# Exclusionary Urbanisation in India
## *Strategy for Sustainable Development*

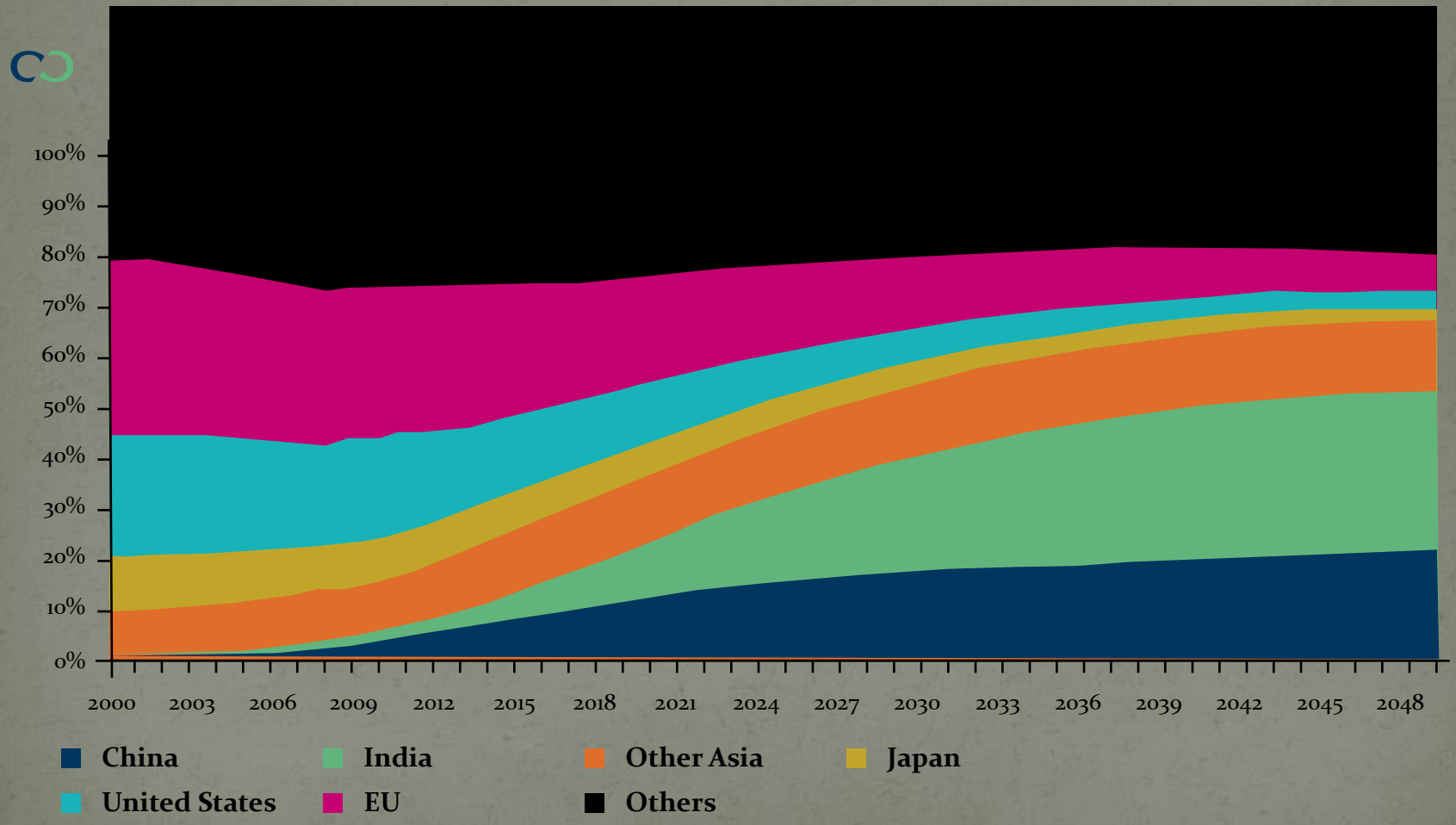
**Amitabh Kundu**
Research and Information System for Developing Countries

The 94th Foundation Course for Trainee Civil Servants

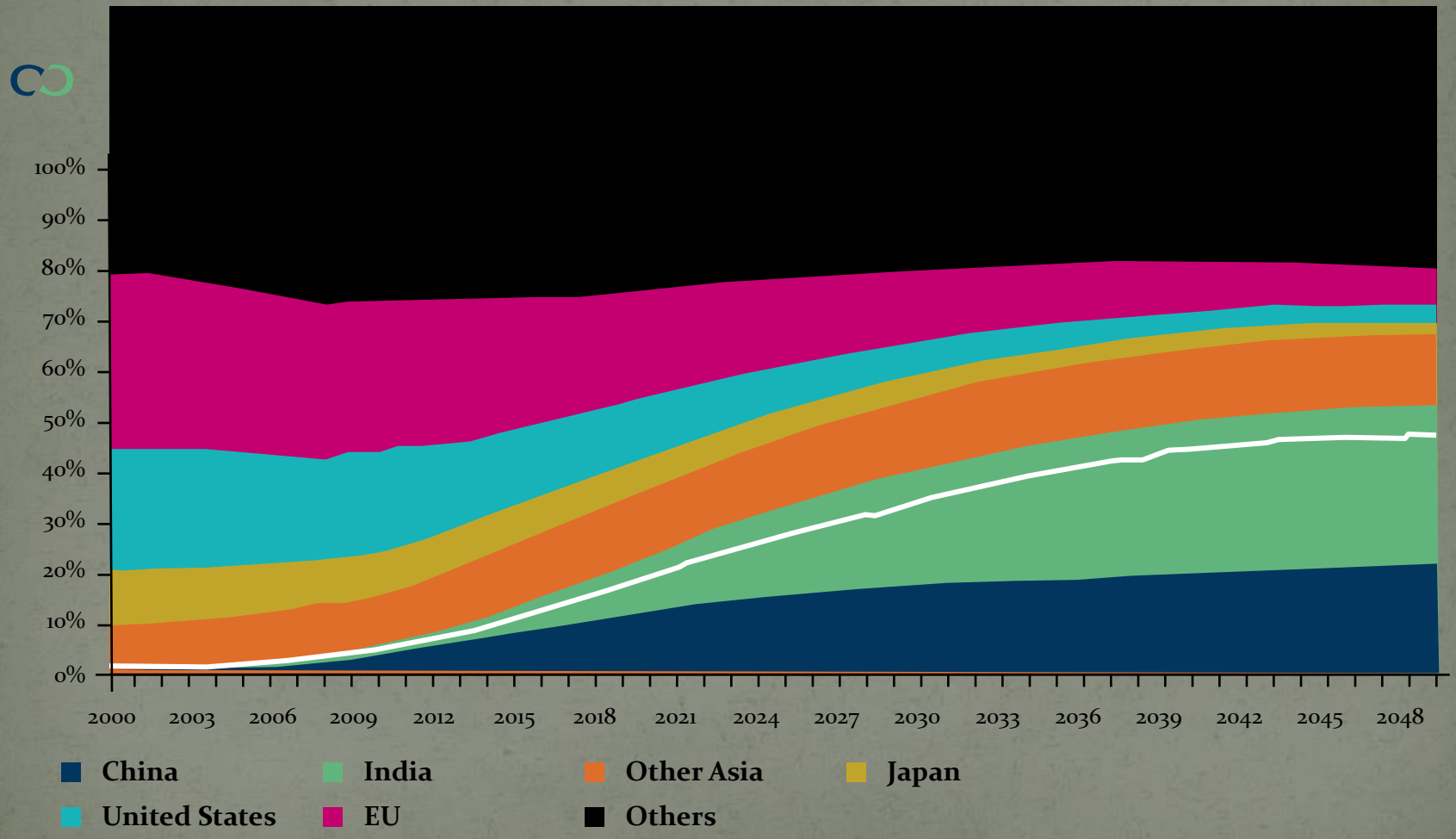
**Dr MCR HRD Institute, Government of Telangana, Hyderabad**

**The 11th September 2019**

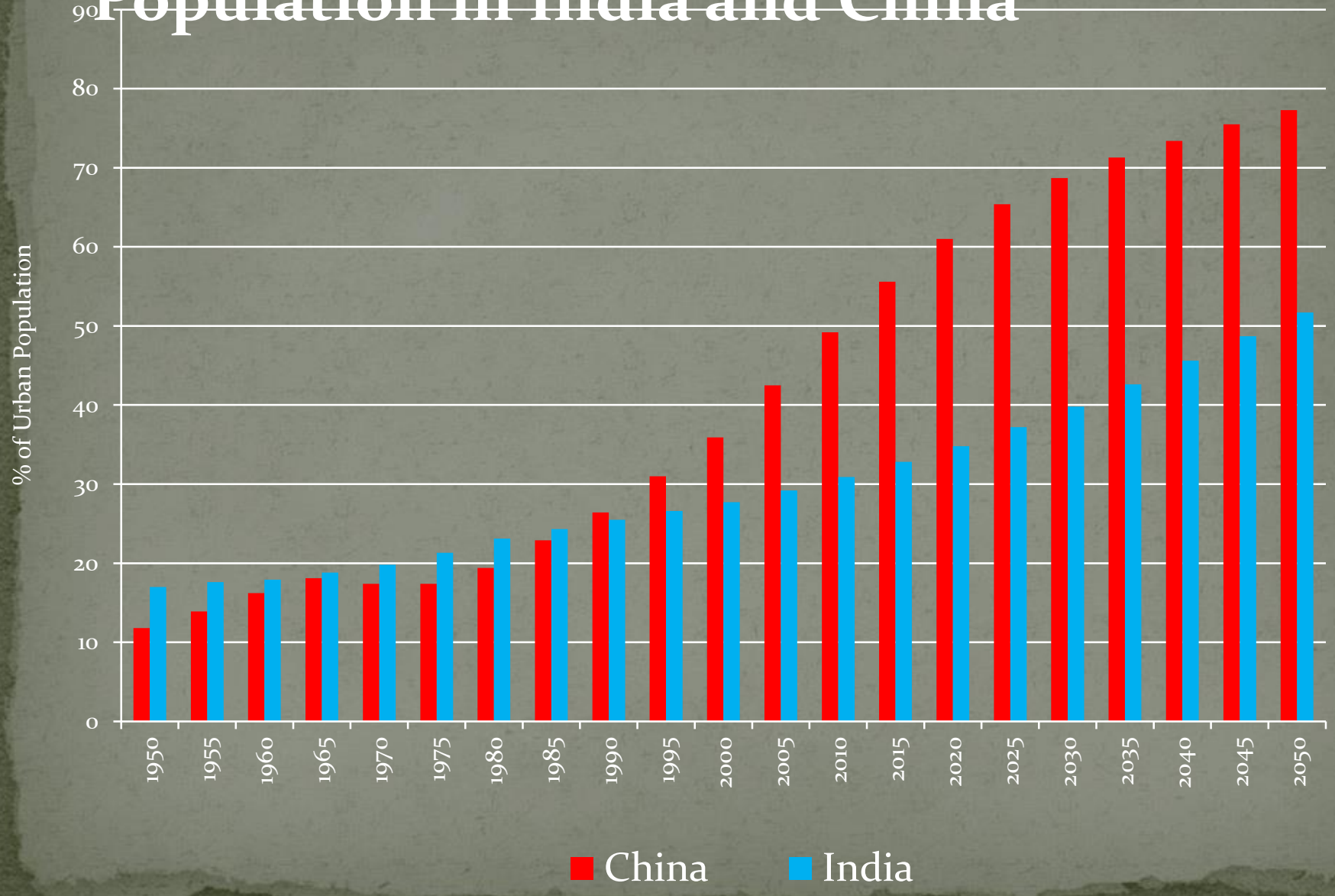
# Brookings' projection of share of Asia in World's Middle Class market



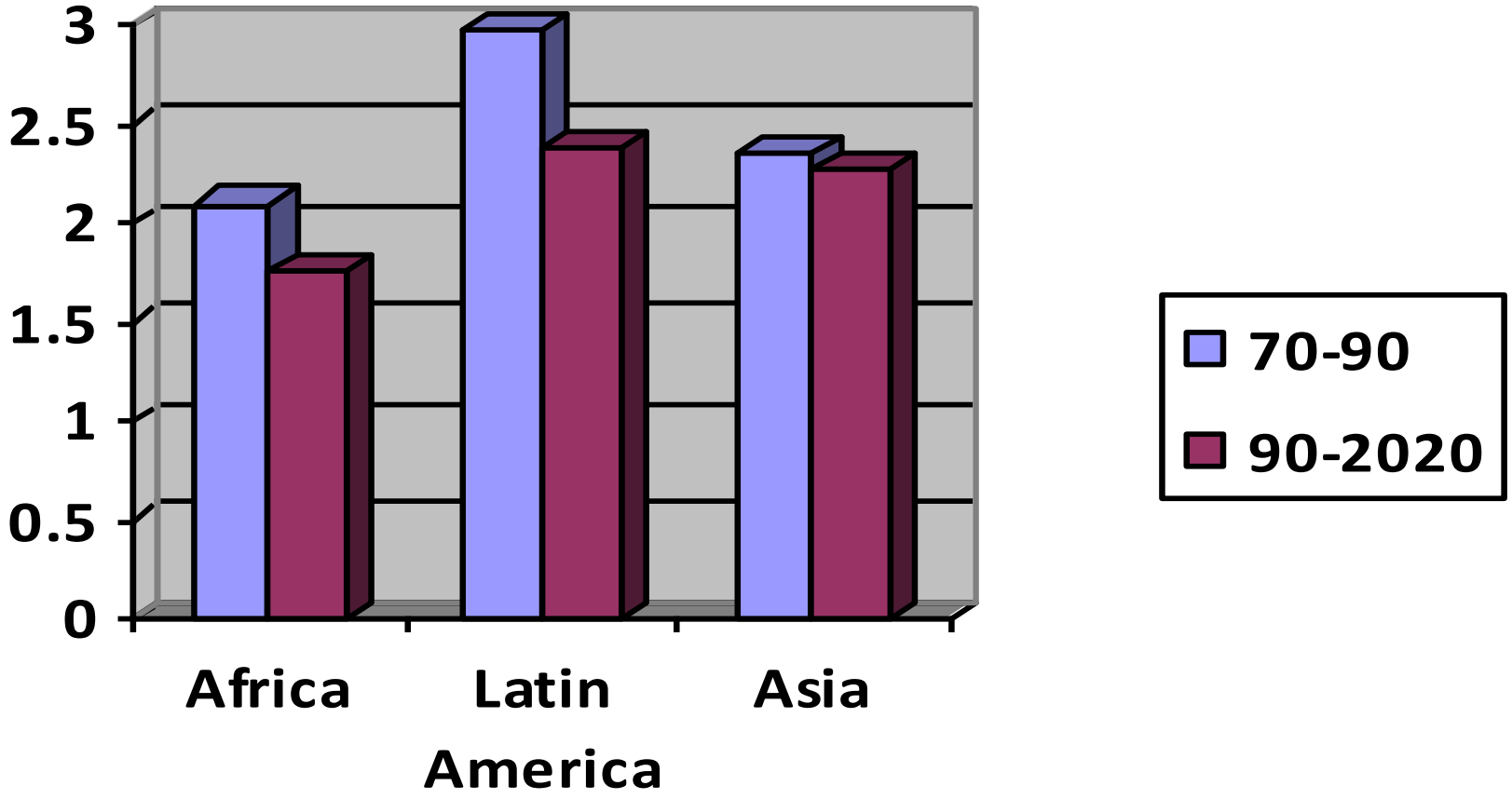
# Impact of Stagnation in Urban Growth



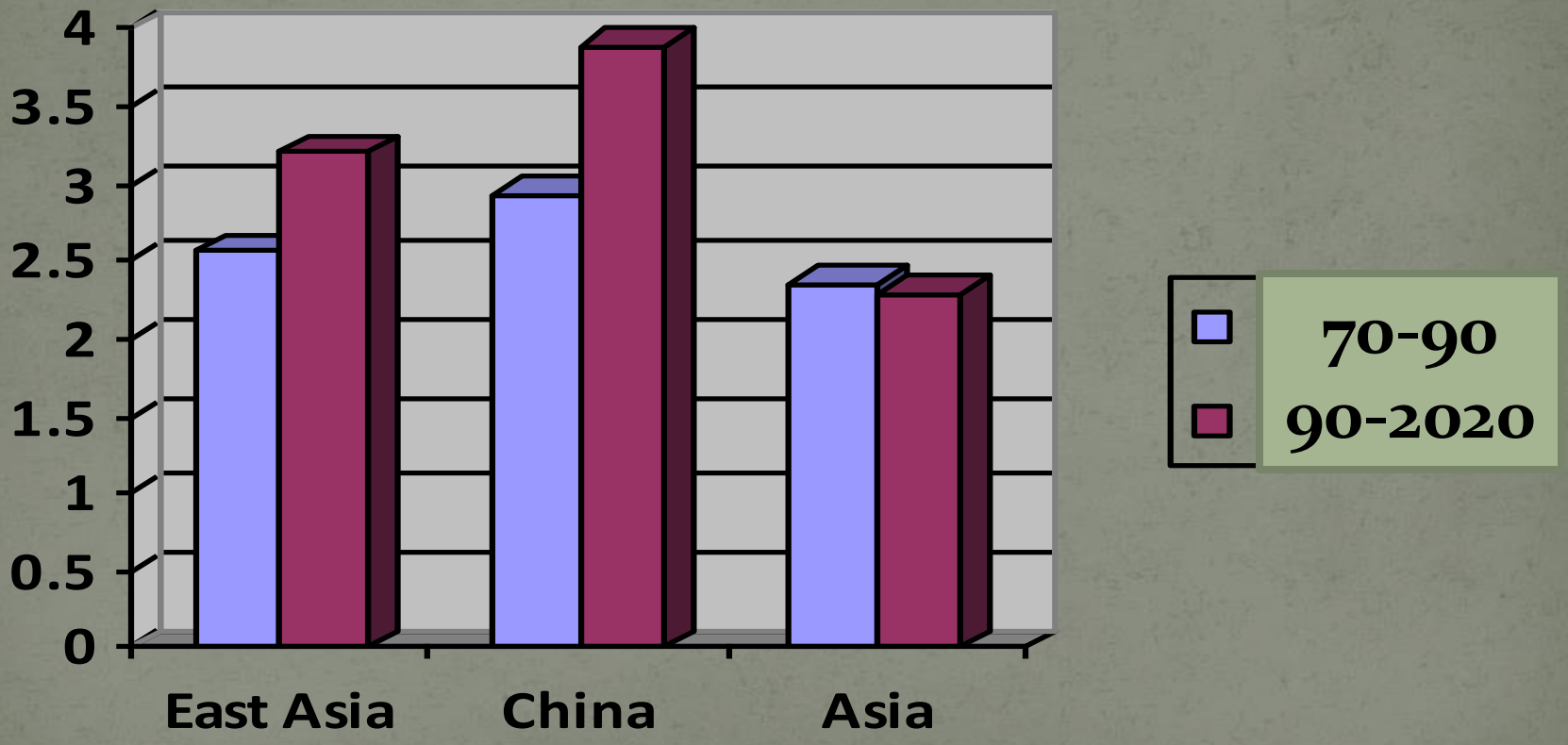
# Trend in the Percentage of Urban Population in India and China



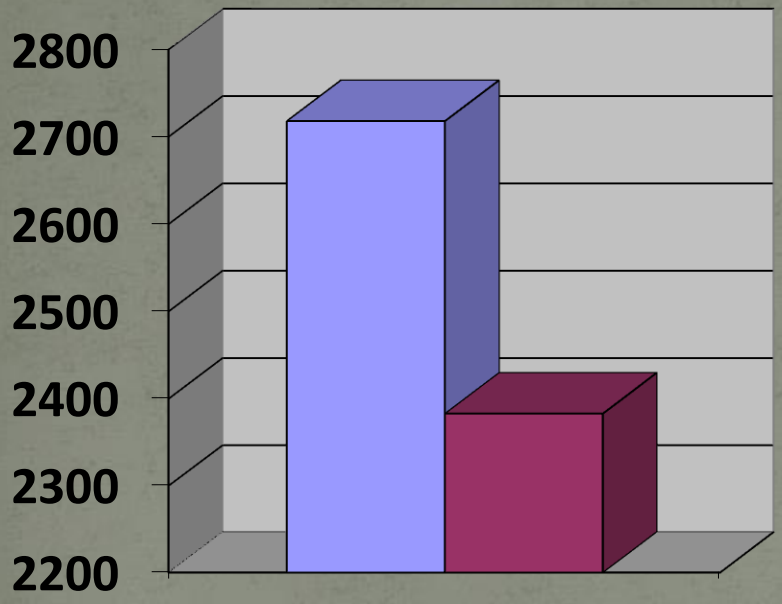
# Declining Growth Rates in Urban Population in Africa, Latin America and Asia



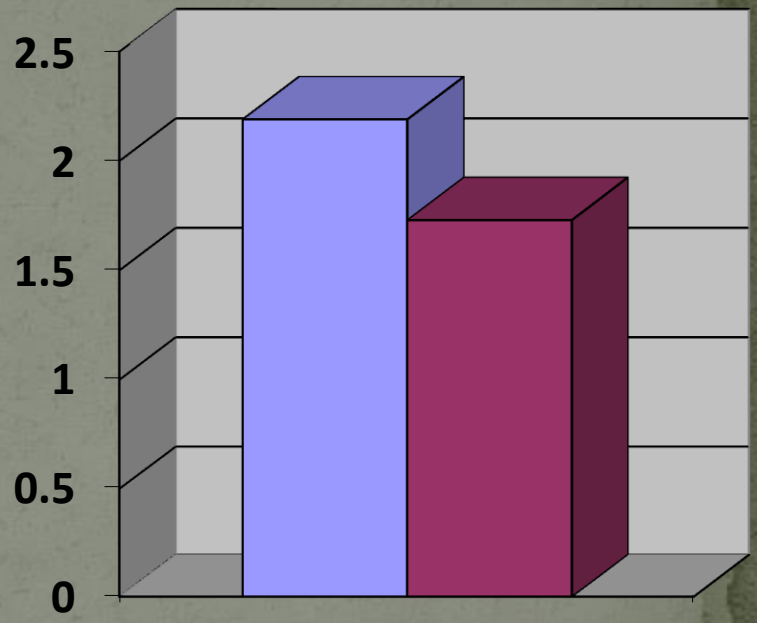
# Growth Rates of Urban Population in Asian Countries



# Projected Urban Population for Asia in 2025 and its Growth Rate during 2025-30 as given in World Urbanization Prospects




Urban Population in Asia 2025




Growth in Urban Population in

WUP Revision 1995

WUP Revision 2015

# Growth Rates of Urban Population in India as Projected in World Urbanisation Prospects (WUP)

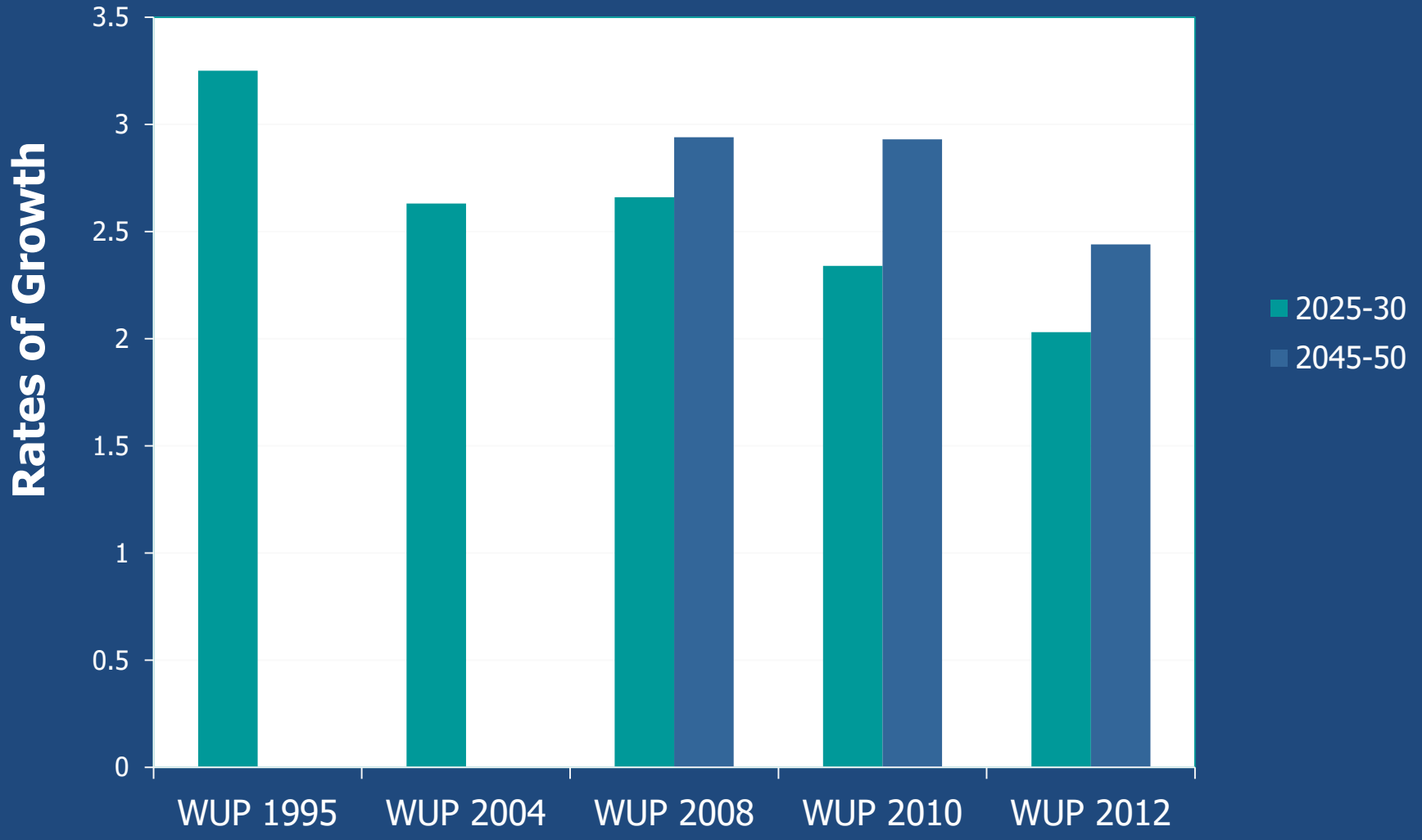
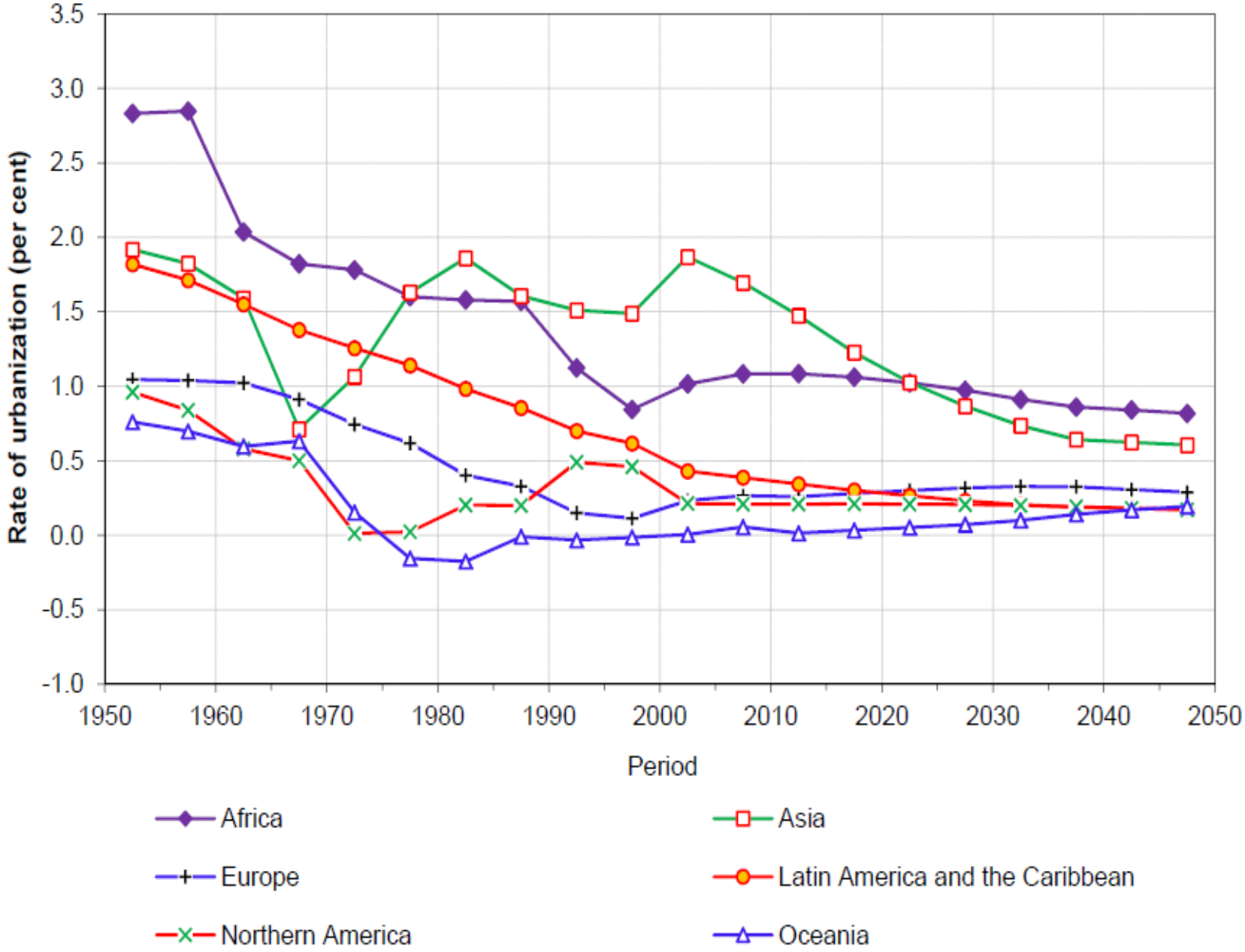
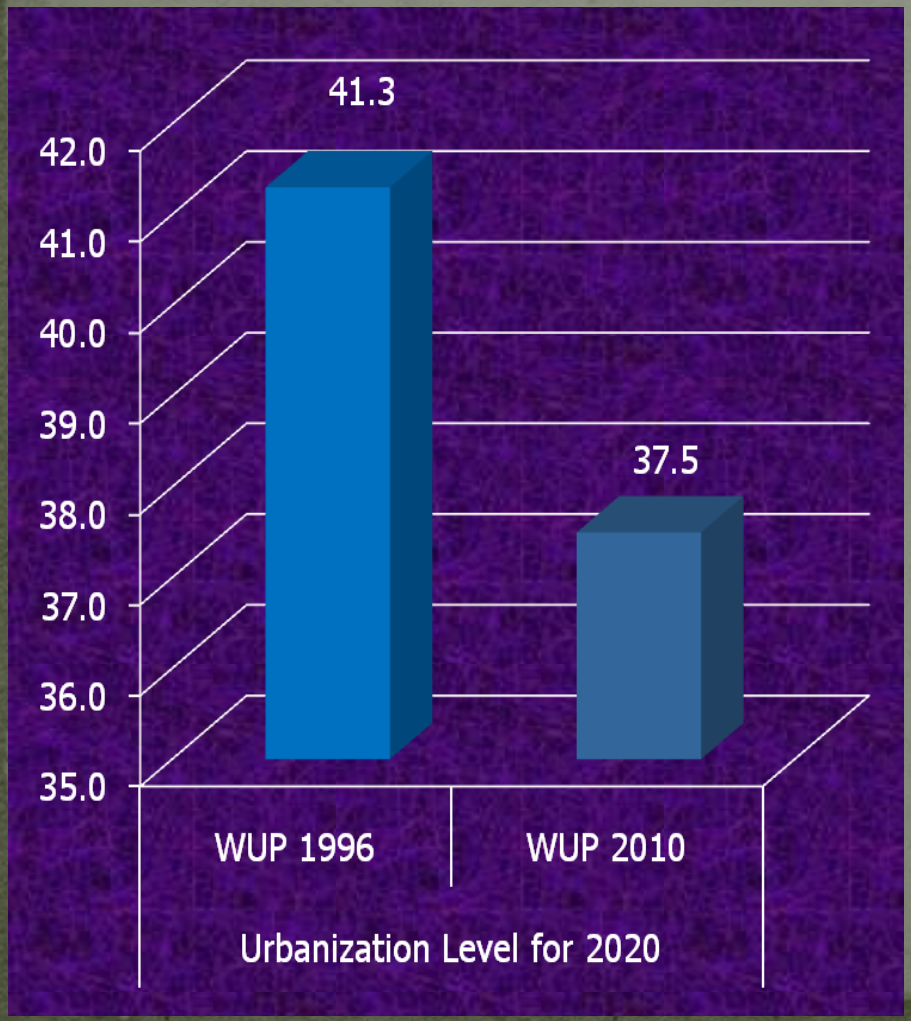
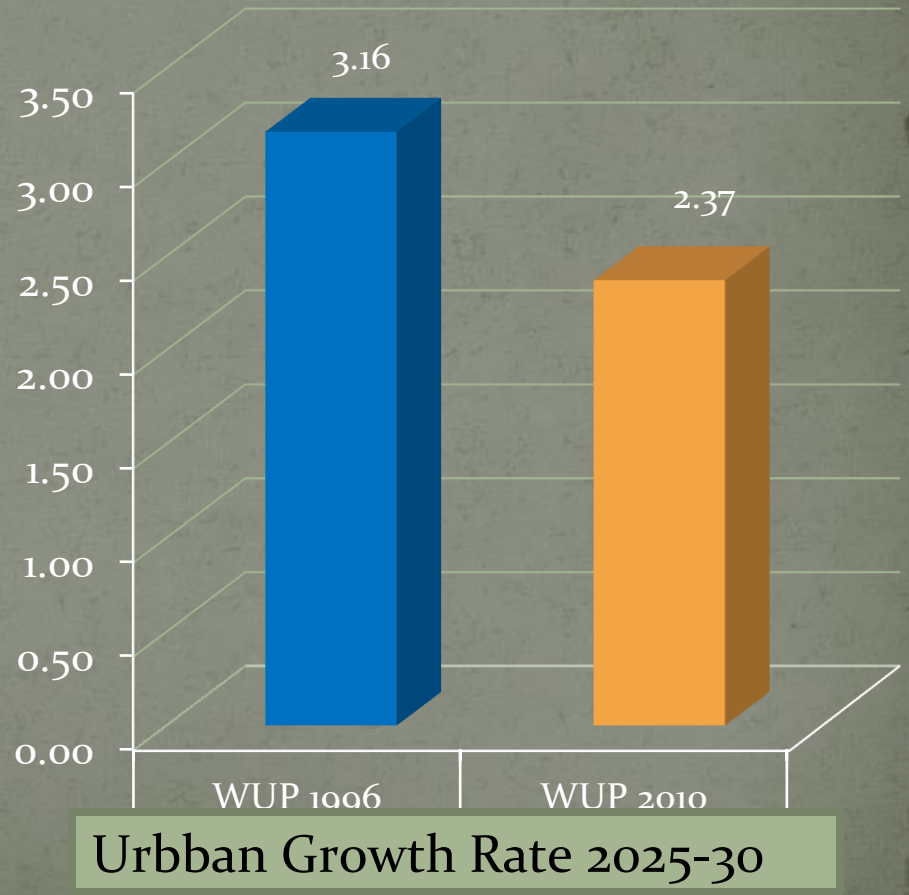


**Figure II.12. Rate of urbanization by major area, 1950-2050**



# Projected Urbanisation Level for India in 2020 and its Growth Rate during 2025-30 as given in World Urbanization Prospects



# Per cent Urban Population and Urban Growth Rates 1901-11

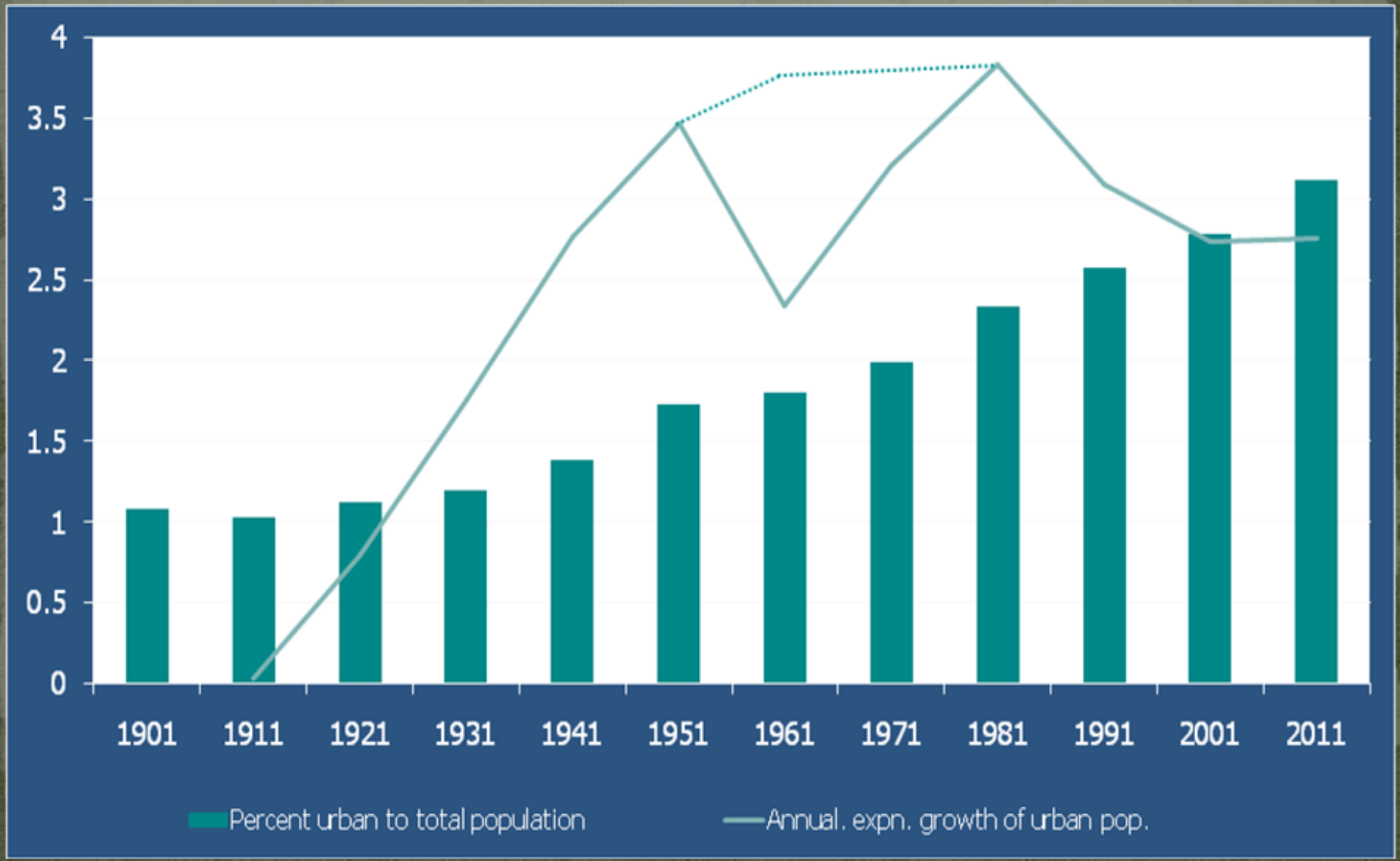


**Table 1b: Percentage of migrants (POLR) in the population as per decennial censuses**
Source: Compiled from Census tables on Migration.
Include estimated figures of J&K an Assam where applicable

| | Census years | | | | |
|---|---|---|---|---|---|
| | 1971 | 1981 | 1991 | 2001 | 2011 |
| Total | 29.1 | 30.3 | 27.4 | 30.1 | 37.5 |
| Male | 17.5 | 17.2 | 14.7 | 17.0 | 22.6 |
| Female | 41.7 | 44.3 | 41.2 | 44.6 | 53.2 |

# Percentage of Decadal and Other Migrants to the Total Migrants

# Percentage of Urban Population from UNPD and Agglomeration Index of the World Bank In South Asian Countries

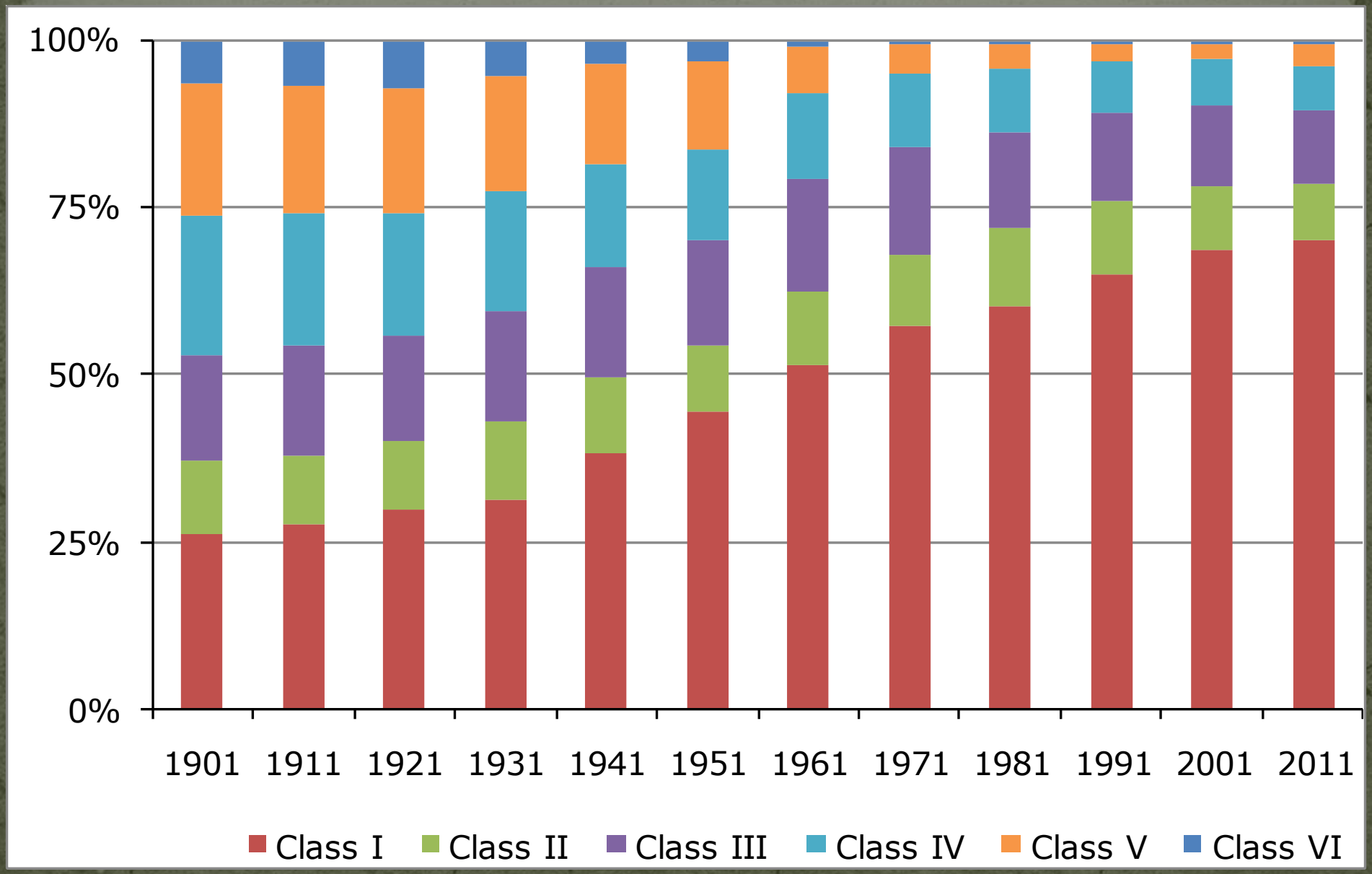
| Country | National Census UNPD (WUP2011) | Agglomeration Index World Bank WDR 2009 |
|---|---|---|
| Bangladesh | 23.2 | 48.0 |
| India | 28.7 | 52.4 |
| Pakistan | 33.2 | 53.6 |
| Sri Lanka | 15.7 | 38.2 |
| China | 36.0 | 37.0 |

# Percentage of Population in Cities with Population over 5 million to Total Urban Population

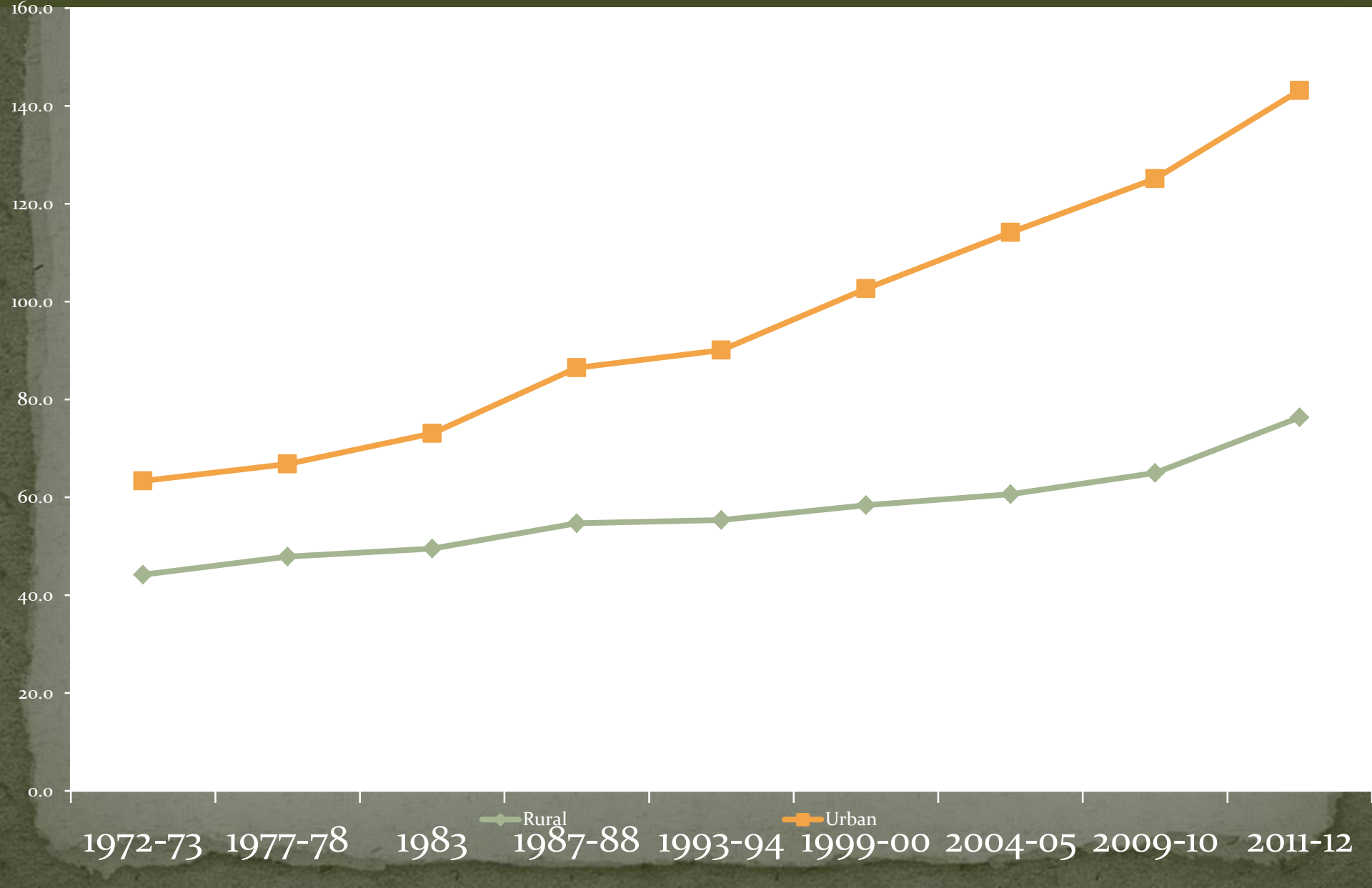
| Europe | Africa | Less Developed Countries | World Average | Developed Countries | Asia | South Central Asia | India |
|---|---|---|---|---|---|---|---|
| 7.5 | 9 | 15 | 15.5 | 16 | 18 | 23 | 23.5 |

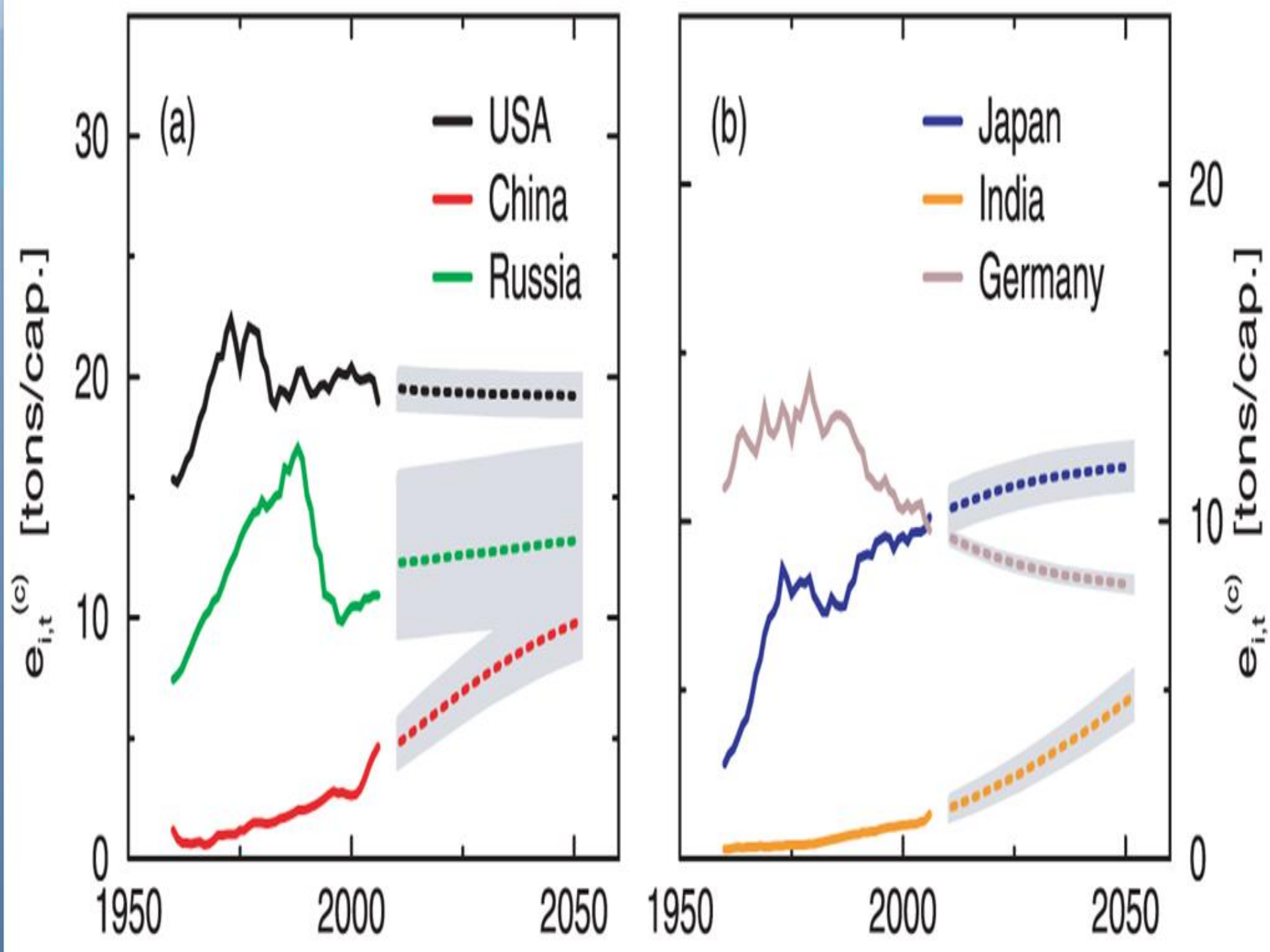
Implications of top heavy urban structure: high infrastructural cost, energy consumption, regional disparity and threat to sustainable development.

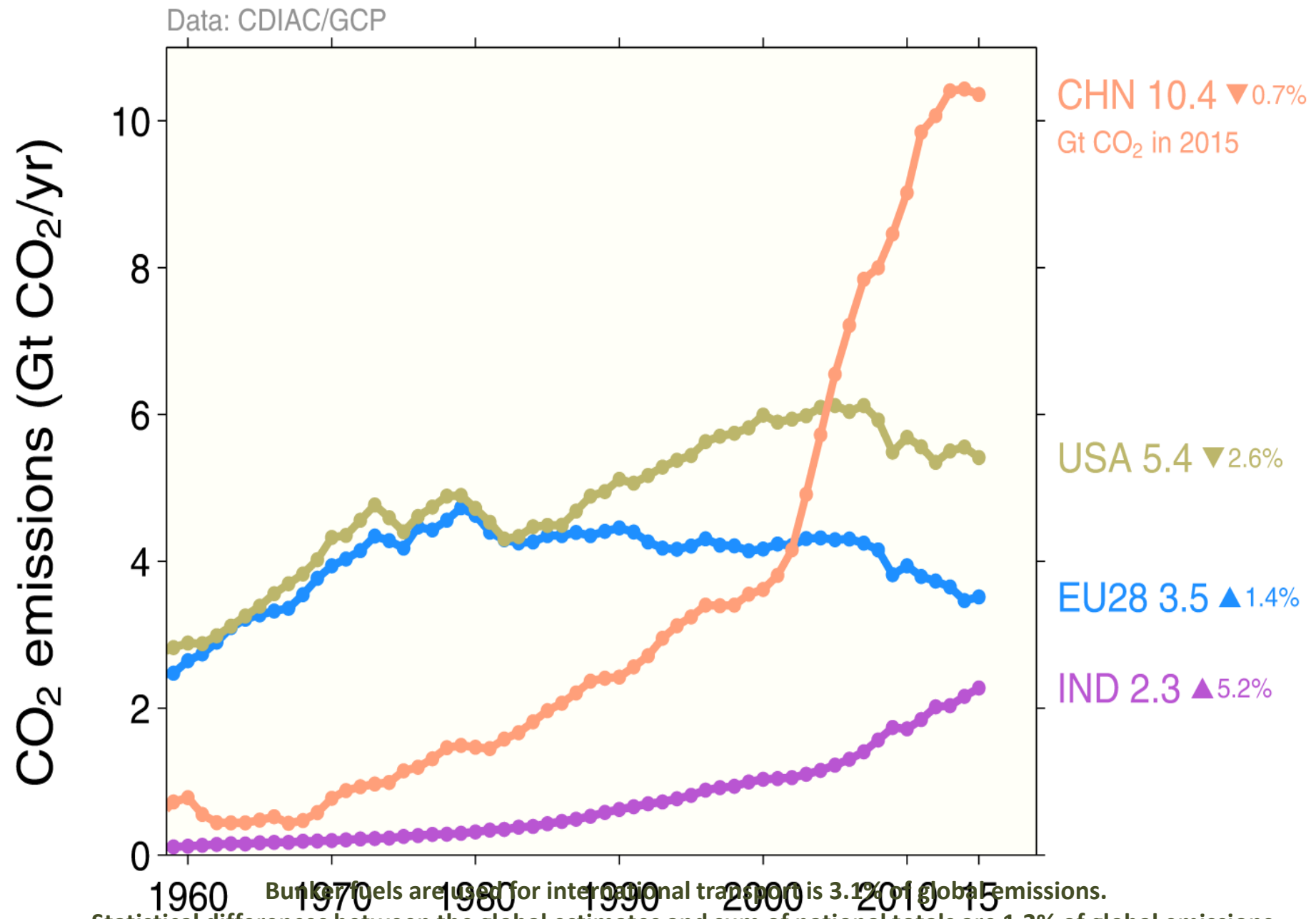
# Proportion of urban population in different size categories, 1901–2001



# Trends in all-India average monthly per capita consumption at constant prices (Rs.) 1972-73 to 2011-12




(a)
USA
China
Russia
(b)
Japan
India
Germany
30
20
10
0
1950
2000
2050
$e_{i,t}^{(c)}$ [tons/cap.]




Bunker fuels are used for international transport is 3.1% of global emissions.
Statistical differences between the global estimates and sum of national totals are 1.2% of global emissions.
Source: CDIAC; Le Quéré et al 2016; Global Carbon Budget 2016

Global Carbon Project

# Empirical Results : Relationship between energy use and PCI & HDI

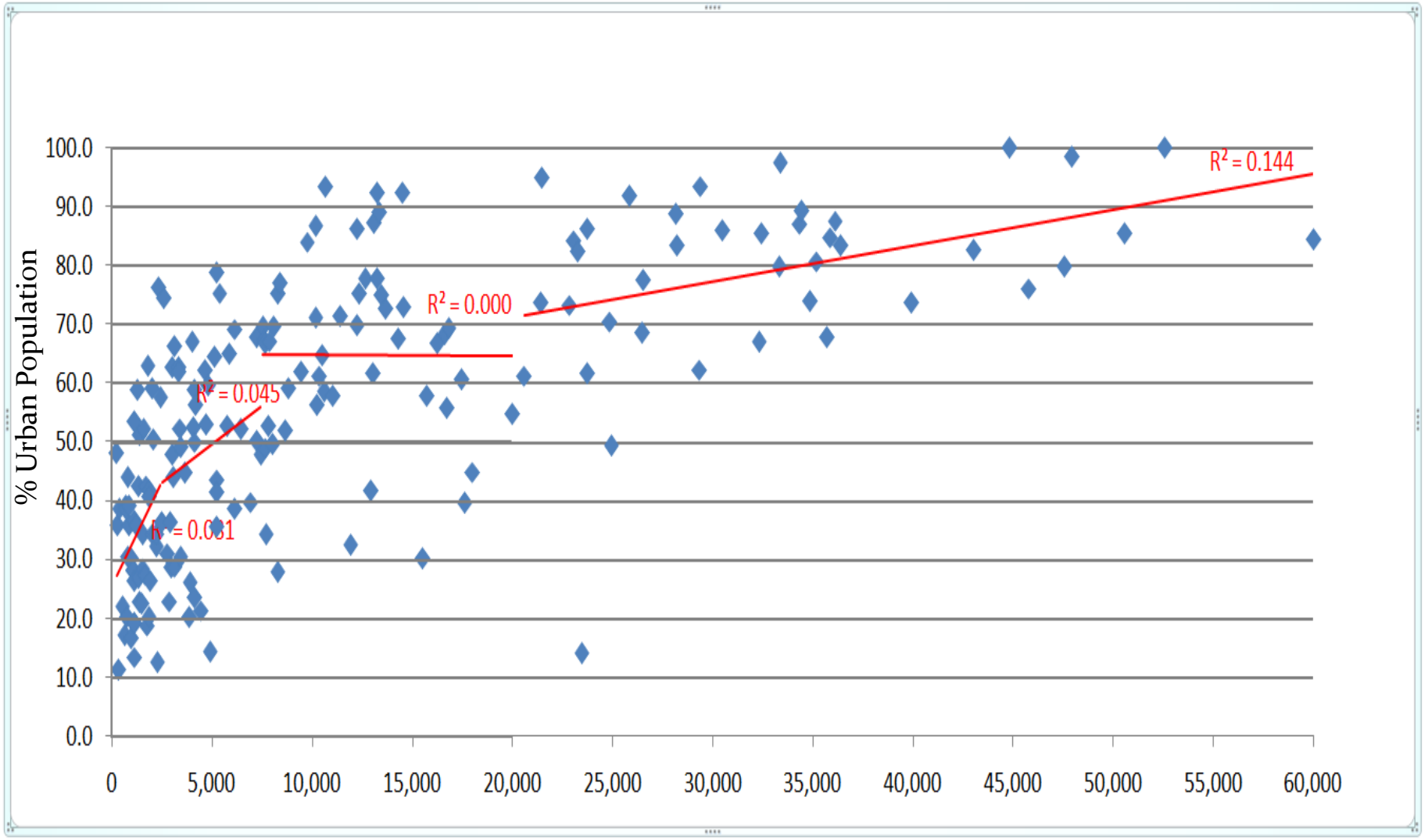
- Regressing energy consumption on PCI and HDI for 1982 and 2002 using the data for UNDP
- Three categories of countries (a) Below 1,000 KOE

(b) Between 1000 KOE and 3000 KOE and (c) Above 3000 KOE ( 60, 30 and 32 countries respectively)

(c) Relationship strong and positive for low KOE, low for medium an none for high KOE countries

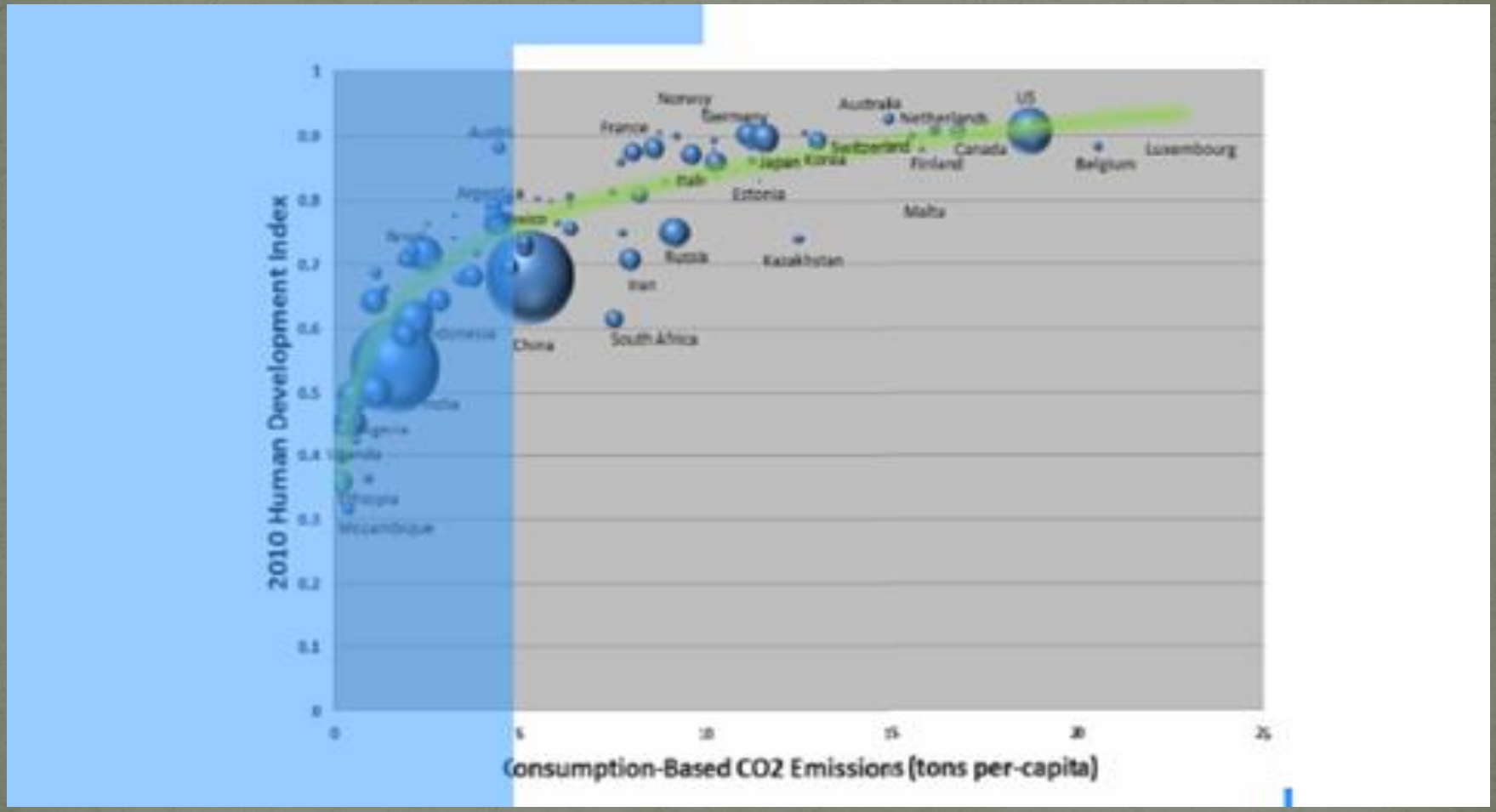
(d) Relation over time remains strong in 2002 but becomes weak for others

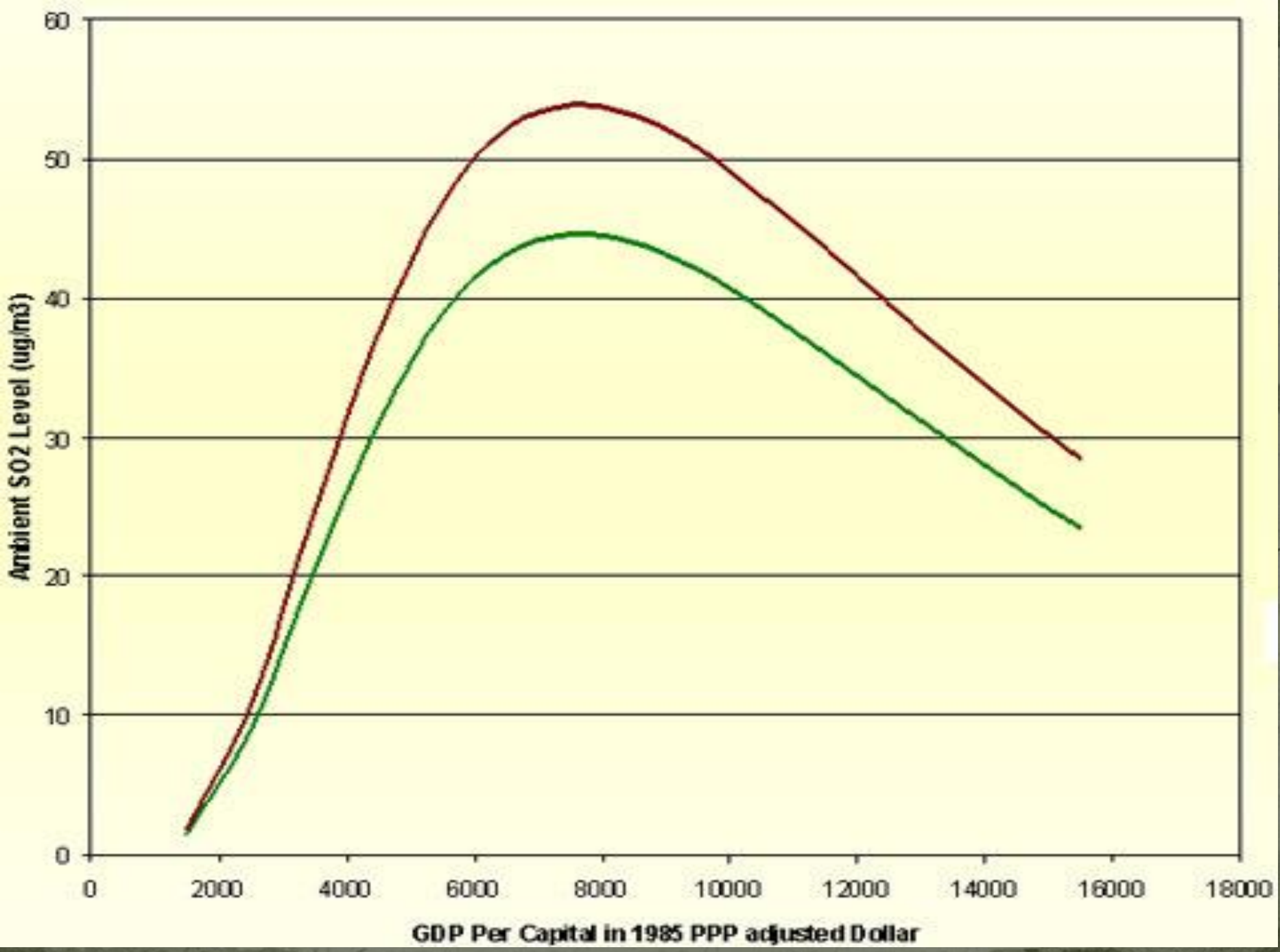
# Linear Functions relating Level of Urbanization with Per Capita Income




Gross National Income (at constant prices of 2005, PPP )

# Non Linear Plot of $CO_2$ Emissions with Human Development Index




60
50
40
30
20
10
0
Ambient SO2 Level (ug/m3)
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
GDP Per Capital in 1985 PPP adjusted Dollar

# COST COMPARISON OF ENERGY SOURCES 2018
## Adapted from US DOE[2]

| Power Plant Type | Cost $/kW-hr |
|---|---|
| Coal with CCS | $0.12-0.13 |
| CC Natural Gas | $0.05 |
| CC with CCS | $0.075 |
| Nuclear | $0.093 |
| Wind onshore | $0.059 |
| Wind offshore | $0.139 |
| Solar PV | $0.063 |
| Solar Thermal | $0.165 |
| Geothermal | $0.045 |
| Biomass | $0.095 |
| Hydro | $0.062 |

# A Perspective of Policy for Sustainable Development in India

- A strong case for spatially balanced urbanisation permitting increase in emissions for meeting their poverty reduction and other MDG targets. "common but differentiated resp."
- Erroneous to be complacent about developed countries and India must have self restraining policies and sustainable energy sources
- Change in Life style: A more balanced strategy of urbanisation and shift in energy source like Hydel
- The 12th Plan for distributed urbanisation and development of small towns as in SDG 11.


# The End