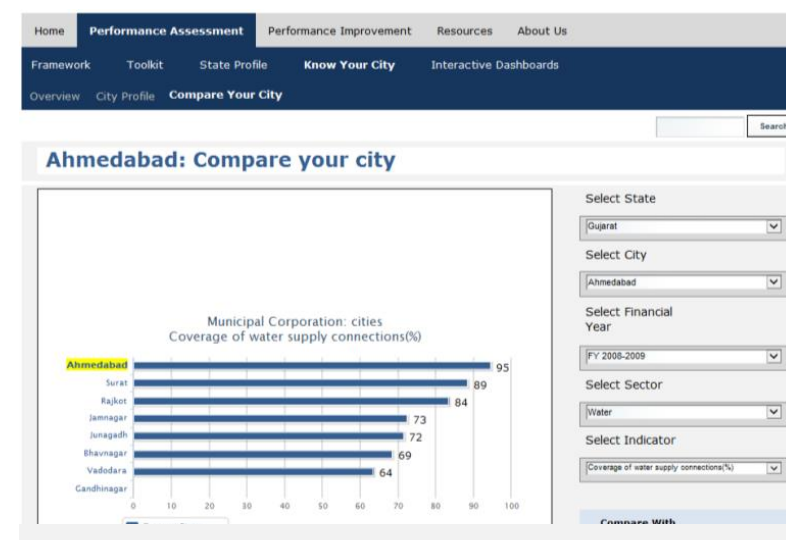
# Key feature of web based performance assessment system



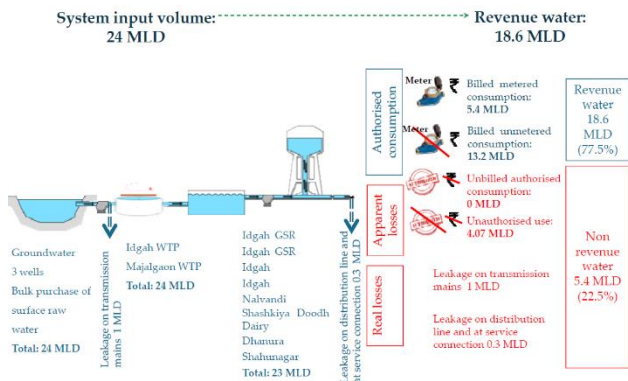
Option to view **year wise** information



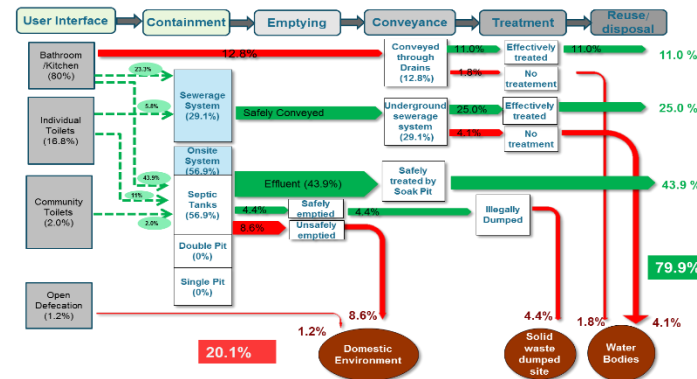
**Overview** of the city provides general information across all the sectors



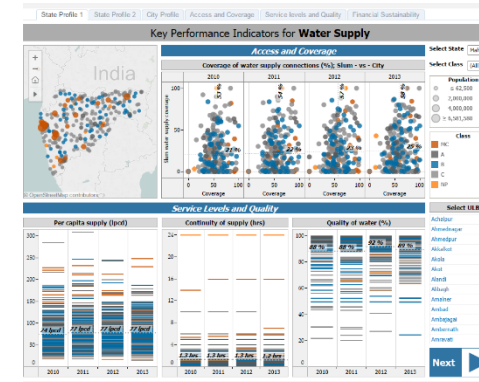
**Compare Your City** helps each city compare itself with another city based on its respective class or state.



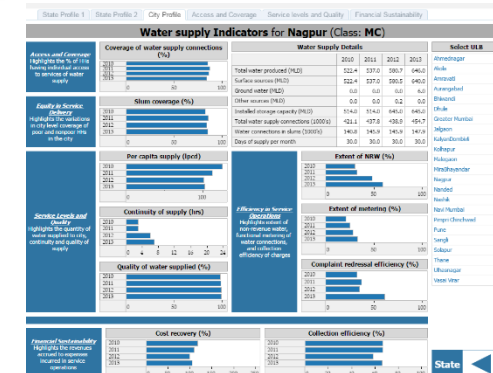
Water supply schematic diagram



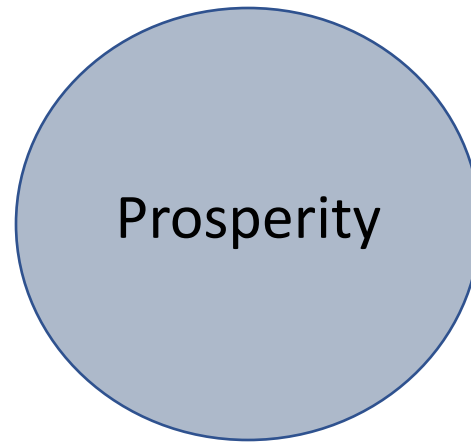
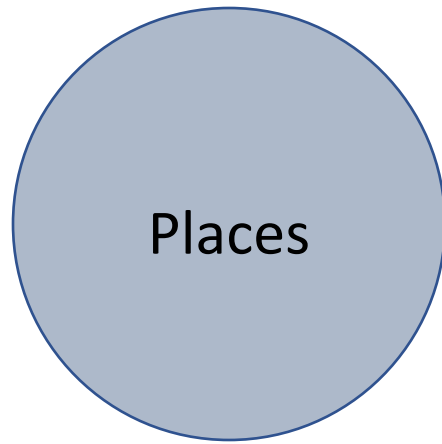
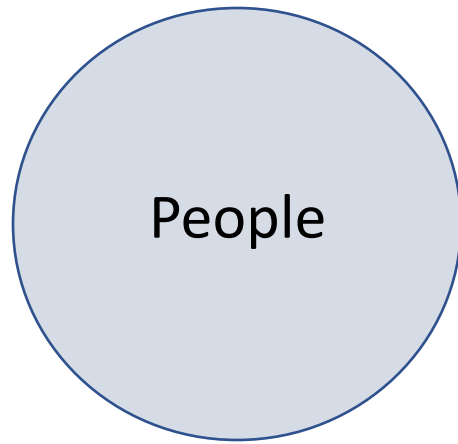
Wastewater diagram



Interactive dashboard

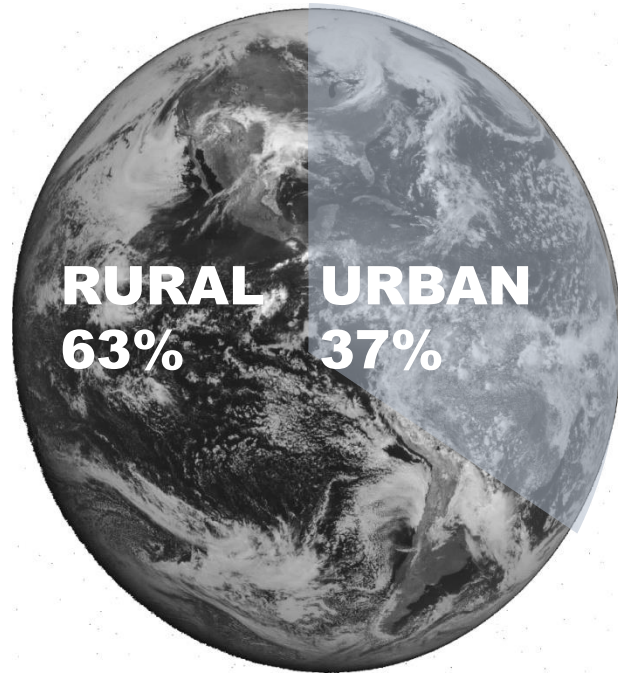


# Urban Planning – 4 Ps

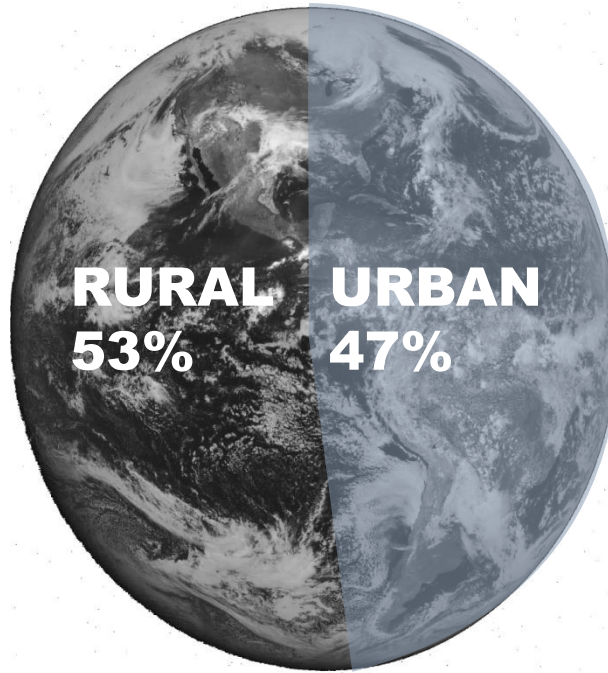


PEOPLE

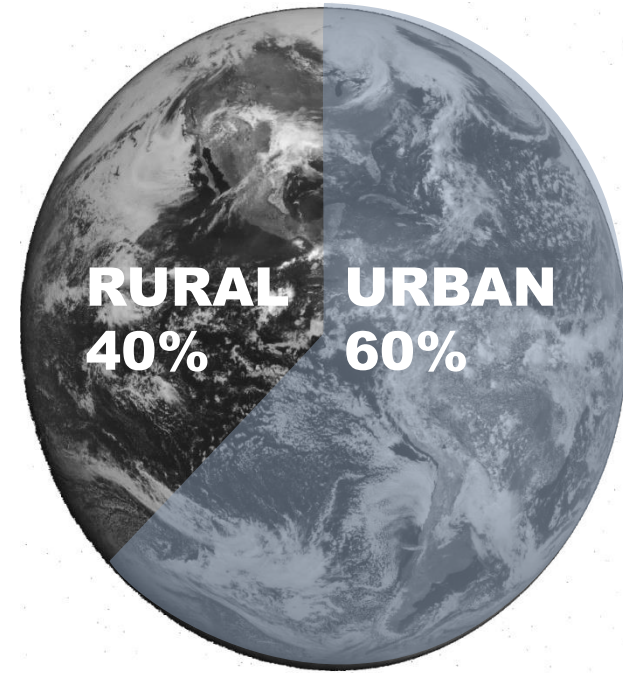
# GLOBAL POPULATION URBAN/RURAL



**1970**



**2000**

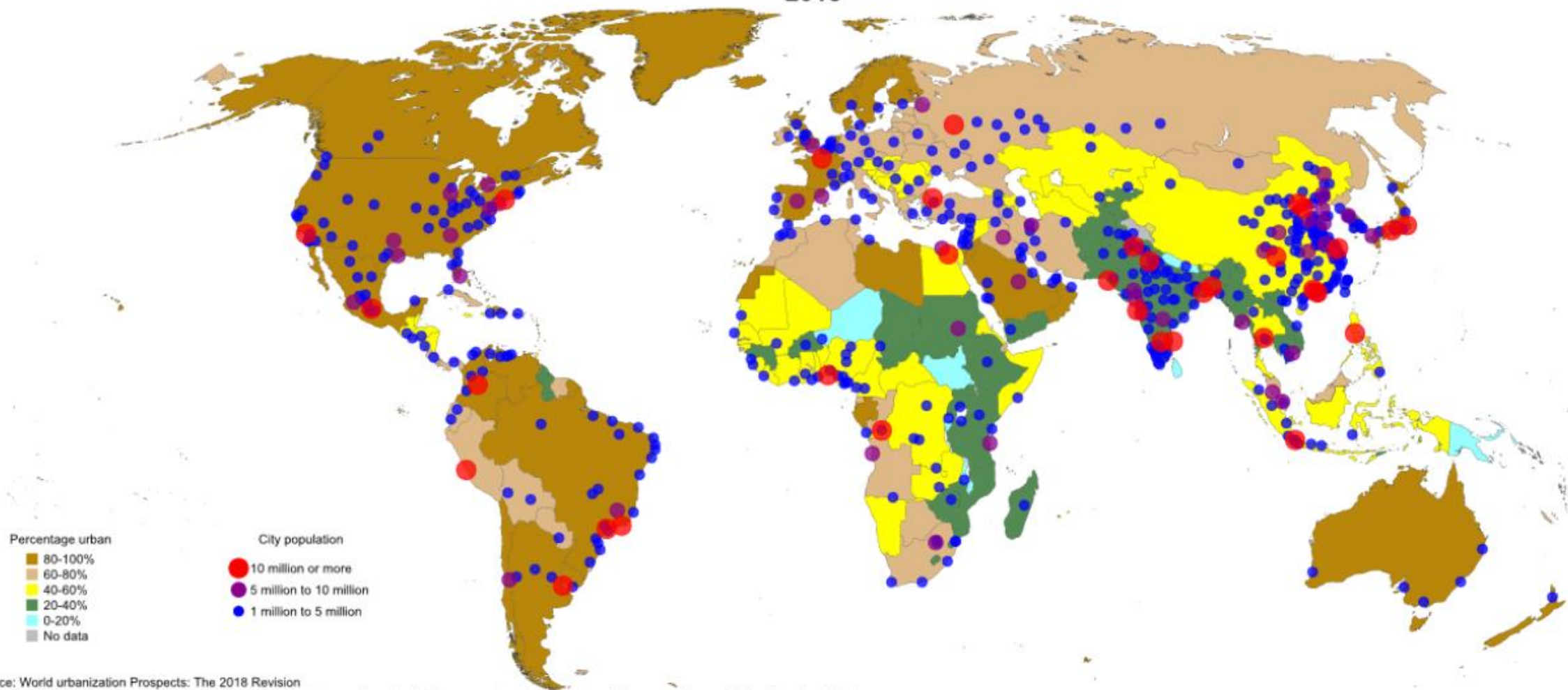


**2030**

# Where are the cities of the world?



2018



Data source: World urbanization Prospects: The 2018 Revision

The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

© 2018 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO.

# India's Urbanisation: acceleration in 2011?

**Table 1: Trends in Urbanisation in India (1961-2011)**

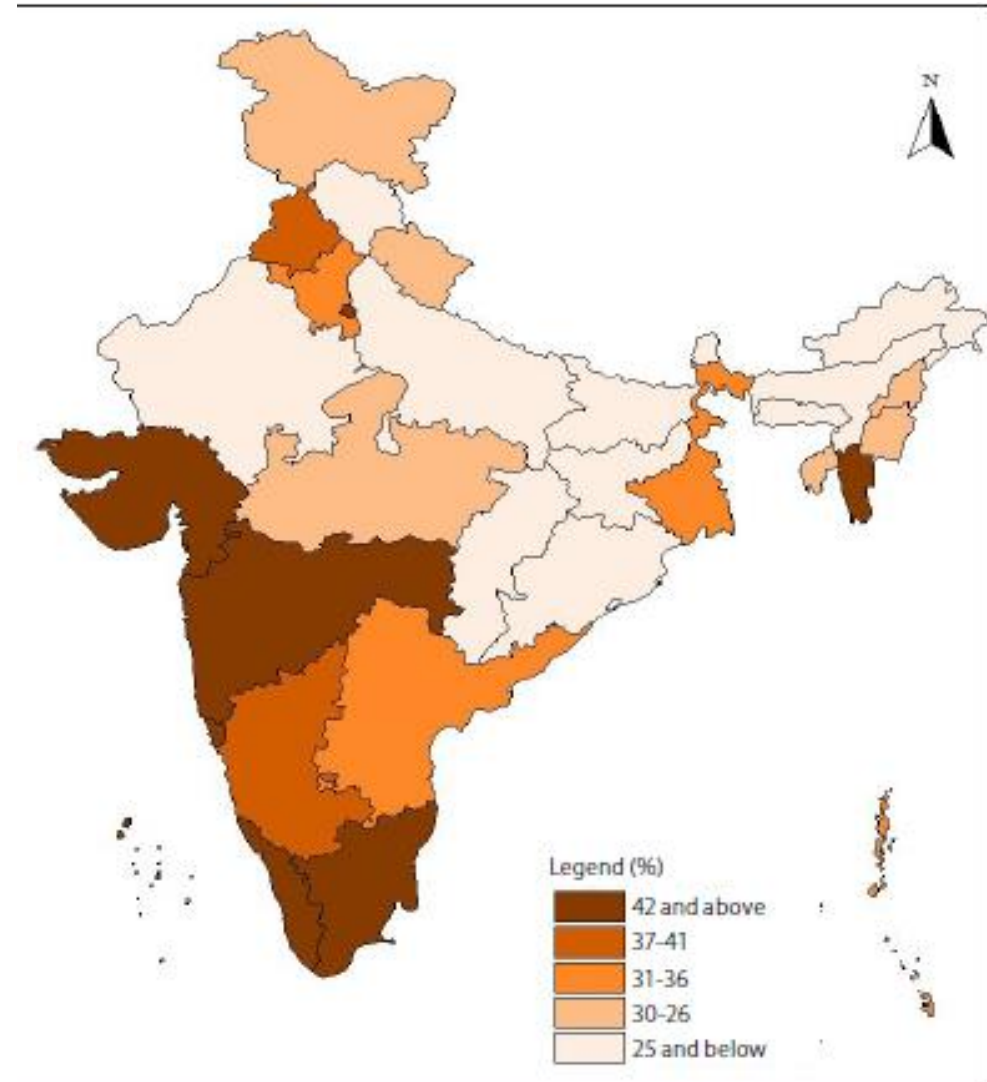
| Census Year | Urban Population (in million) | Percentage Urban | Annual Exponential Urban Growth Rate (%) |
|-------------|-------------------------------|------------------|--|
| 1961        | 78.94                         | 17.97            | -  |
| 1971        | 109.11                        | 19.91            | 3.23                                     |
| 1981        | 159.46                        | 23.34            | 3.79                                     |
| 1991        | 217.18                        | 25.72            | 3.09                                     |
| 2001        | 286.12                        | 27.86            | 2.75                                     |
| 2011        | 377.10                        | 31.16            | 2.76                                     |

**Table 2: Urban-Rural Population Growth Differentials (1971-2011)**

| Decade    | Rural | Urban | Urban-Rural Growth Differentials (Annual Exponential Growth Rate, in %) |
|-----------|-------|-------|---|
| 1971-81   | 1.76  | 3.79  | 2.03  |
| 1981-91   | 1.80  | 3.09  | 1.29  |
| 1991-2001 | 1.69  | 2.75  | 1.06  |
| 2001-2011 | 1.15  | 2.76  | 1.61  |

Source: Census of India, various years.

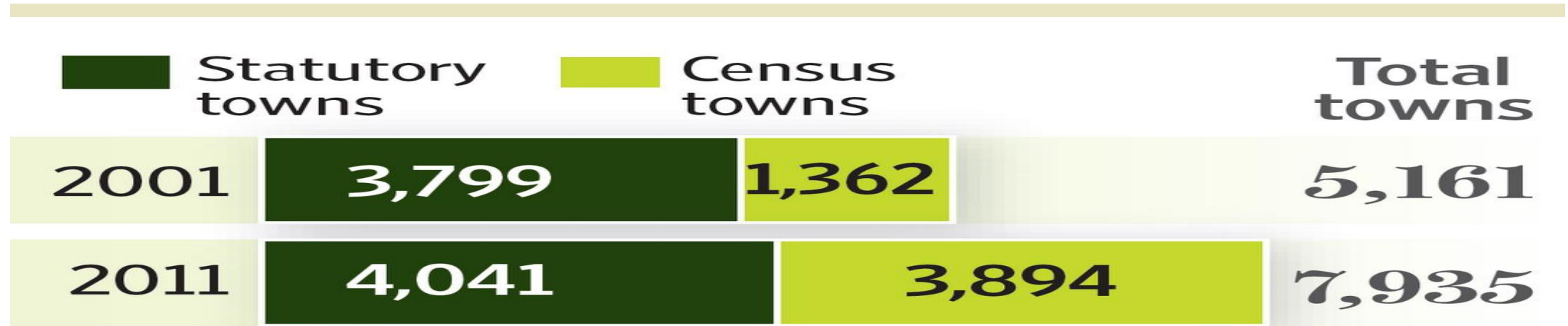
Bhagat, (2011), Urbanisation in India, EPW, August 20, 2011



90 million added in Urban and Rural areas

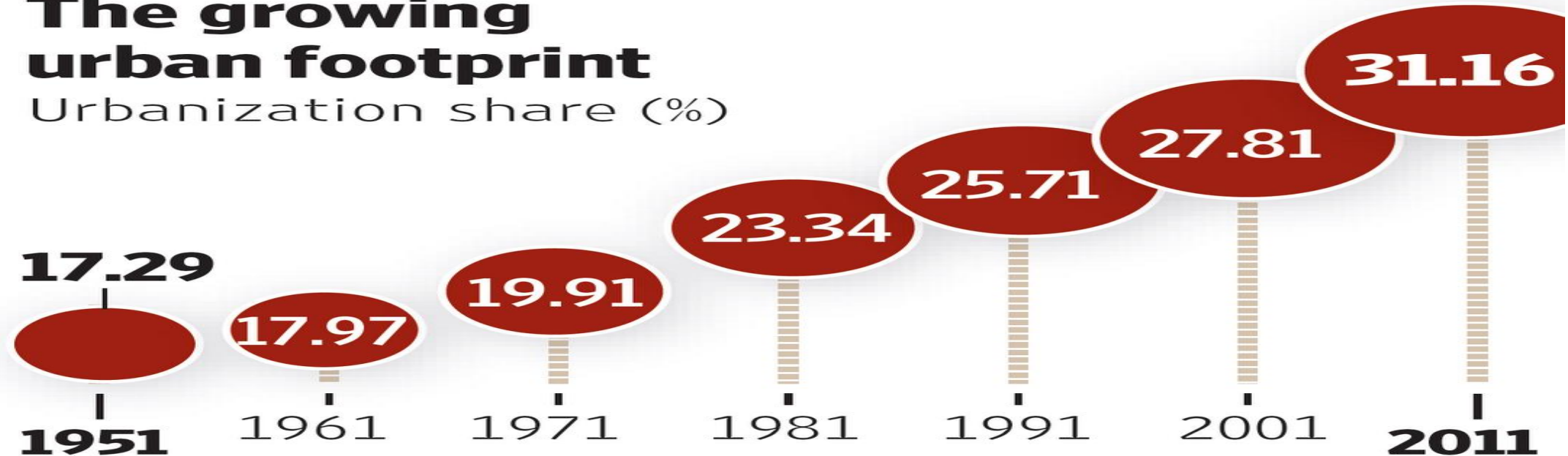


# Many New Towns were added in 2011



## The growing urban footprint

Urbanization share (%)



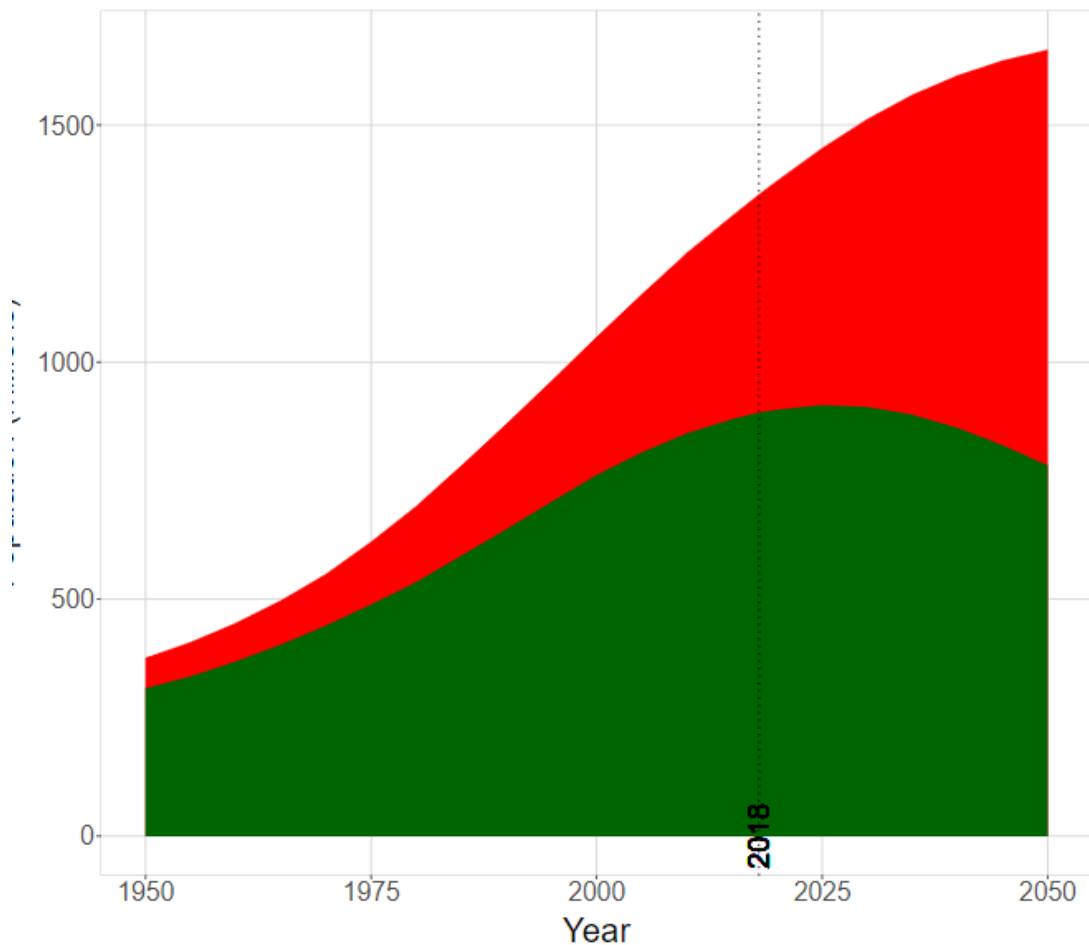
Source: Census of India

# INDIA

## Urban and rural population

India

Urban Rural



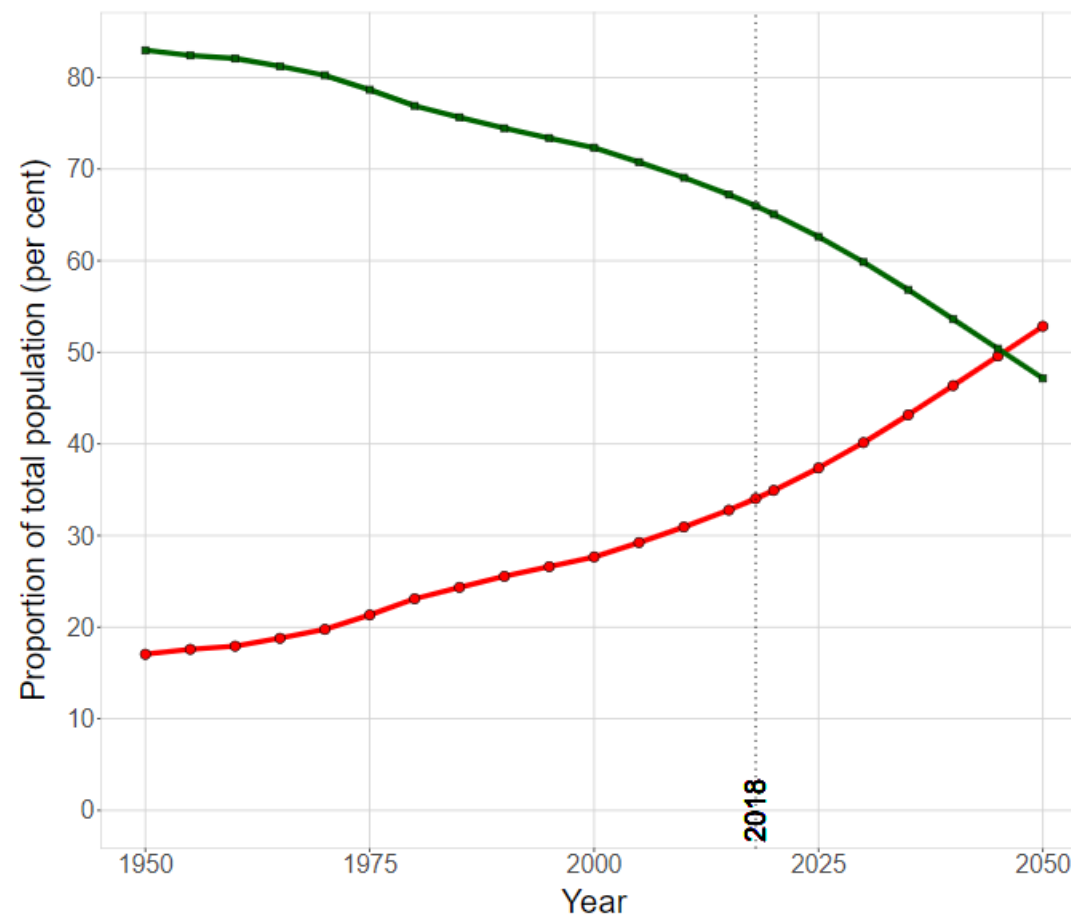
© 2018 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO.

**Note:** Urban and rural population in the current country.

## Percentage of population in urban and rural areas

India

Urban Rural

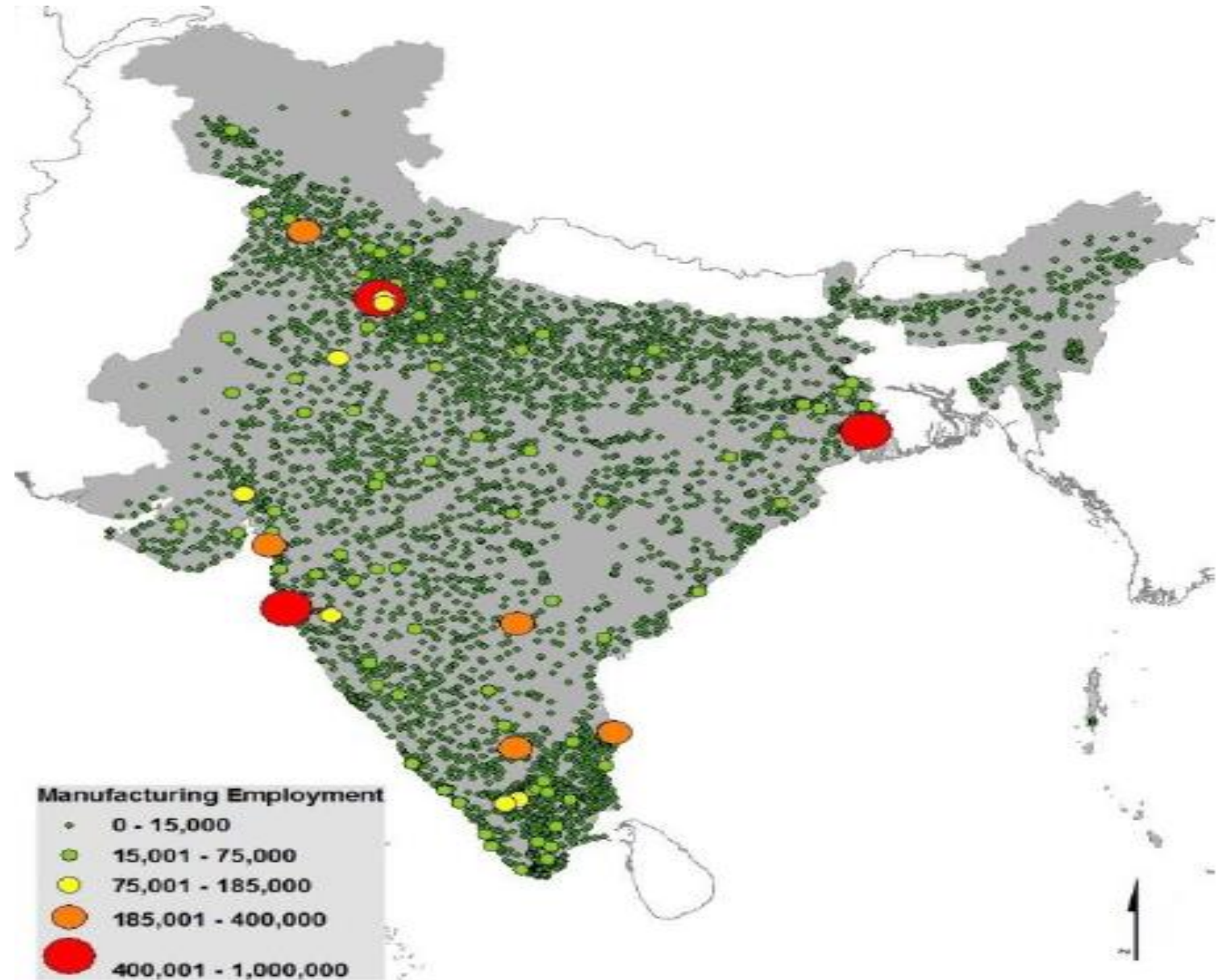


© 2018 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO.

**Note:** Urban and rural population in the current country or area as a percentage of the total population, 1950 to 2050.

# Where are the manufacturing jobs?

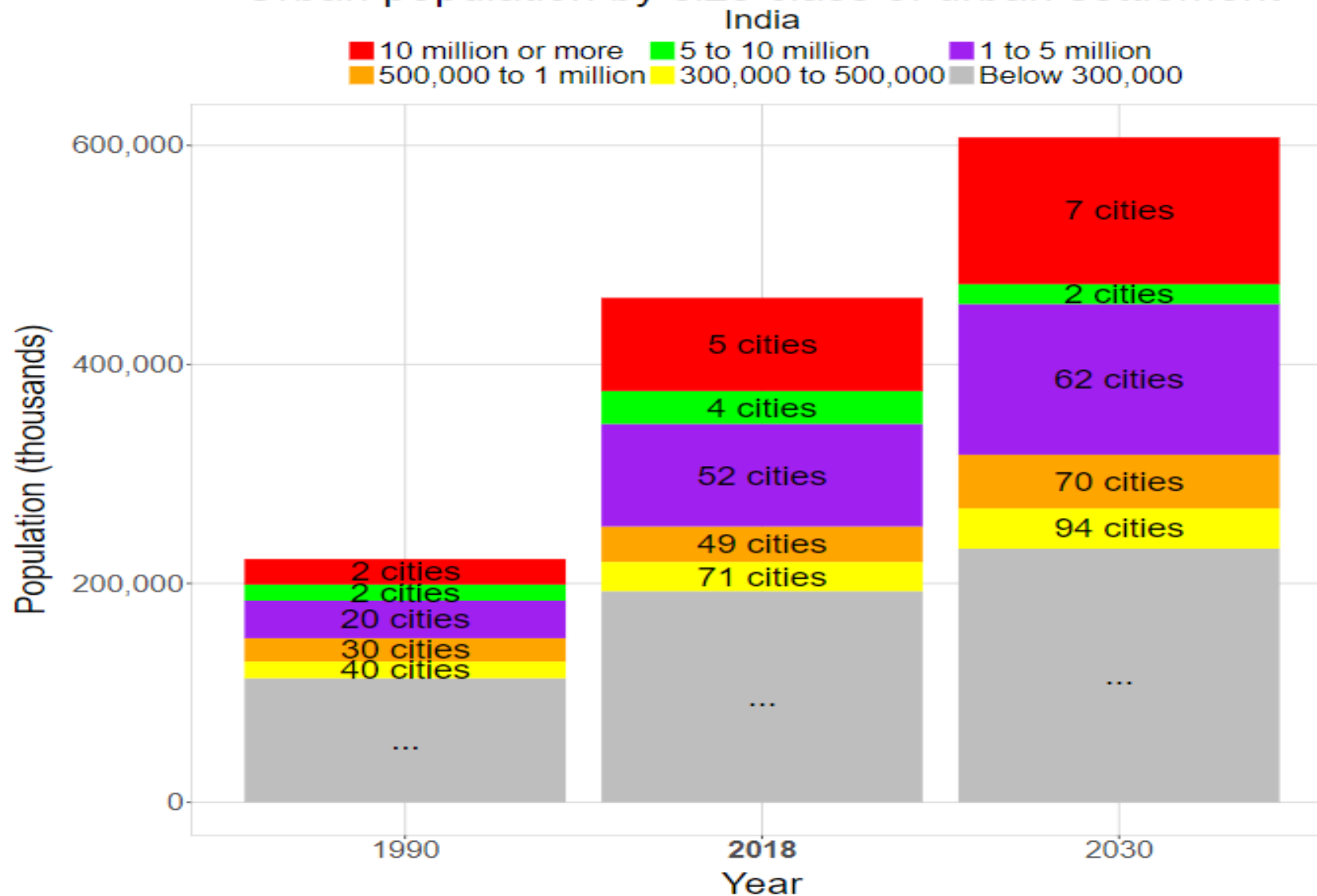
A possible reason for emergence of so many new “Census Towns” is that a large number of villages around major urban centres have non-agricultural activities



PLACES

# INDIA

## Urban population by size class of urban settlement

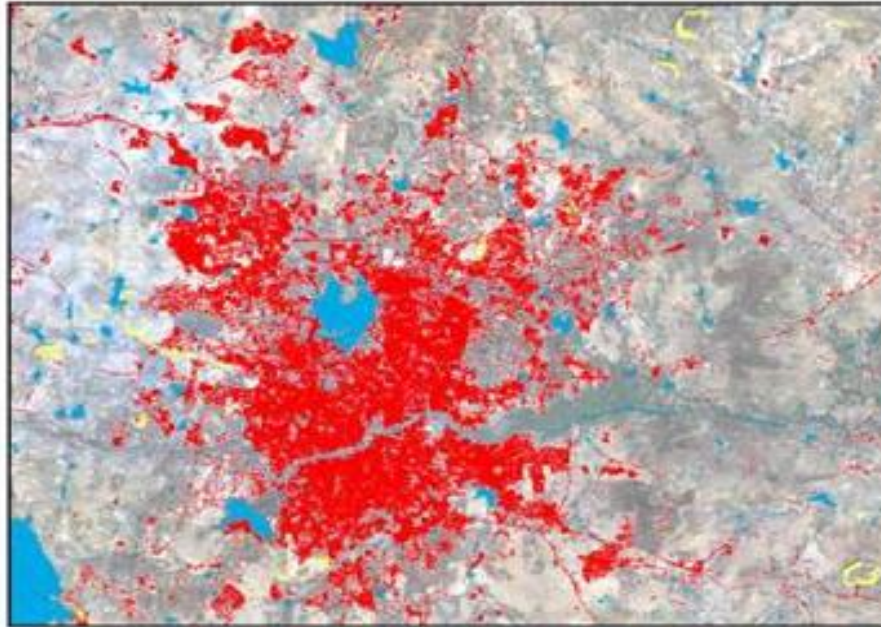


© 2018 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO.

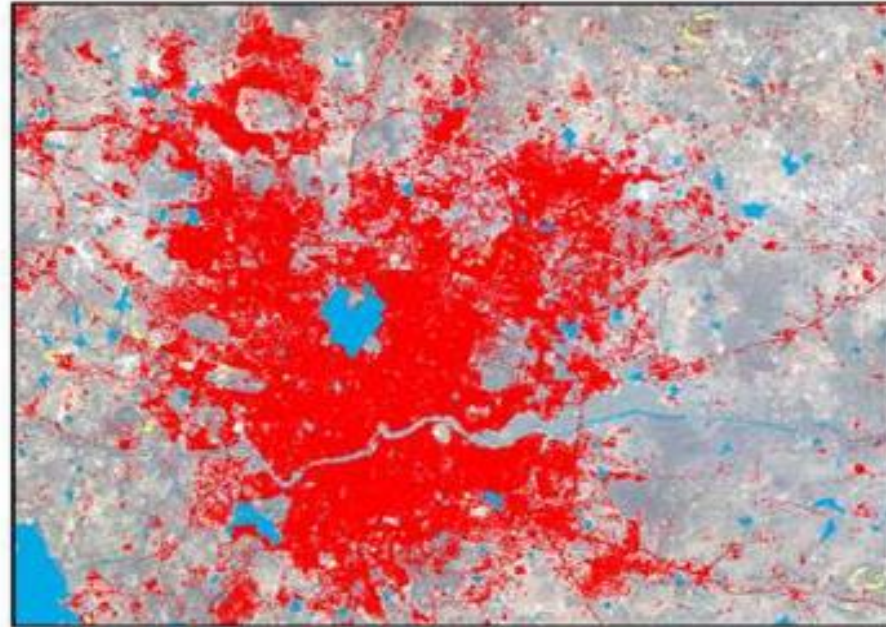
**Note:** Urban population by size class of urban settlement and number of cities, 1990, 2018 and 2030. The grey area is a residual category that includes all urban settlements with a population of less than 300,000 inhabitants.

# With expanding cities, infrastructure costs rise

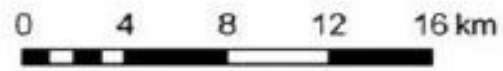
## Hyderabad, India



T<sub>1</sub>: 21-Nov-89



T<sub>2</sub>: 29-Oct-01

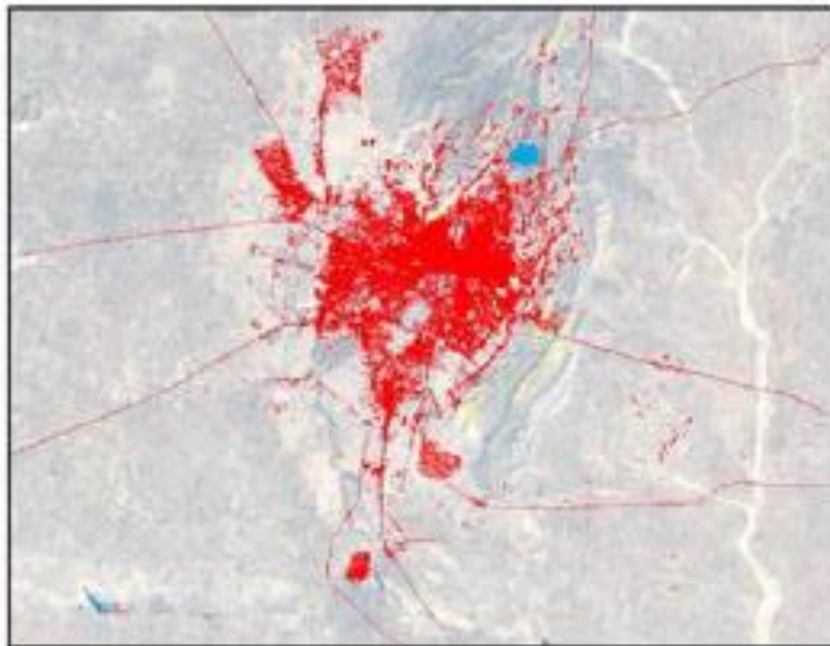


1:300,000

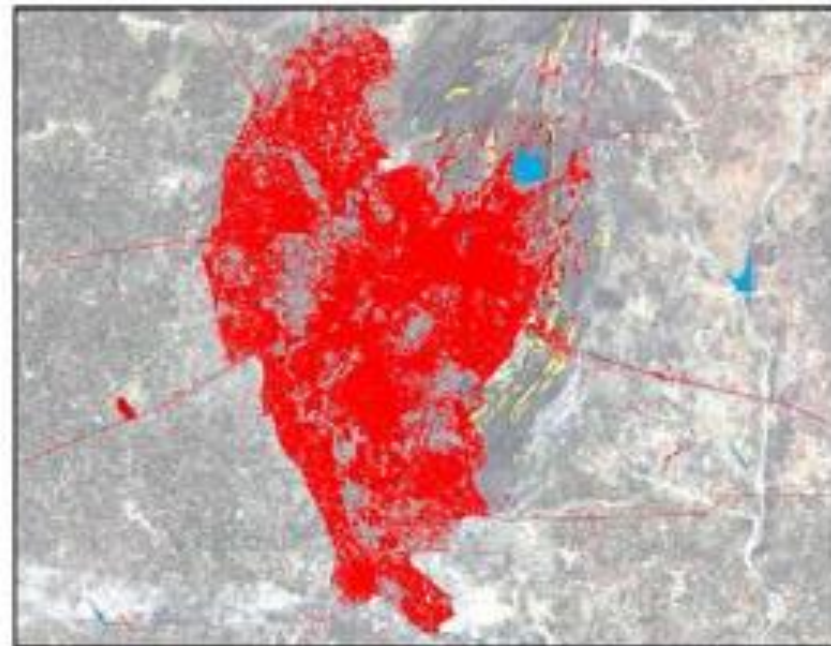


| Measure                            | T <sub>1</sub> | T <sub>2</sub> | Annual % Change |
|------------------------------------|----------------|----------------|-----------------|
| Population                         | 4,887,789      | 5,707,677      | 1.31%           |
| Built-Up Area (sq km)              | 166.96         | 301.89         | 5.09%           |
| Average Density (persons / sq km)  | 29,275.98      | 18,906.43      | -3.60%          |
| Built-Up Area per Person (sq m)    | 34.16          | 52.89          | 3.73%           |
| Average Slope of Built-Up Area (%) | 2.82           | 3.12           | 0.84%           |
| Maximum Slope of Built-Up Area (%) | 14.43          | 17.16          | 1.46%           |
| The Buildable Perimeter (%)        | 0.94           | 0.93           | -0.04%          |
| The Contiguity Index               | 0.75           | 0.88           | 1.36%           |
| The Compactness Index              | 0.37           | 0.38           | 0.22%           |
| Per Capita Gross Domestic Product  | \$1,541.53     | \$2,343.04     | 3.57%           |

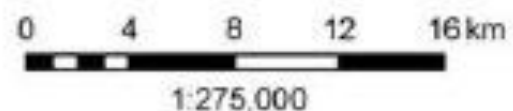
## Jaipur, India



T<sub>1</sub>: 9-Oct-89

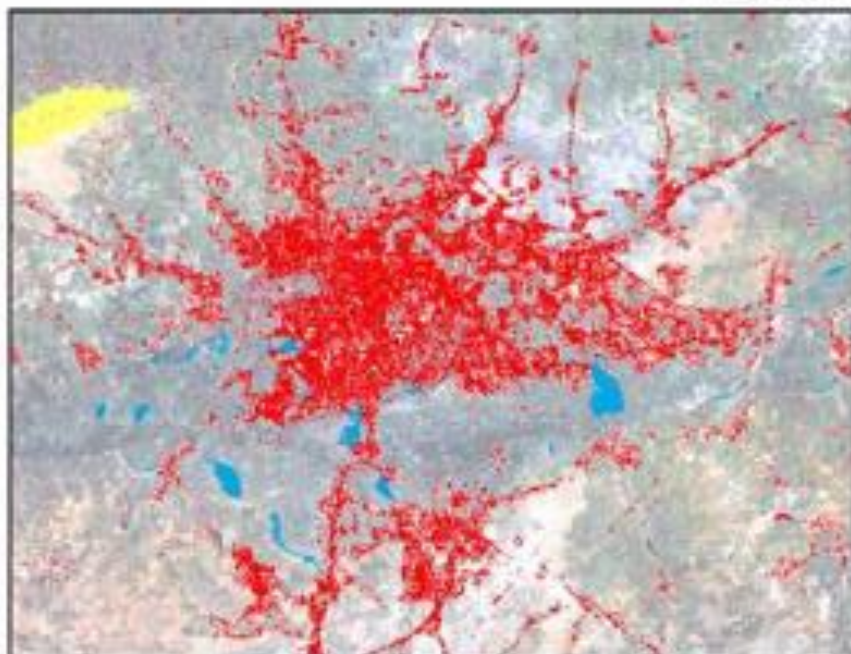


T<sub>2</sub>: 13-Sep-00

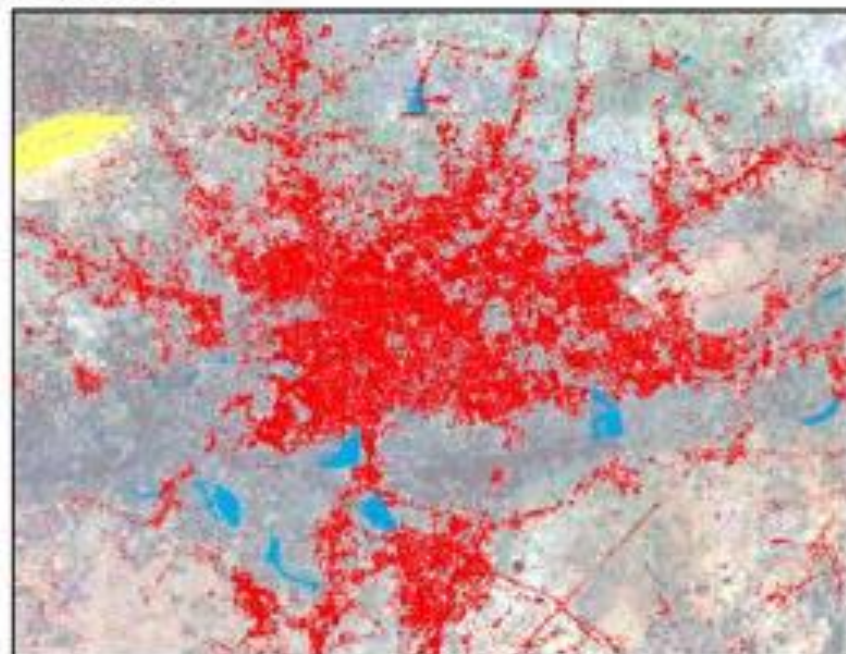


| Measure                            | T <sub>1</sub> | T <sub>2</sub> | Annual   |
|------------------------------------|----------------|----------------|----------|
|                                    |                |                | % Change |
| Population                         | 2,115,566      | 2,779,119      | 2.53%    |
| Built-Up Area (sq km)              | 58.69          | 140.84         | 8.34%    |
| Average Density (persons / sq km)  | 36,044.00      | 19,732.56      | -5.36%   |
| Built-Up Area per Person (sq m)    | 27.74          | 50.68          | 5.67%    |
| Average Slope of Built-Up Area (%) | 3.56           | 3.35           | -0.56%   |
| Maximum Slope of Built-Up Area (%) | 49.66          | 43.86          | -1.13%   |
| The Buildable Perimeter (%)        | 0.94           | 0.93           | -0.10%   |
| The Contiguity Index               | 0.81           | 0.99           | 1.86%    |
| The Compactness Index              | 0.42           | 0.35           | -1.54%   |
| Per Capita Gross Domestic Product  | \$1,535.18     | \$2,252.37     | 3.57%    |

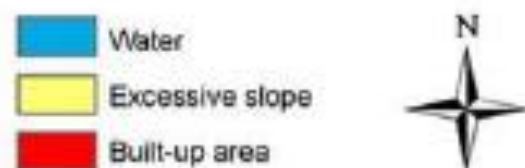
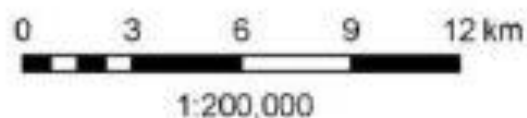
## Coimbatore, India



T<sub>1</sub>: 21-Nov-89



T<sub>2</sub>: 9-Nov-99

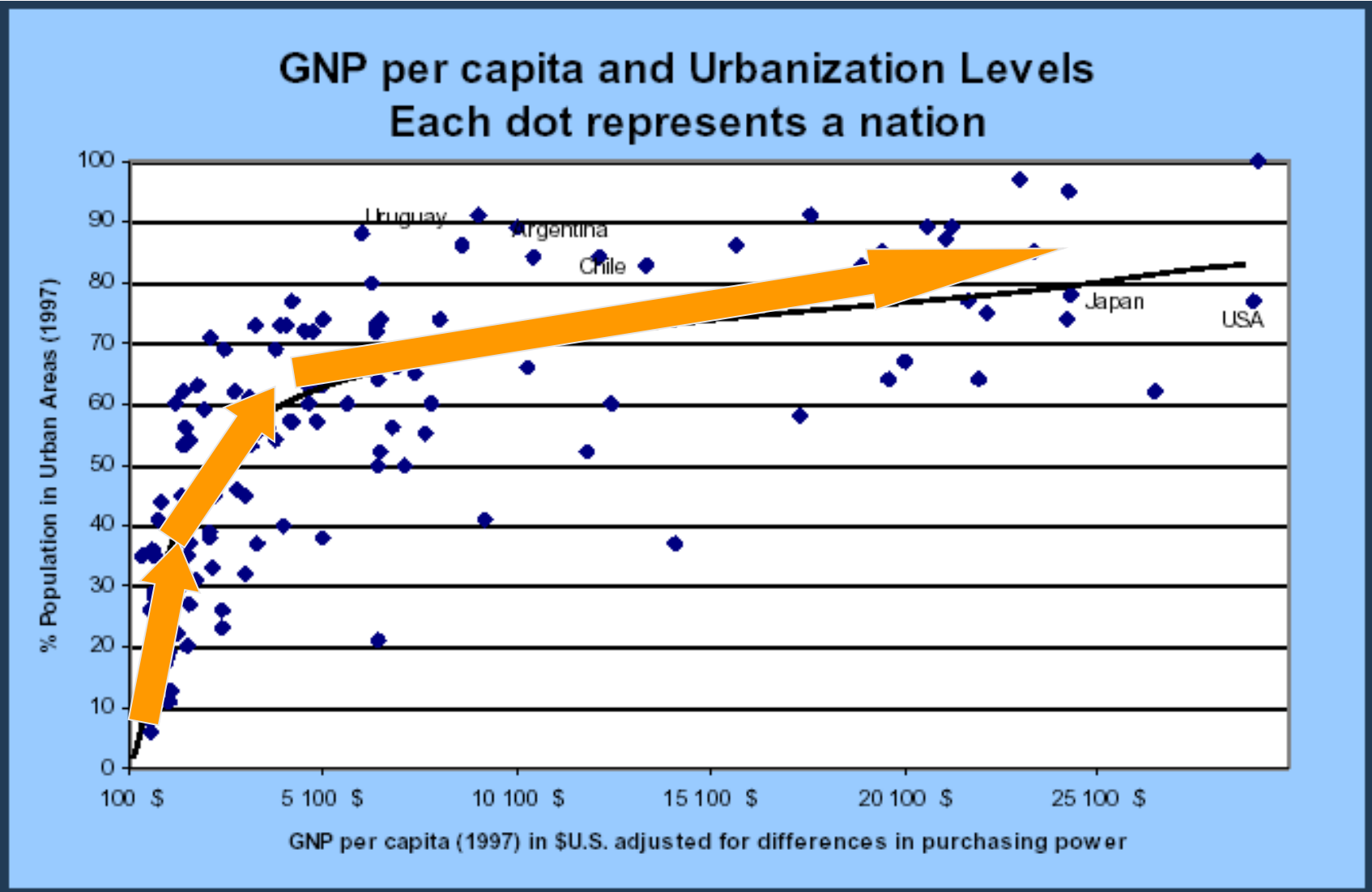


| Measure                            | T <sub>1</sub> | T <sub>2</sub> | Annual   |
|------------------------------------|----------------|----------------|----------|
|                                    |                |                | % Change |
| Population                         | 551,696        | 613,264        | 1.07%    |
| Built-Up Area (sq km)              | 98.98          | 155.95         | 4.67%    |
| Average Density (persons / sq km)  | 5,573.90       | 3,932.47       | -3.44%   |
| Built-Up Area per Person (sq m)    | 179.41         | 254.29         | 3.56%    |
| Average Slope of Built-Up Area (%) | 1.56           | 1.61           | 0.32%    |
| Maximum Slope of Built-Up Area (%) | 7.94           | 8.32           | 0.47%    |
| The Buildable Perimeter (%)        | 0.93           | 0.94           | 0.11%    |
| The Contiguity Index               | 0.65           | 0.65           | -0.04%   |
| The Compactness Index              | 0.32           | 0.34           | 0.79%    |
| Per Capita Gross Domestic Product  | \$1,541.53     | \$2,186.52     | 3.57%    |



PROSPERITY

# Urbanisation is the trigger for economic growth



Source : Mario Polese, Pamela Echeverria and Mila Freire, 2002



**80%**

of global GDP is  
accounted by cities

.....  
**Contribution of cities to national income is  
greater than their share of national population**

**Paris: is 16% of the population of France, but  
accounts for 27% of GDP**

**Kinshasa: is 13% of the population of DRC but  
accounts for 85% of GDP**

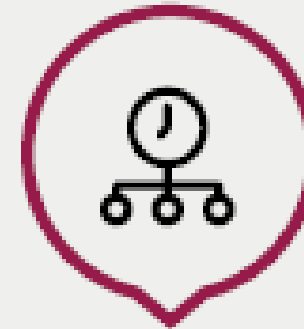
**Metro Manila: is 12% of the population of  
Philippines but contributes 47% of the GDP**

.....

## WELL PLANNED AND MANAGED URBANIZATION BENEFITS



Economic prospects  
and quality of life  
for the majority



Drives innovation  
and productivity



Contribute to  
national and regional  
development



Alleviation  
of poverty



Work towards  
social inclusion

# Prosperous cities

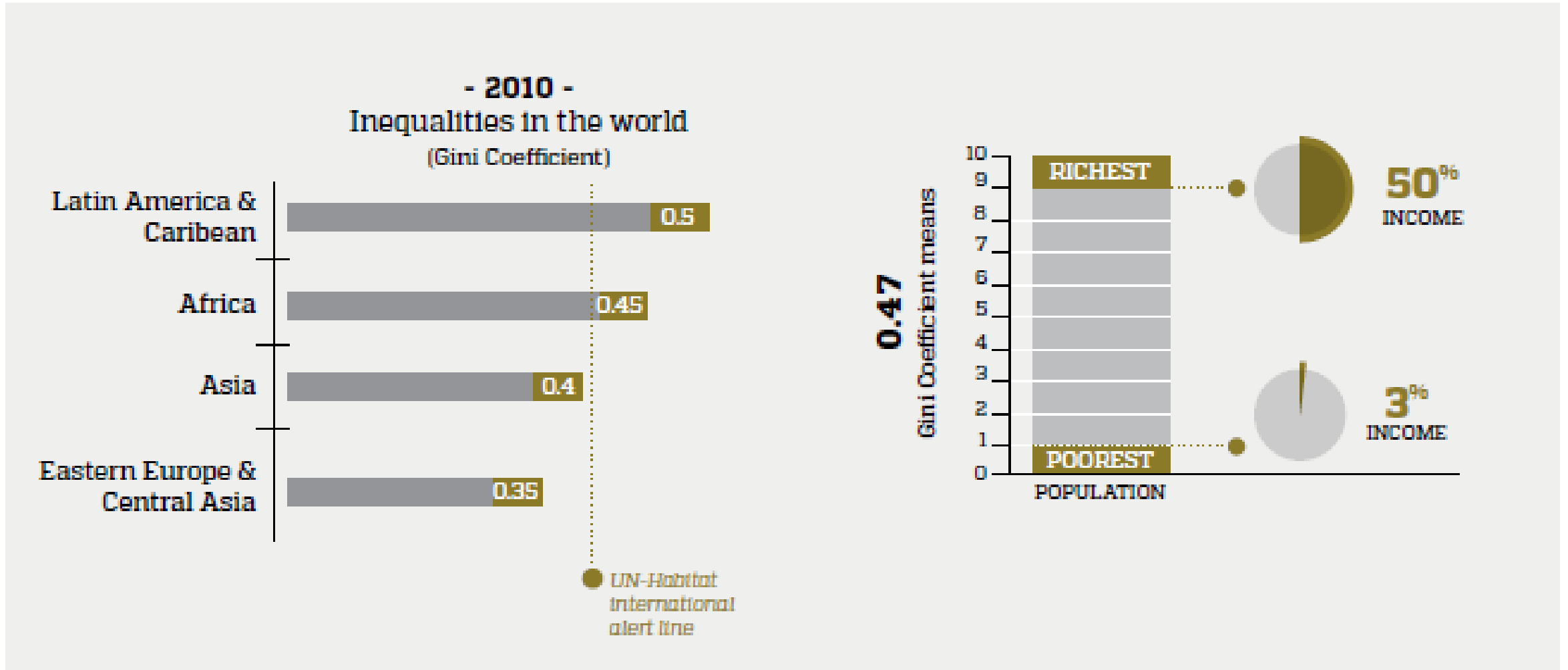


Poverty and inequality

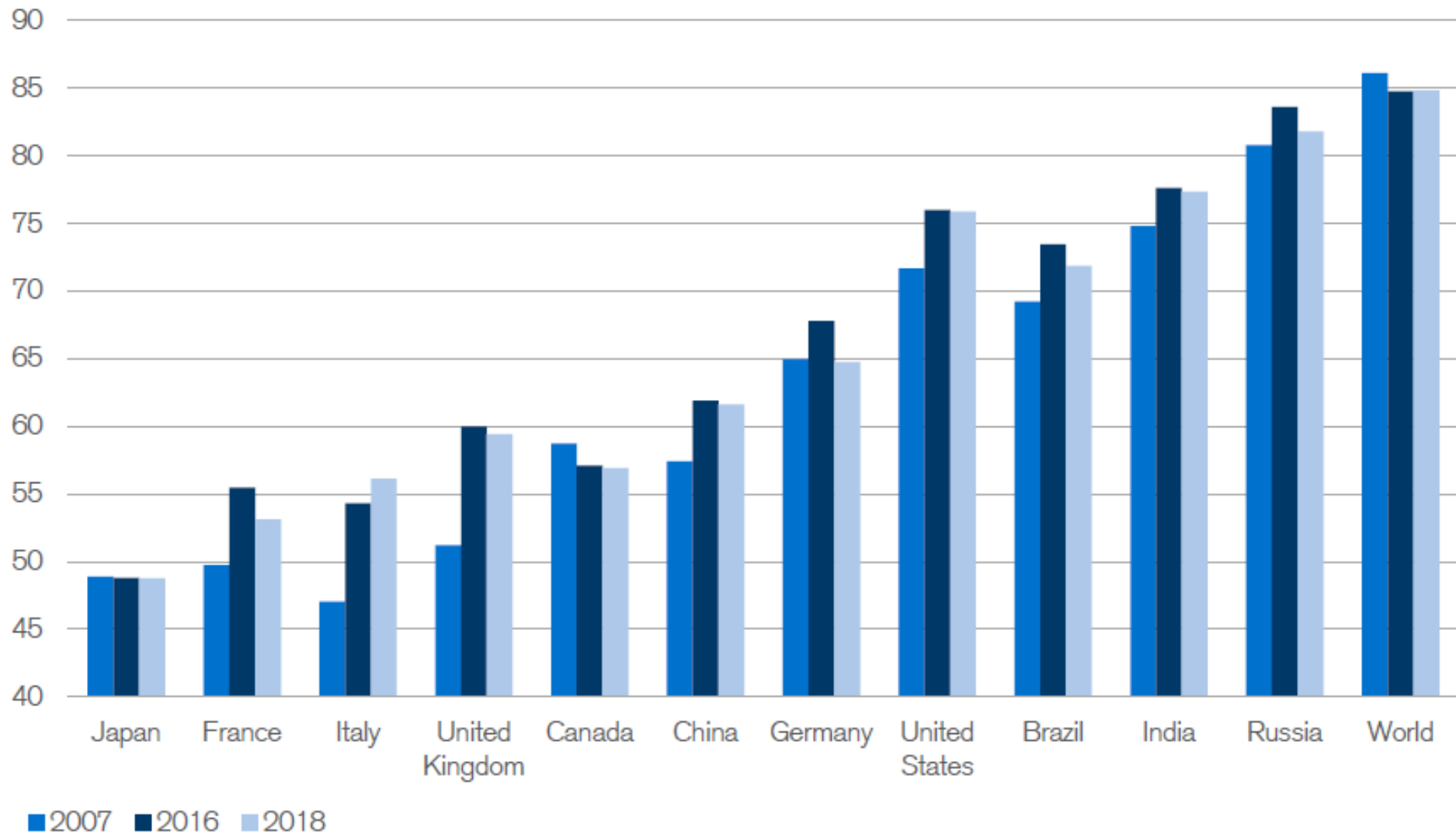
it is an unequal world



# Inequalities in the world



**Figure 6: Share of top 10% of wealth holders since 2007, selected countries, % of wealth**

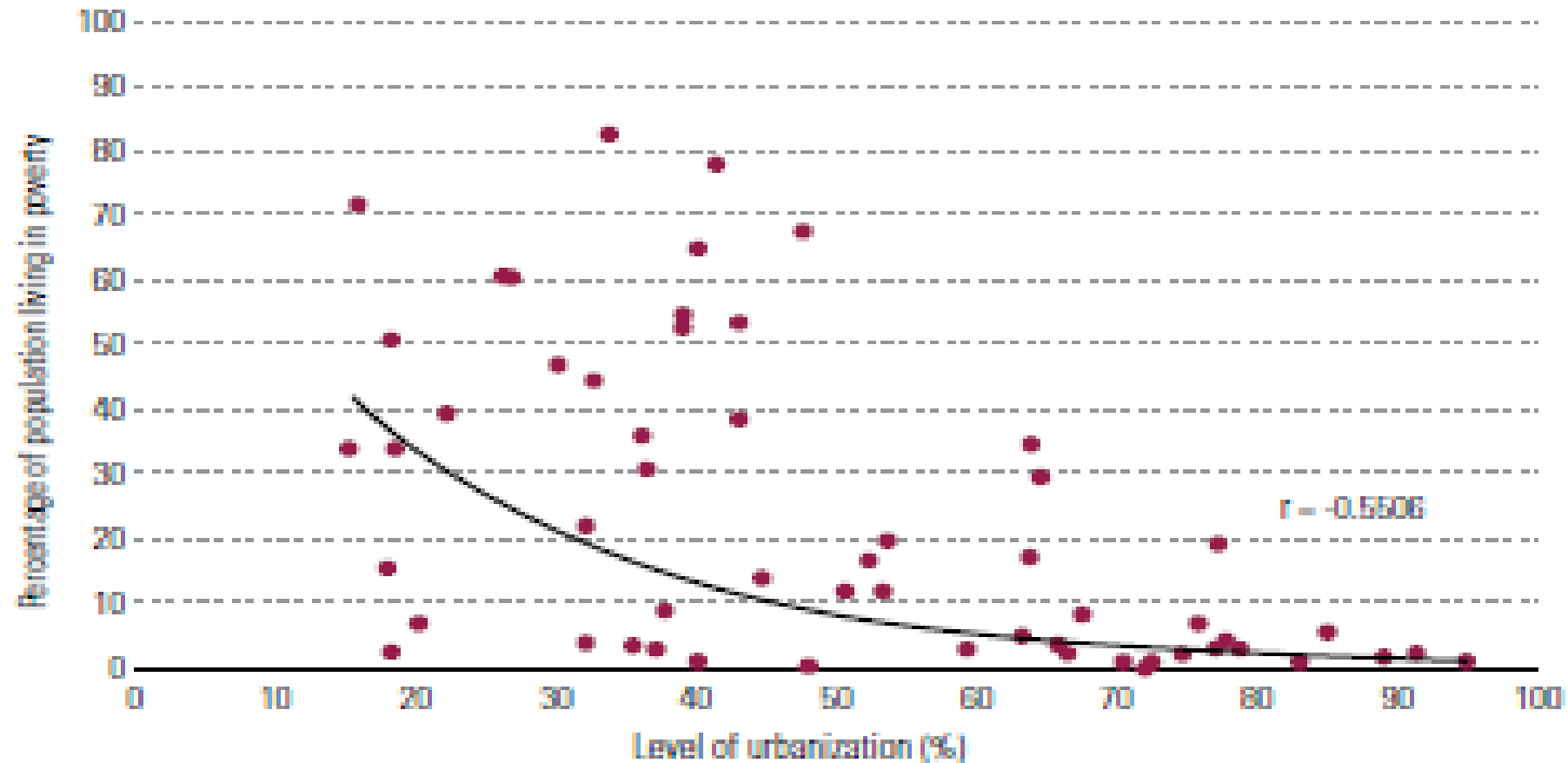


Source: James Davies, Rodrigo Lluberas and Anthony Shorrocks, Credit Suisse Global Wealth Databook 2018



## Figure 2.4: Urbanization and poverty

Source: Based on United Nations, 2014b; data.worldbank.org, last accessed 20 January 2016.



# India's Poverty Profile

SNAPSHOT 2012

**270,000,000**

Indians are poor

=



1 in 5 Indians is poor

THE 7 LOW-INCOME STATES HOUSE

**62%**

OF INDIA'S POOR

THE LOW-INCOME STATES ARE HOME TO

**45%**

OF INDIA'S POPULATION

**80%** of India's poor live in rural areas



**60**

UTTAR PRADESH

**24**

MADHYA PRADESH

**36**

BIHAR

**10**

RAJASTHAN

**13**

JHARKHAND

Number of poor in low-income states (Millions)

**10**

CHHATTISGARH

**14**

ODISHA



# The poor are more vulnerable

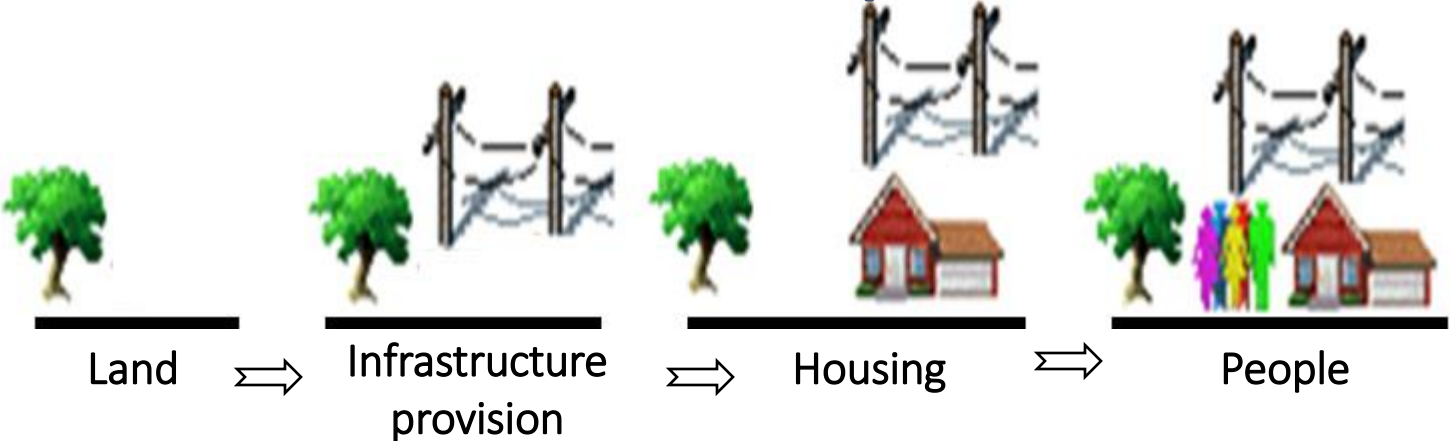


▲ Informal settlements on the bank of a canal in Manila, Philippines. ©Shadow216/Shutterstock

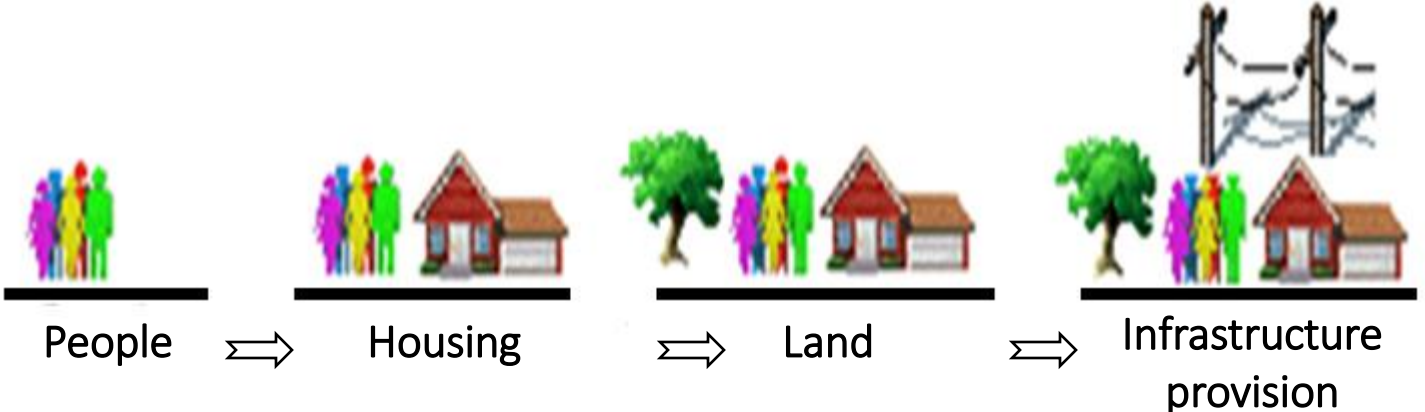


# Urban Planning Challenges

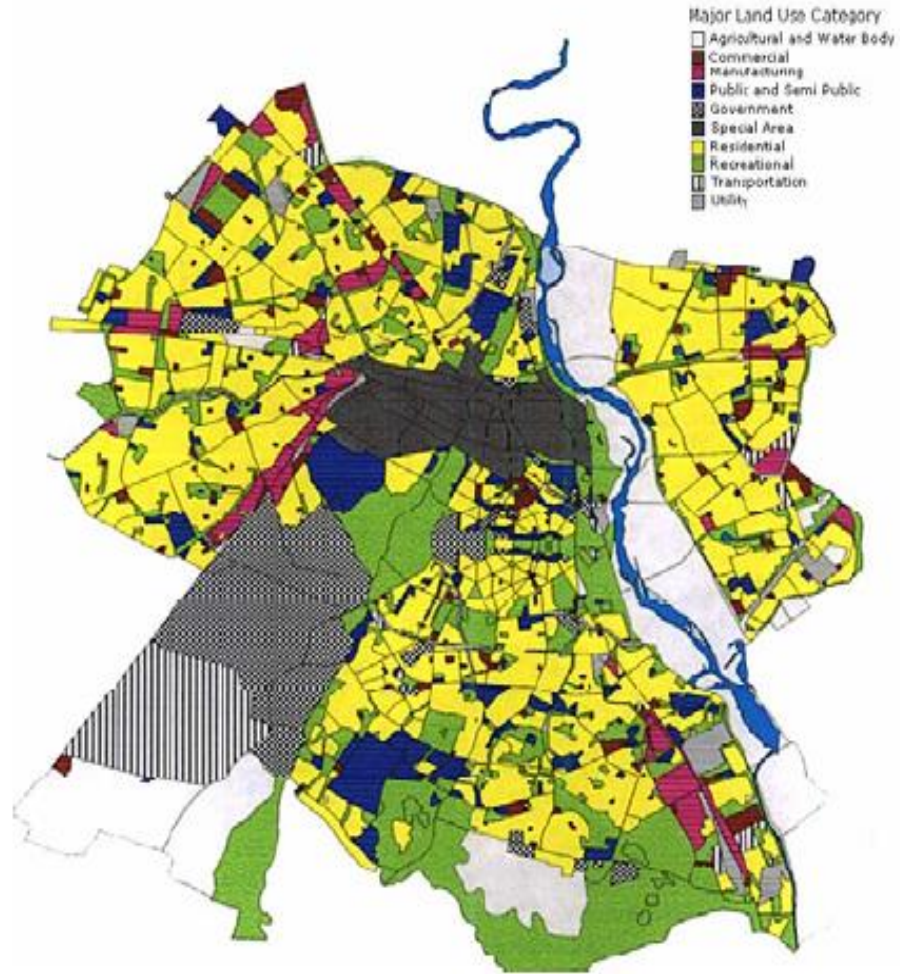
# Formal Process of Urban Development



# Informal Process of Urban Development



# Planning and the Poor : Anti-Poor bias in Planning



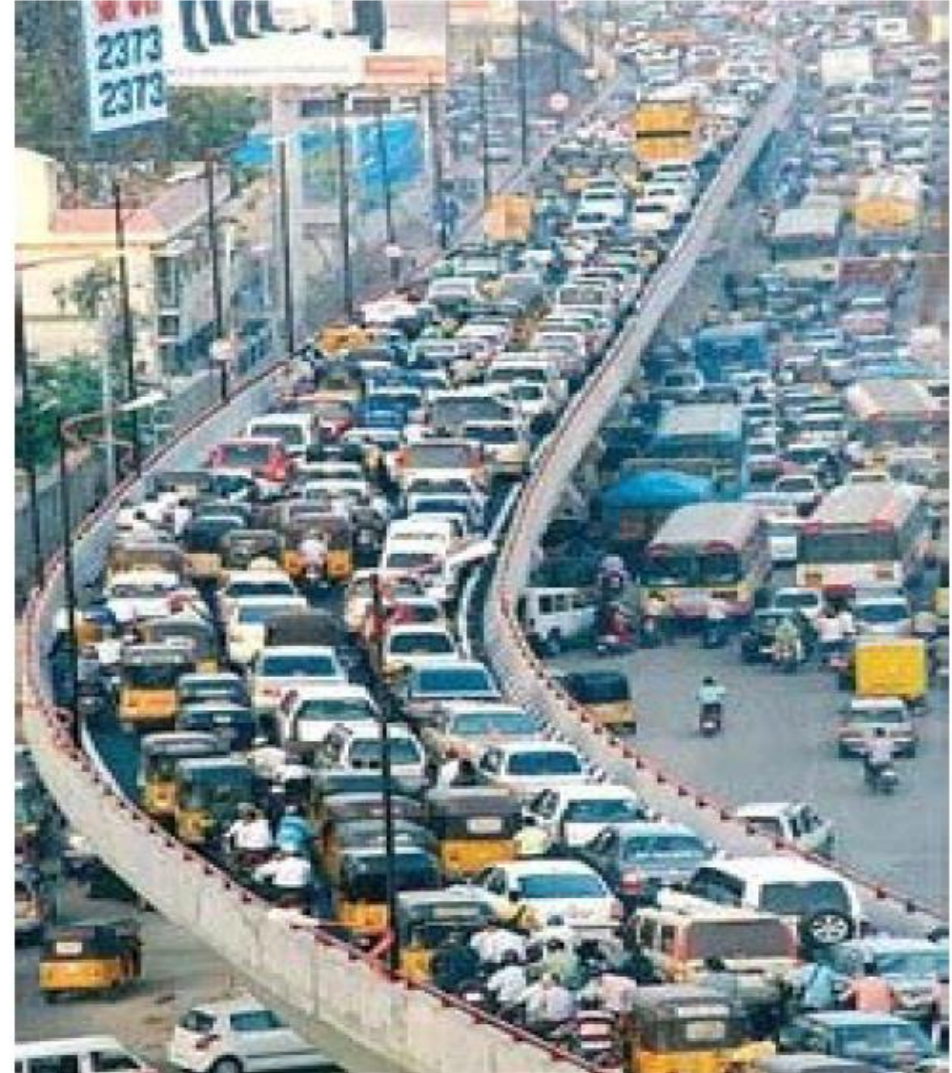
- Urban planning pre-occupied with land and its use
- Vision to make world-class cities only include the non-poor

Why do the poor have no place in our planning?

- Slums have 20-25% of population but use less than 3 percent of land
- The poor do not have title over land and hence are not a part of the planning process

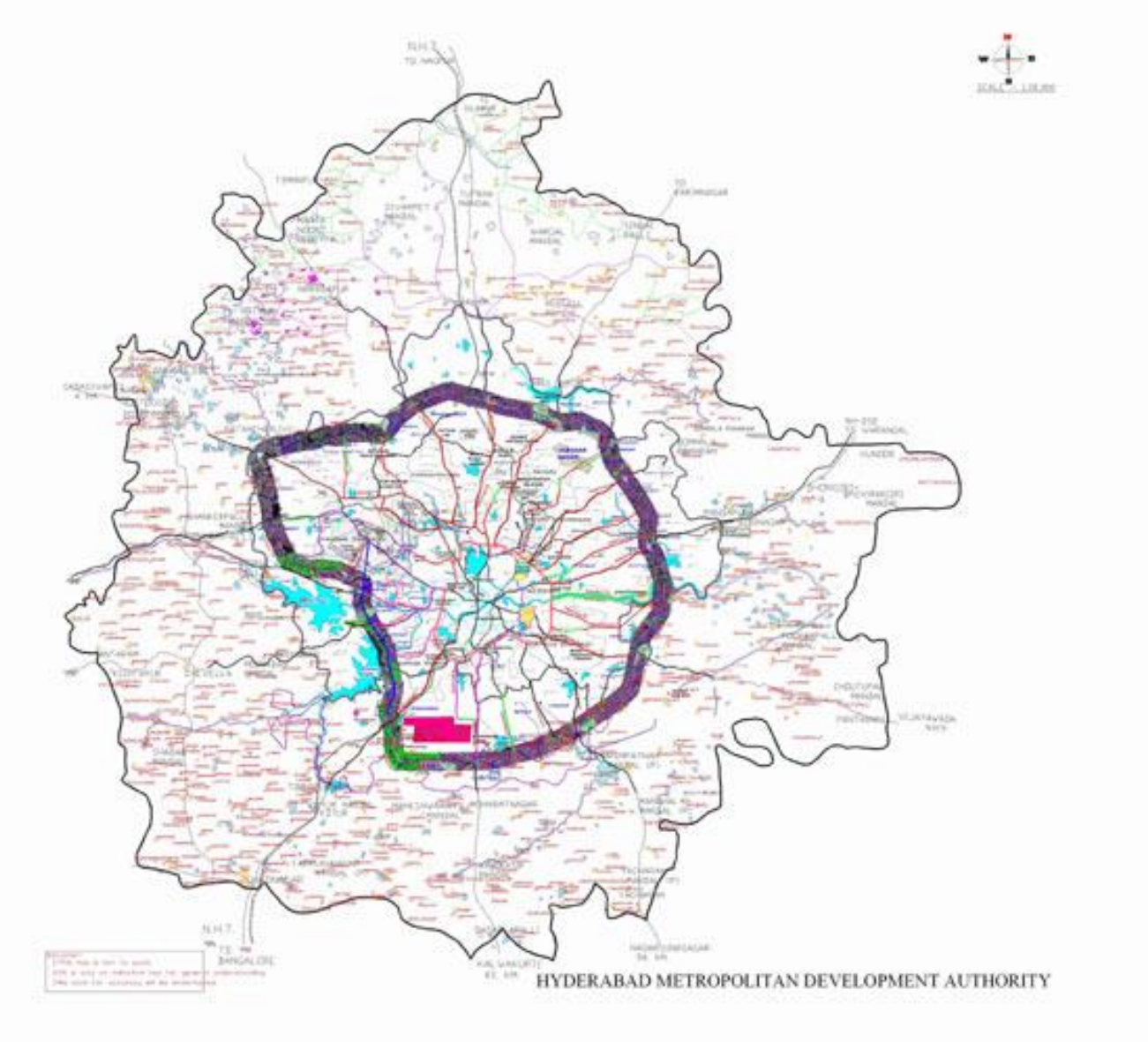
# Urban planning dominated by transportation

- Land use and transport planning is of paramount concern of planners
- Moving people is more important than serving people with basic services
- It is assumed that all infrastructure will follow roads
- But that is not always the best for water and sanitation systems





# New Learning for Planners: Planning for Mega regions



# Compact city or Sprawl



# A City that Plans versus The Planned City

## A City that Plans embraces views



Residents



Employers & employment



Elected leaders

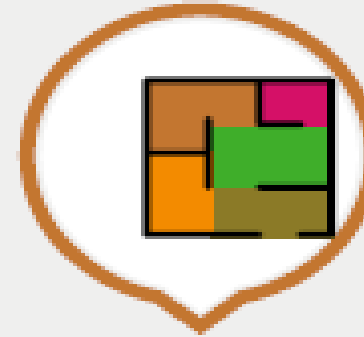


Investors

## A City that Plans integrates



Infrastructure



Land use



Culture



Natural resources



Education

**Planning capacity** varies greatly across the world

UK  
**38**  
ACCREDITED  
PLANNERS  
per 100,000  
population

Nigeria  
**1.44**  
ACCREDITED  
PLANNERS  
per 100,000  
population

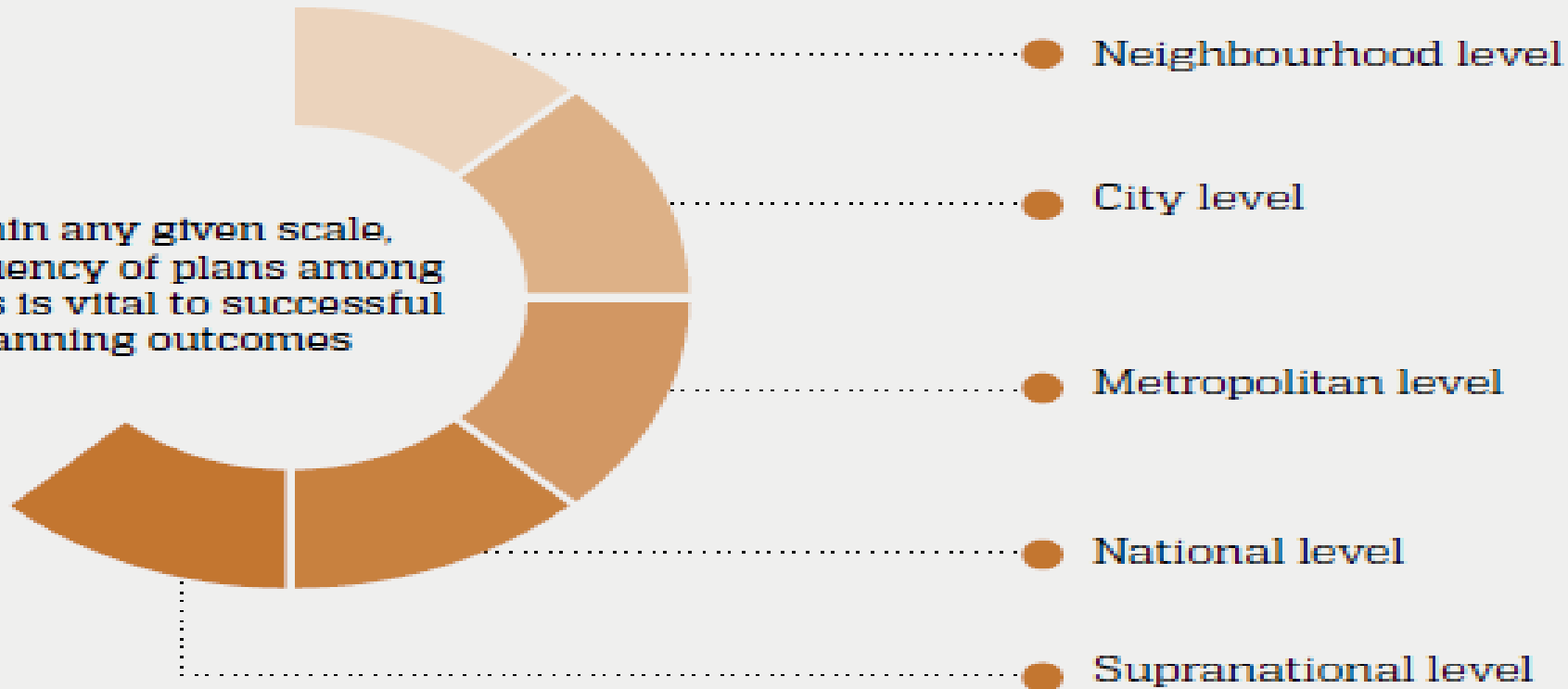
India  
**0.23**  
ACCREDITED  
PLANNERS  
per 100,000  
population

**NEW COMPREHENSIVENESS**

Newer planning approaches:

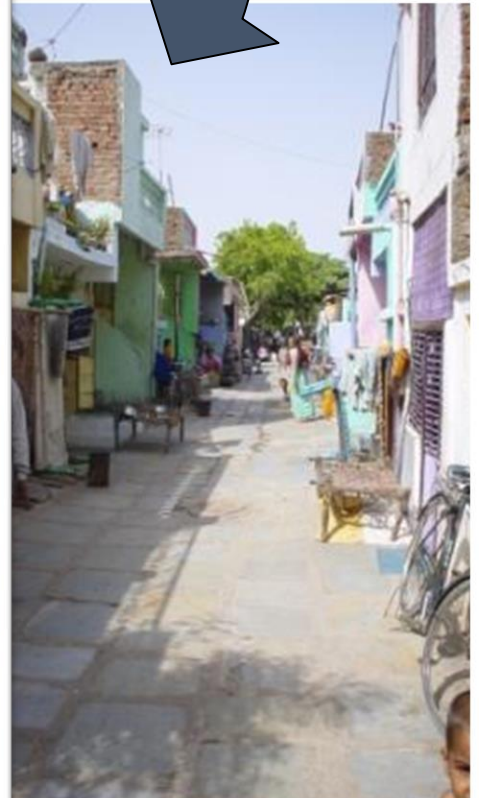
- > are more **multisectoral**
- > address **global concerns** e.g climate change & gender equality
- > **critically examine** new ideas before adoption

Within any given scale,  
congruency of plans among  
sectors is vital to successful  
planning outcomes



# In Conclusion

- *Future is Urban: Urbanisation process is in tandem with economic growth*
  - *Urban growth is a natural consequence of economic growth. Instead of “preventing” urban growth, we must learn to deal with rapid urban growth. Focus attention on small and medium towns as they are important vehicles for rural poverty reduction*
- *Crisis of Prosperity in cities*
  - *Urban areas have been spearheading the economies in the region. There is a ‘crisis of prosperity’ in cities manifested in high consumption and infrastructure deficiencies. City authorities are not geared to cater to high level of services that are demanded. Need to evolve better management practices, private sector participation, contracting etc.*
- *Access to Basic Services*
  - *Despite massive investments in basic services, the service levels are poor. Ensuring access of water and sanitation to all, removing open defecation should be the principal goal . With small investments, it is possible to improve service levels for all, especially the poor*
- *Poor Urban Governance has been a bane of many problems*
  - *Need better systems of transparency and accountability – e-governance and people’s participation have made some difference. Increasing role for civil society organisations, more instruments like RTI, public disclosure laws for downward accountability.*



**Thank You....**

[www.pas.org.in](http://www.pas.org.in)

[dineshmehta@cept.ac.in](mailto:dineshmehta@cept.ac.in)