Asian urbanization in context

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Asia: Urban Spaces, the Local Environment and Global Sustainability

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Three key points

- The SCALE of urbanization today is orders of magnitude larger than in the past
- Urbanization is following a different and unique pathway; today's Asia urbanization is more COMPLEX than previously experienced
- Despite predictions to the contrary, cities are increasingly important social, economic and political entities: CITIES ARE CRUCIAL to sustainable environmental development

The scale of urbanization

- Asian urban populations are larger than elsewhere
- Asian cities are greater in number, have higher populations, larger in size and with more infrastructure than elsewhere
- Asian urban consumption is increasing more rapidly than elsewhere

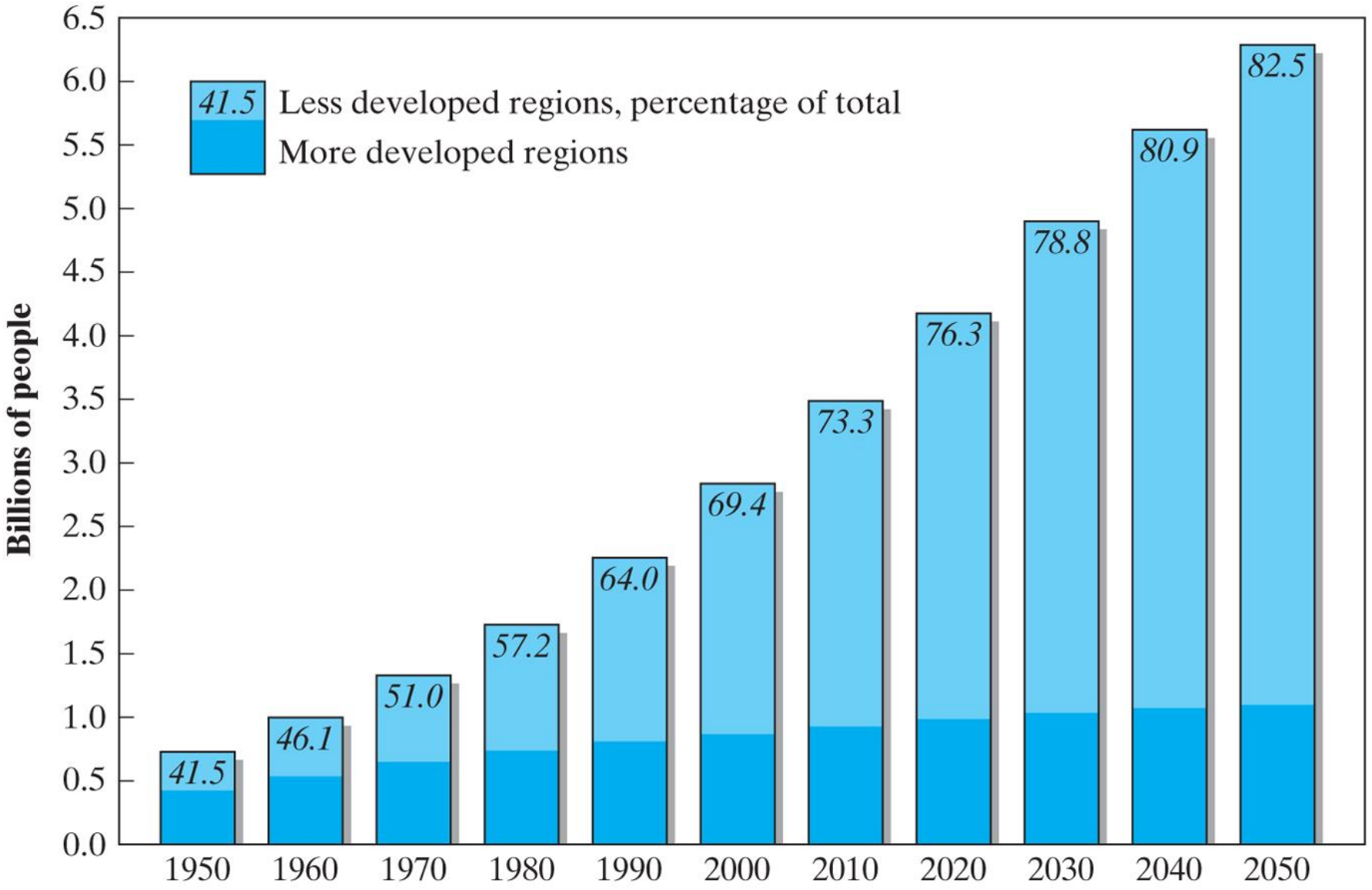
The scale of urbanization

Global urbanization has occurred in two 'waves'

•First wave occurred over 200 years, 1750-1950, involved nations in Europe, North America and Japan, represented an increase in urban population share from 10 to 52% and an increase in urban population from *15 to 423 million* urban residents. The UK was the first country to urbanize. By 1891, England and Wales were approx. 72% urbanized (Weber, 1898).

•Second wave is occurring now. Over 80 years, 1950-2030, it involves all other nations (Asia, Latin America, Africa), and represents an increase in urban population share from 18 to 56% and an increase from *309 million to 3.9 billion* urban residents.

Urban population growth: Note the difference between the developed and less developed world



Urban population, World by development status and Asia and the Pacific, 1950-2050

(thousands)

Major area, region, economy	1950	1990	2010	2050	Absolute Change (2010-50)	Average Absolute Change per year (2010-50)	Average Annual Percent Change (2010-50)
World	**729,317**	**2,254,592**	**3,486,326**	**6,285,881**	**2,799,555**	**69,989**	**1.48**
More developed regions	426,930	811,748	929,851	1,099,730	169,879	4,247	0.42
Less developed regions	302,387	1,442,845	2,556,475	5,186,151	2,629,676	65,742	1.78
Least developed countries	14,684	110,185	249,442	914,370	664,927	16,623	3.30
Less developed regions, excluding least developed countries	287,703	1,332,660	2,307,033	4,271,781	1,964,749	49,119	1.55
Less developed regions, excluding China	236,202	1,134,801	1,913,018	4,139,239	2,226,221	55,656	1.95
Asia and the Pacific	**211,439**	**872,189**	**1,542,335**	**2,959,826**	**1,417,491**	**35,437**	**1.64**

Source: UN DESA 2009 World Urbanization Prospects: The 2009 Revision, File 3:

Number of cities of different sizes around the world, 1950-2025

Urban agglomeration size	1950	1975	2000	2025
Larger than 10 million	2	3	16	29
Larger than 5 million and less than 10 million	4	14	28	46
Larger than 1 million and less than 5 million	69	144	305	471

Global urban population by size of urban agglomeration, 1950-2025 (thousands and percent))

Urban agglomeration size	1950	1975	2000	2025
Larger than 10 million	23,613	53,185	231,624	469,028
Larger than 5 million and less than 10 million	25,337	109,426	195,644	321,127
Larger than 1 million and less than 5 million	128,126	291,784	584,050	965,267
Population in urban agglomerations less than 1 million	552,241	1,057,018	1,826,113	2,780,503
Global urban population	729,317	1,511,414	2,837,431	4,535,925
Percent in mega-cities (>10 million)	3.2	3.5	8.2	10.3
Percent in large cities (>1 million)	24.3	30.1	35.6	38.7
Percent in non-large cities (<1 million)	75.7	69.9	64.4	61.3

Source: UN 2010

Asia and the Pacific distribution of urban population and urban agglomeration by size, 2010-2025
(population in thousands)

Urban agglomeration size	2010	2020	2025	Percent Total 2025	Absolute Change (2010-25)	Percent Total Change (2010-25)
10 million and larger						
Number	10	14	15	5.9	5	7.9
Population	174,117	241,151	266,889	12.8	92,772	16.9
Larger than 5 million and less than 10 million						
Number	18	22	22	8.7	4	6.3
Population	131,930	156,950	163,402	7.8	31,472	5.7
Larger than 1 million and less than 5 million						
Number	163	210	217	85.4	54	85.7
Population	320,134	432,193	432,193	20.7	112,059	20.4
Less than 1 million						
Population	916,154	1,072,254	1,229,178	58.8	313,024	57.0
Total number urban agglomeration over 1 million	191	246	254		63	
Total urban population	1,542,335	1,902,548	2,091,662		549,327	

Source: Data from World Urbanization Prospects: The 2009 Revision, File 12:

Urbanization trends and projections

Highlights of contemporary (2nd wave) urbanization

- Nowhere in the world is urbanization occurring more rapidly than in China
- Between 1980 and 2010 the number of people living in cities in China more than tripled, from 190 million to 636 million and the number of cities with a population of three quarter of a million or more increased from 20 to 133.

Guangzhou, in southern China's Pearl River Delta, has experienced phenomenal growth (from 1 million people in 1950 to 10.9 million by 2025) and is projected to become one of the 25 largest metropolitan areas in the world by 2025. The construction cranes in CITIC Plaza in the growing Tianhe District of Guangzhou are building new skyscraper office, apartment complexes and train stations, a metro station and a sports stadium.

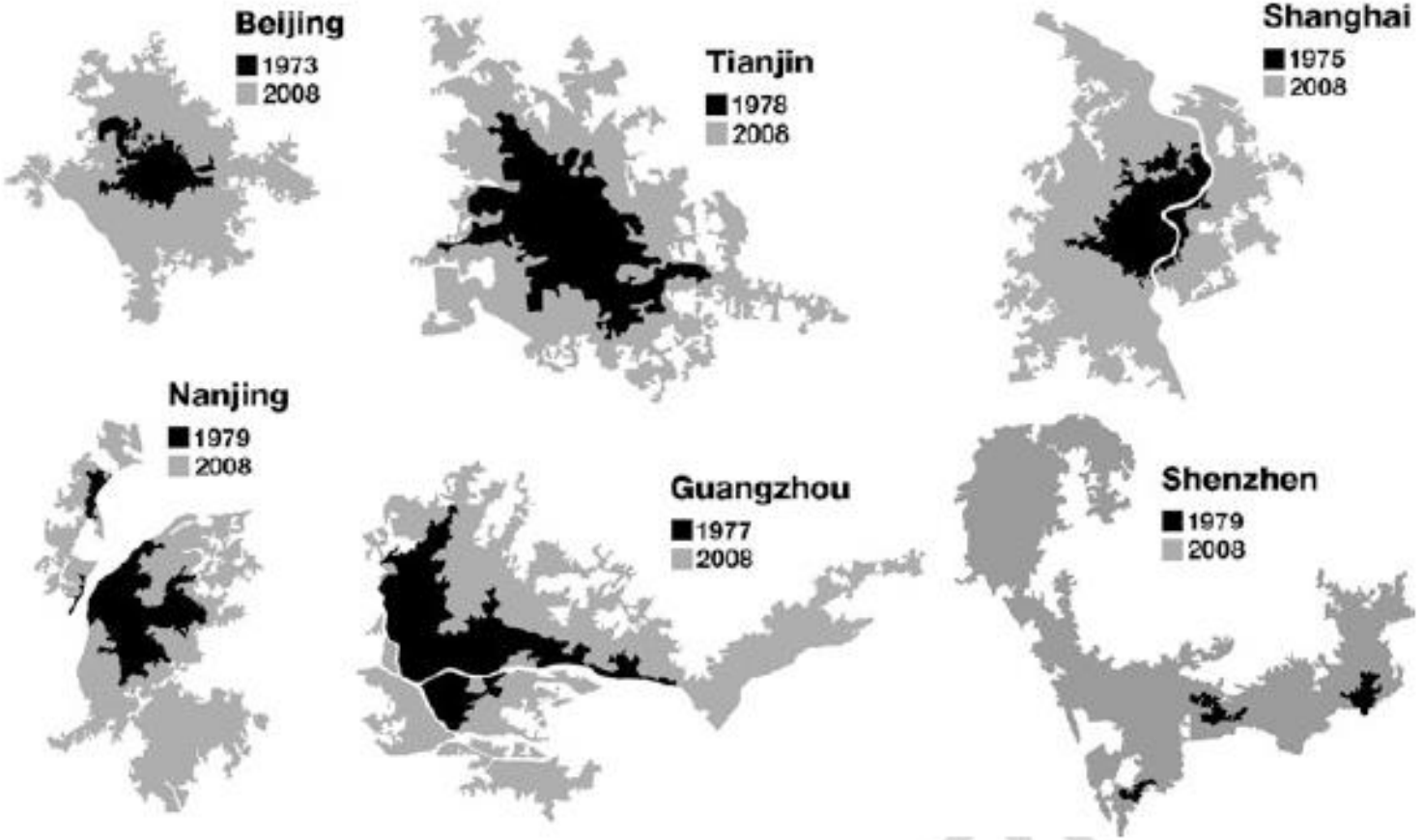


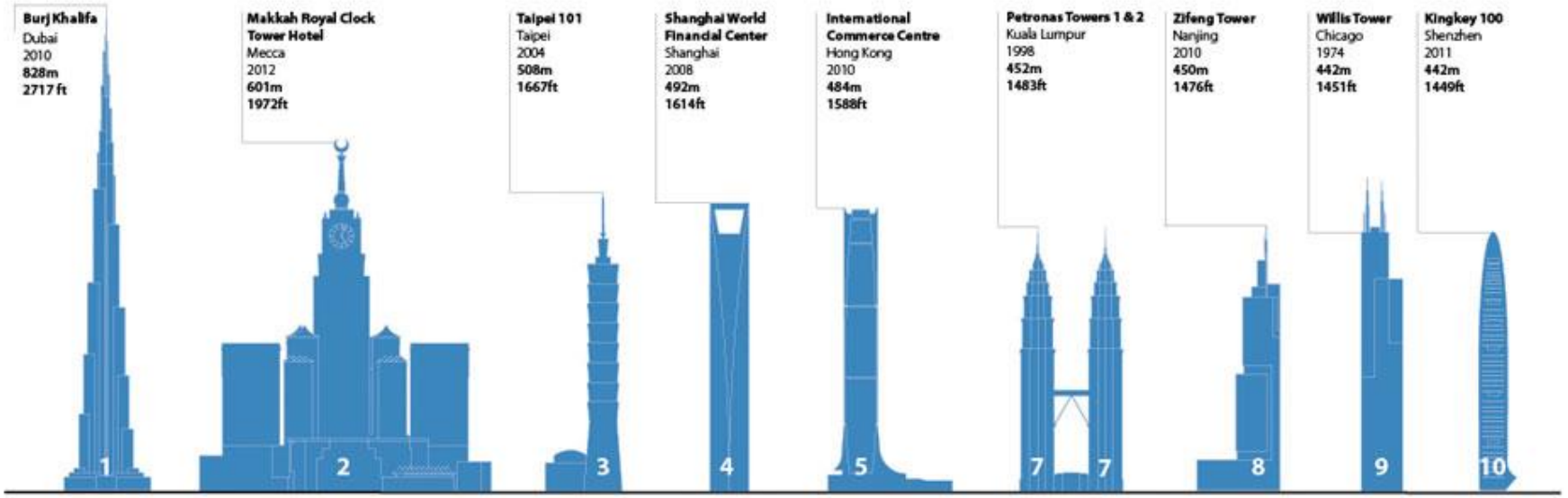
Fig. 3.1 Examples of growth in Chinese cities, 1970s–2008 (Source: Zhang et al. 2012)

Distribution of tall buildings

Region	Skyscrapers (n)	Percent of Total
Asia	4,622	53.5%
North America	2,704	31.3%
Europe	600	6.9%
South America	327	3.8%
Oceania	306	3.5%
Africa	82	0.9%

Source: Emporius 2013

9 of the 10 tallest structures in the world are in Asia



World's ten tallest buildings according to Height to Architectural Top (as of January 2013)

Vehicles in use by region
(millions)

	1985		1995		2005		2010	
Region	Registrations	(%)	Registrations	(%)	Registrations	(%)	Registrations	(%)
Africa	11.73	2.4	15.73	2.4	19.50	2.3	26.68	2.6
Central and South America	22.86	4.7	29.48	4.6	41.35	4.8	56.23	5.5
Caribbean	2.25	0.5	2.47	0.4	3.25	0.4	4.37	0.4
North America	193.12	39.6	229.26	35.4	279.11	32.4	291.29	28.7
East, South and Southeast Asia	62.12	12.7	112.30	17.4	167.72	19.4	245.87	24.2
Middle East and Central Asia	11.05	2.3	14.48	2.2	25.14	2.9	31.59	3.1
East Europe	35.59	7.3	35.44	5.5	75.33	8.7	97.24	9.6
West Europe	137.73	28.3	189.41	29.3	233.70	27.1	242.87	23.9
Oceania	11.04	2.3	13.60	2.1	17.32	2.0	19.12	1.9
Total	487.51		646.76		862.42		1015.26	

Source: Ward's (various years)

Global Motor Vehicles Sales, 2001-2010

Region/Country	2001	2010	Percent Change
Asia	12,843,786	31,550,185	145.6
Europe	17,613,468	15,884,227	-9.8
Central and Eastern Europe	446,233	2,452,124	449.5
North America	19,070,253	13,355,608	-30.0
Latin America	2,703,533	5,060,300	87.2
Other Countries	1,767,216	1,628,627	-7.8
World	**54,444,489**	**69,931,071**	**28.4**

Source: Ward's (various years)

In 2010, automobile sales in China exceeded 18 million, surpassing the best sales years in the USA, ever

Percent of global total primary energy supply

	1990	2010
OECD Americas	25.8%	21.0%
OECD Asia Oceania	7.3%	7.2%
OECD Europe	18.5%	14.2%
Asia (excluding China)	8.1%	11.9%
China (including Hong Kong)	9.9%	19.3%

Source: IEA, 2013

Complexity of urbanization

- Previously urbanization was theorized as occurring over long periods of time with discrete stages
  - Metropolitan evolution
  - Risk and Urban environmental transition
- Due to direct and indirect influences, urbanization today does not follow these patterns
  - China is not undergoing the same type of urbanization as was experienced by the US, UK or Japan
- The differences can be thought of compressed, collapsed and telescoped patterns of development
  - Patterns and inflections are occurring sooner, faster and more simultaneously

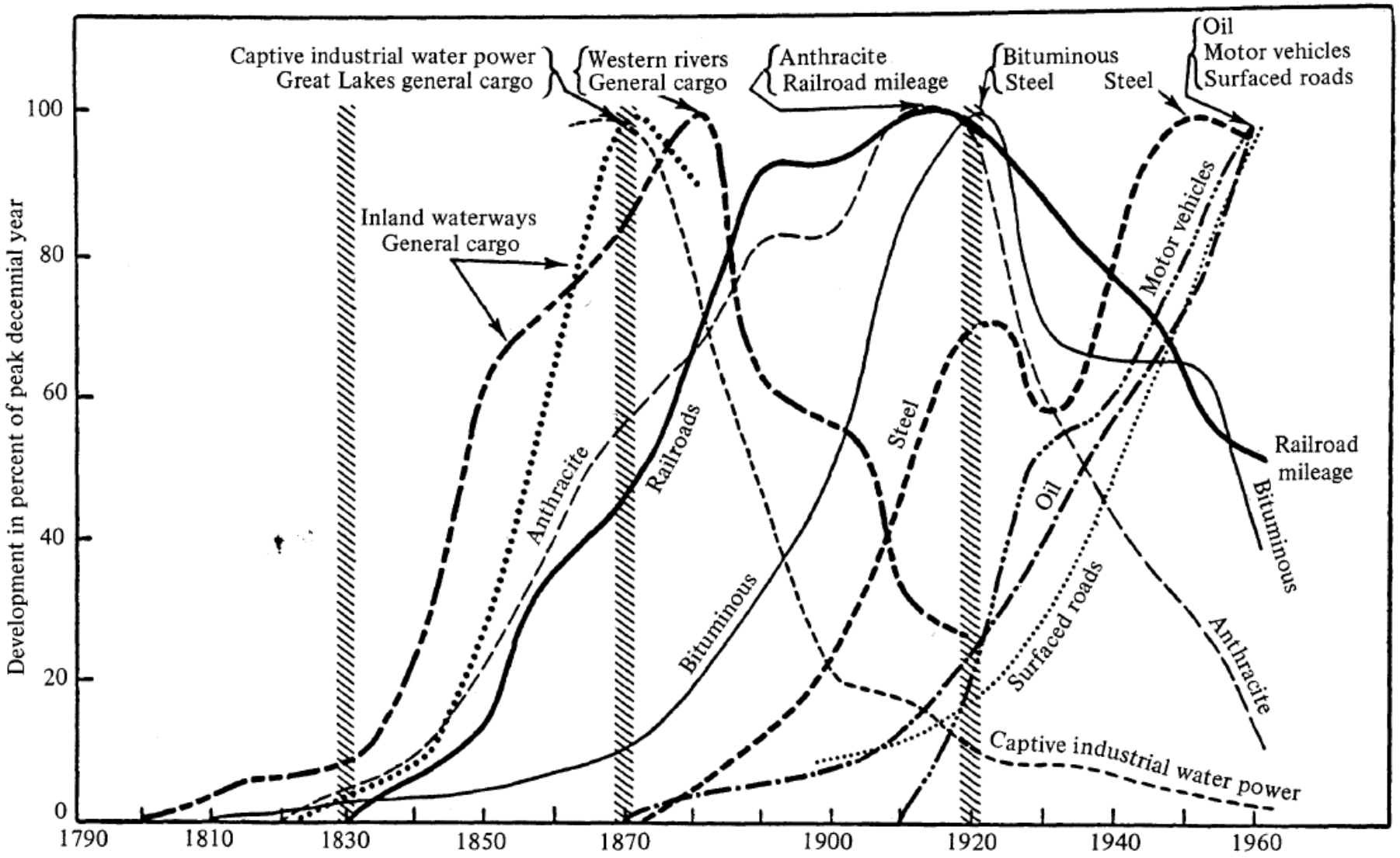
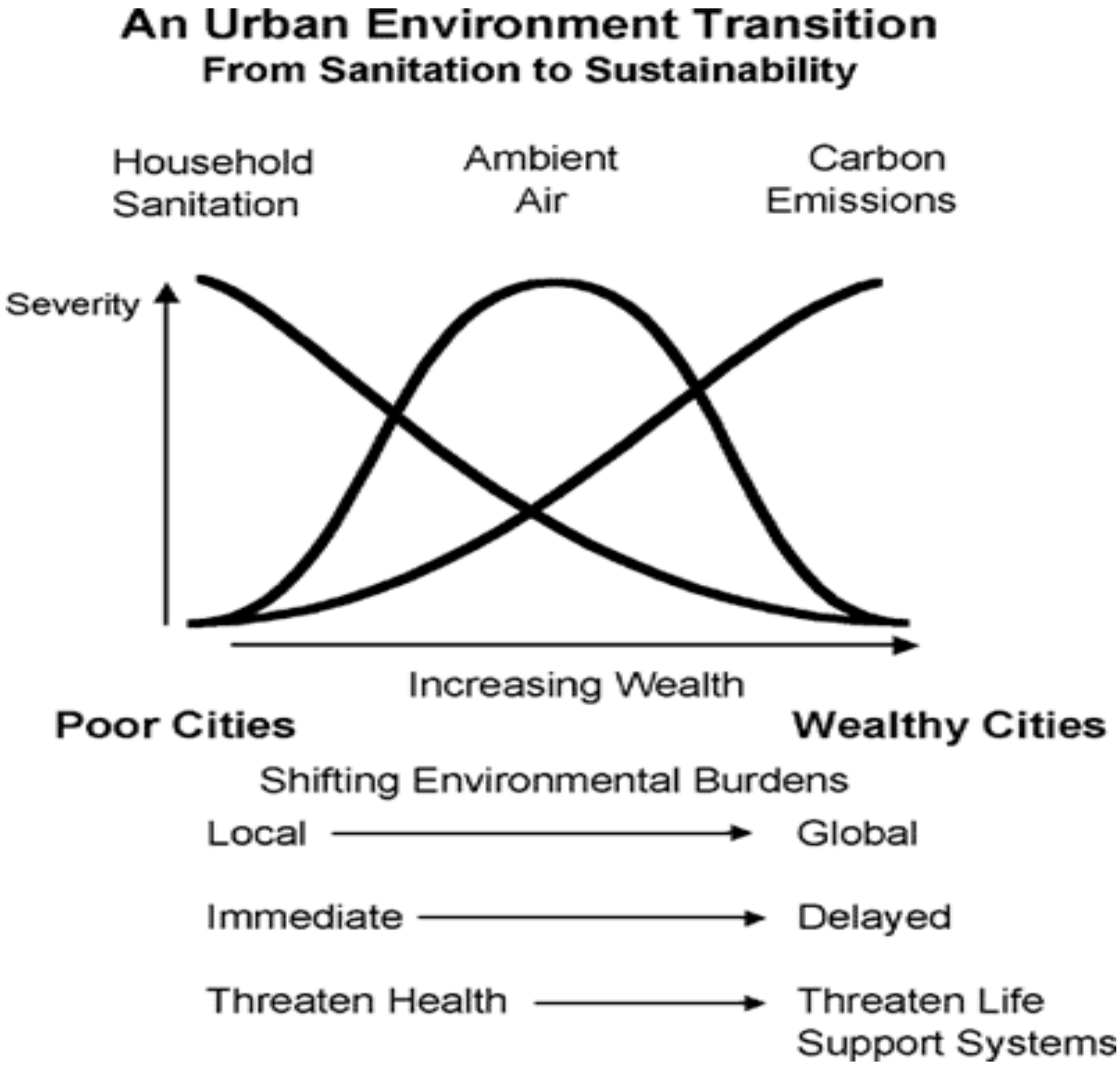


Figure 1. Rise and decline of ten indicators of the technology of transport and industrial energy. Peak values of past years concentrate around 1870 and 1920. Sources: "Historical Statistics of the United States," pp. 416-417, 427-429, 446, and 458; *Statistical Abstract of the United States 1965*, pp. 561, 569, 718, 729, and 811 (see text footnote 24 for both); and "A Compendium of the Ninth Census" (U.S. Bureau of the Census, 1872), p. 706.

Borchert, 1967, 1972, 1978 on USA "metropolitan evolution"



Source: McGranahan et al 2001

Estimates for the proportion of people without “adequate” provision for water and sanitation in urban areas

Region	Number and proportion of urban dwellers without adequate provision of water	Number and proportion of urban dwellers without adequate provision of sanitation
Africa	100-150 million (~35-50%)	150-180 million (~50-60%)
Asia	500-700 million (~35-50%)	600-800 million (~45-60%)
Latin American and the Caribbean	80-120 million (~20-30%)	100-150 million (~25-40%)

Source: UN-Habitat 2003

CO_2 emissions from transport (million metric tons), 1990 - 2008

Region/Country	1990	2000	2008	Annual Percent Change
World	3,979	4,840	5,575	1.9
Developed	2,972	3,345	3,449	0.8
Developing	939	1,399	2,126	4.6
Asia	792	1,155	1,586	3.9

Source: World Bank

Table 1: Per Cent of Population and Land Area in Low Elevation Coastal Zone by Region, 2000

Region	Shares of region's population and land in LECZ			
	Total Population (%)	Urban Population (%)	Total Land (%)	Urban Land (%)
Africa	7	12	1	7
Asia	13	18	3	12
Europe	7	8	2	7
Latin America	6	7	2	7
Australia and New Zealand	13	13	2	13
North America	8	8	3	6
Small Island States	13	13	16	13
World	10	13	2	8

Source: McGranahan, G., D. Balk and B. Anderson. Forthcoming. "The Rising Risks of Climate Change: Urban Population Distribution and Characteristics in Low Elevation Coastal Zones." *Environment and Urbanization.*

Complexity of urbanization

- The result is the absence of transitions and the occurrence of simultaneous environmental concerns
  - Brown, grey and green agendas in a single concentrated located

Cities are not losing importance: They are increasingly centers of social, economic and political action

Urbanization

- At an earlier period and certainly throughout the post-war era, there have been warnings of the growth of "community without propinquity" (Webber, 1963)
  - Due to the advances in telecommunications and transportation
- Despite these prognostications, cities have grown in political, economic and social importance
- Perhaps because of the scale and size of urbanization, this is particularly true for Asia