Will Urbanization Wreck or Save the Planet?

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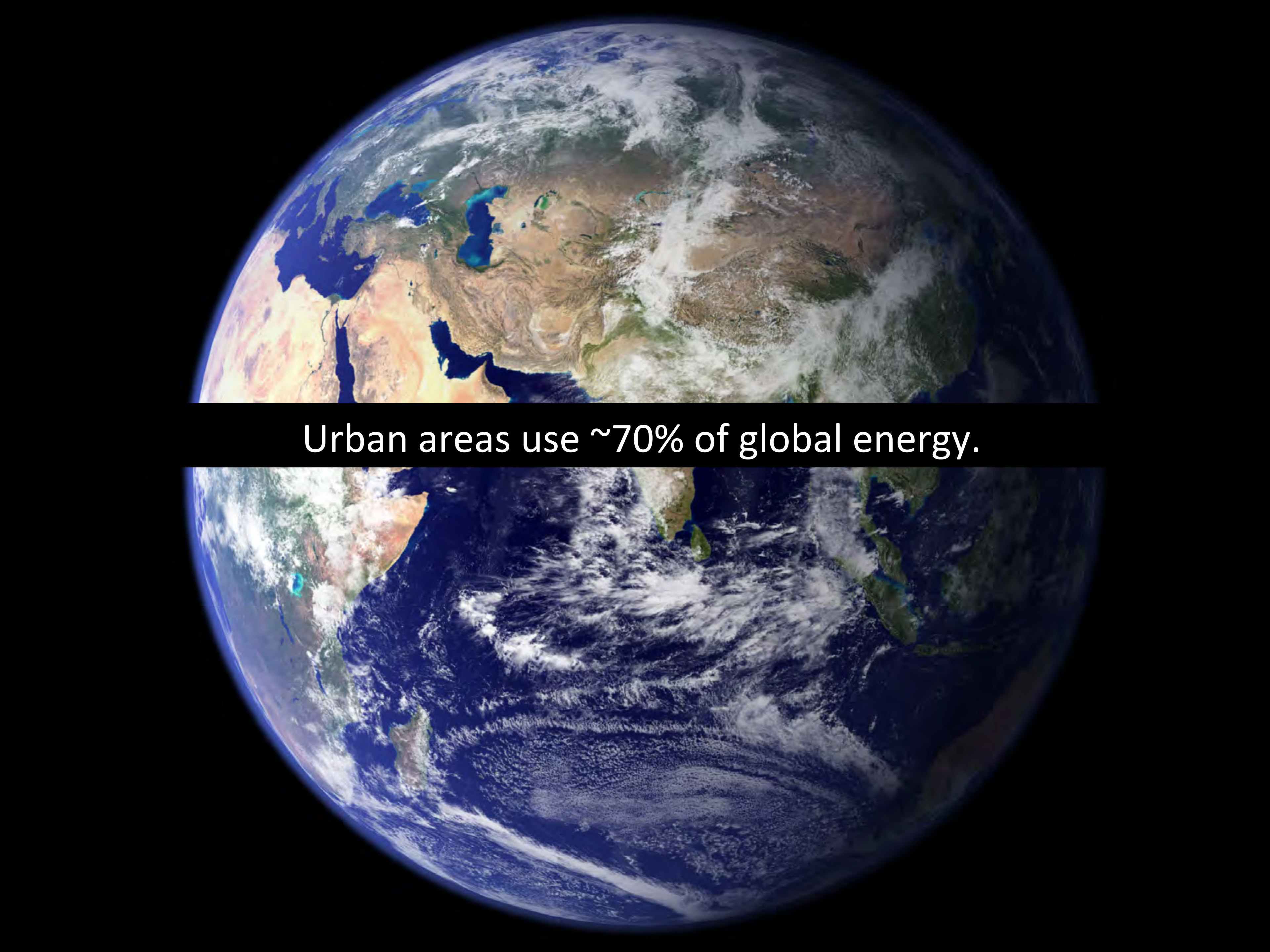
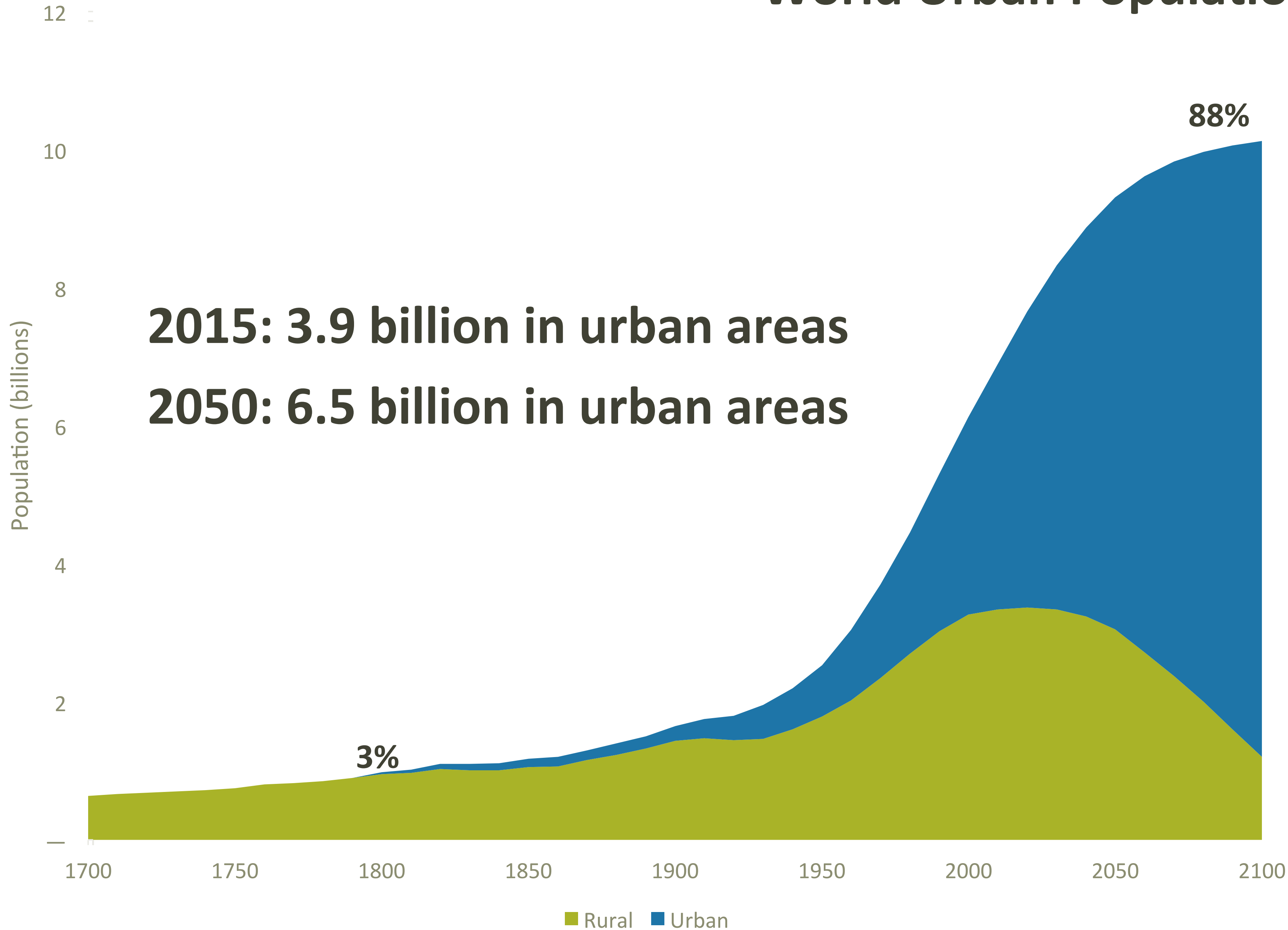
October 13, 2015


From now until 2050, the global urban population
will increase by 1.3 million every week.

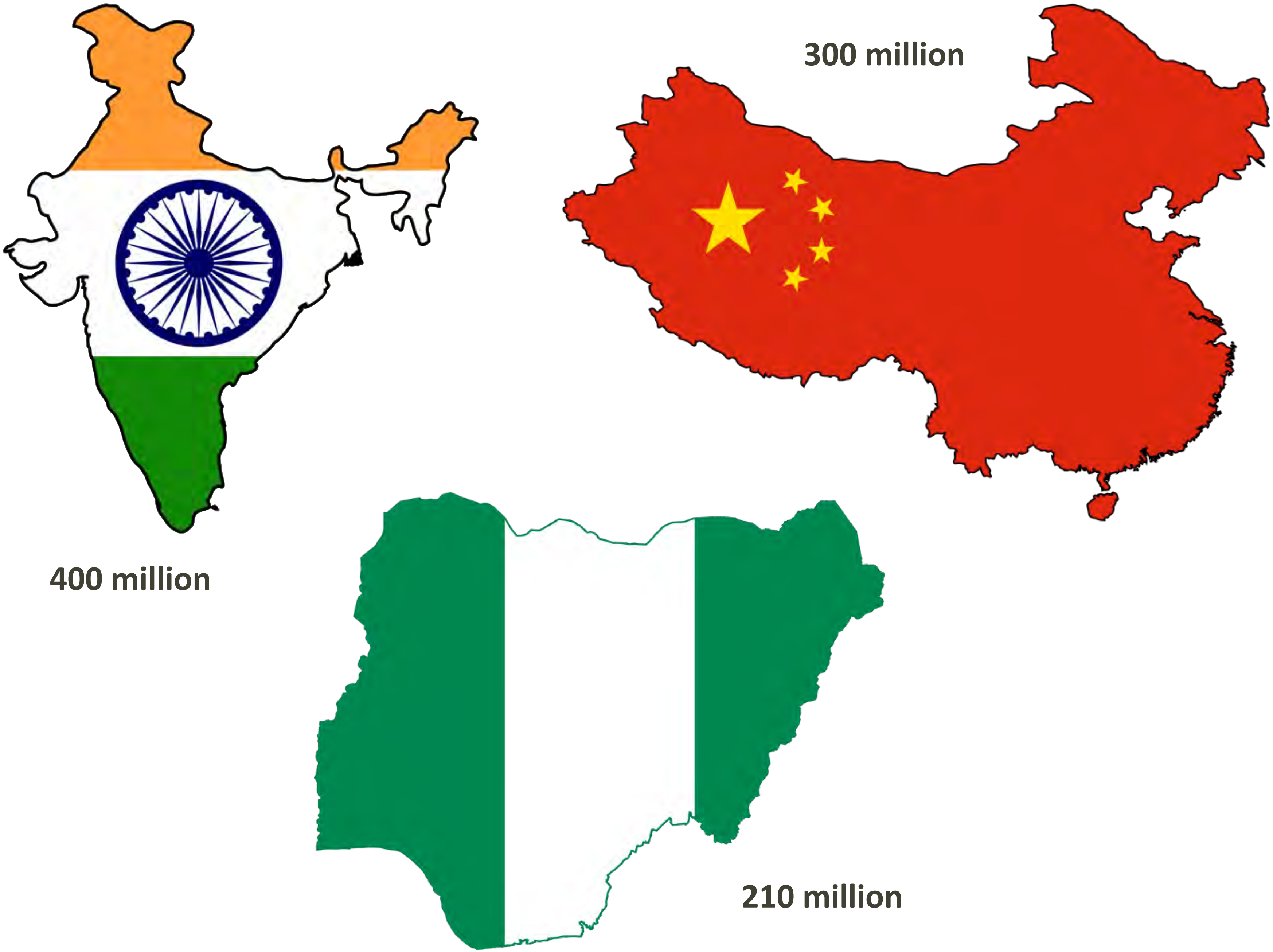

Urban areas generate 80% of global GDP.


Urban areas use ~70% of global energy.

World Urban Population



(UN. 2014. *World Urbanization Prospects*)


300 million
400 million
210 million


SHOROUQ EXCHANGE
SHOROUQ EXCHANGE

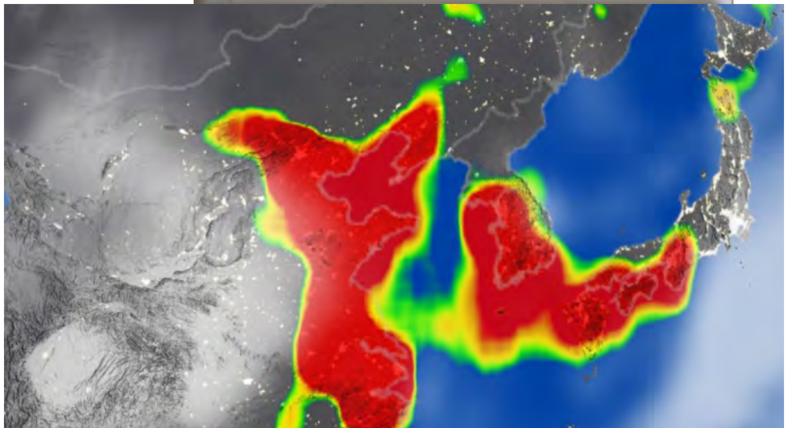

61629
COME TOGETHER
SONY
toys


KIM QUY
WATCHES

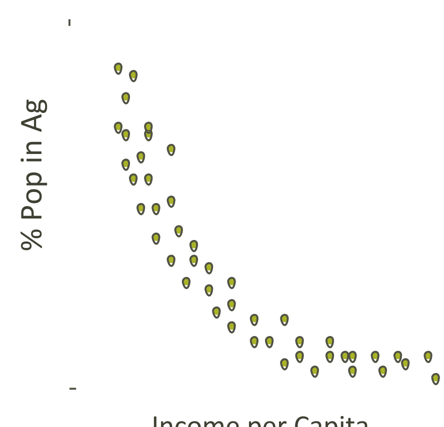

雲林裝飾工程
金商店
桂美飯店
伊莉
荔園照相館
新型髮廊


东部集团
华安保险

Urbanization

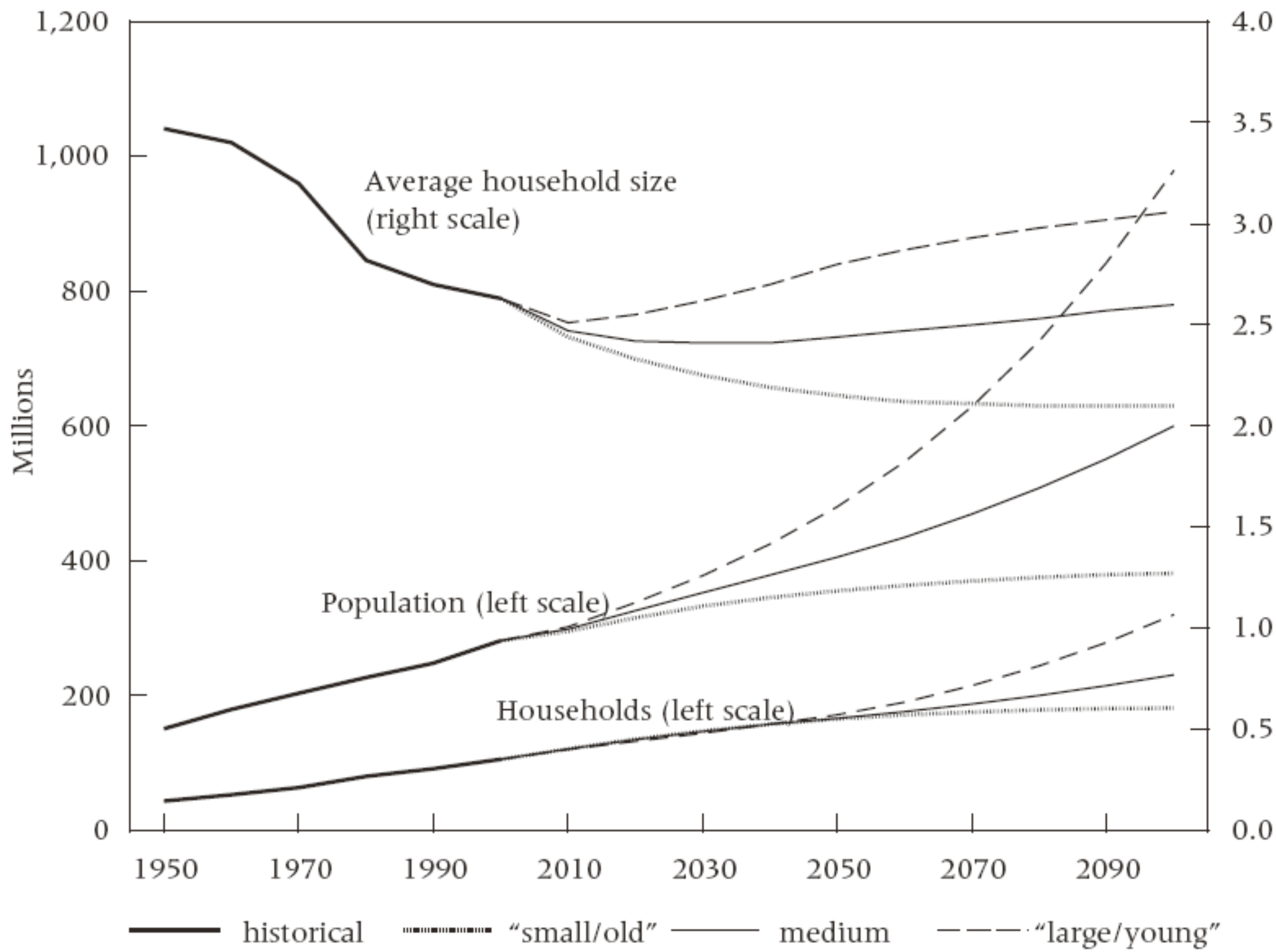


Urbanization



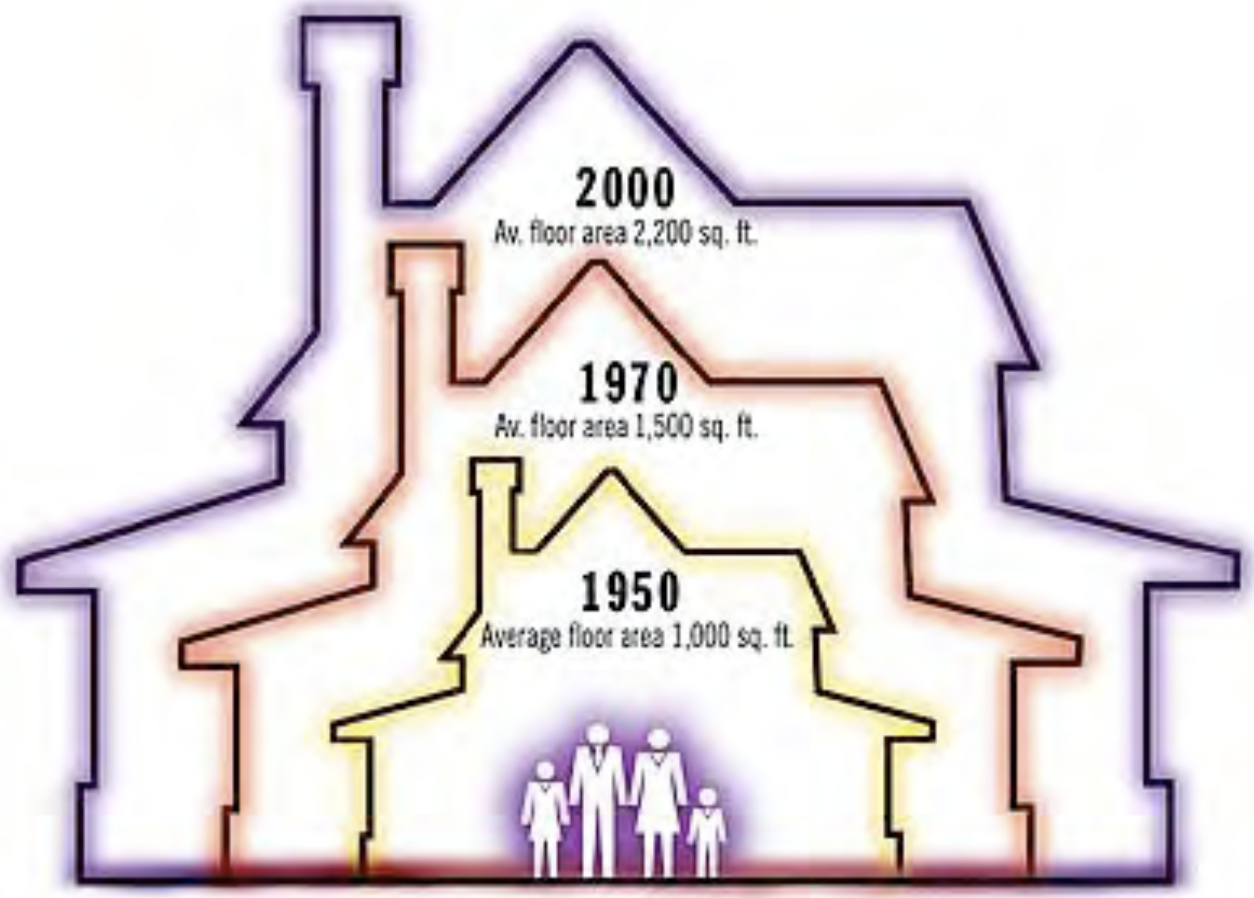

ABERCROMBI
9
MURFETTE


FIGURE 1 Historical and projected population, households, and household size, United States, 1950–2000



SOURCE: Historical data from US Census Bureau, *Current Population Survey*, March and *Annual Social and Economic Supplements*, 2004 and earlier «http://www.census.gov/population/socdemo/hh-fam/hh4.xls».

Around the world, homes are increasing in size

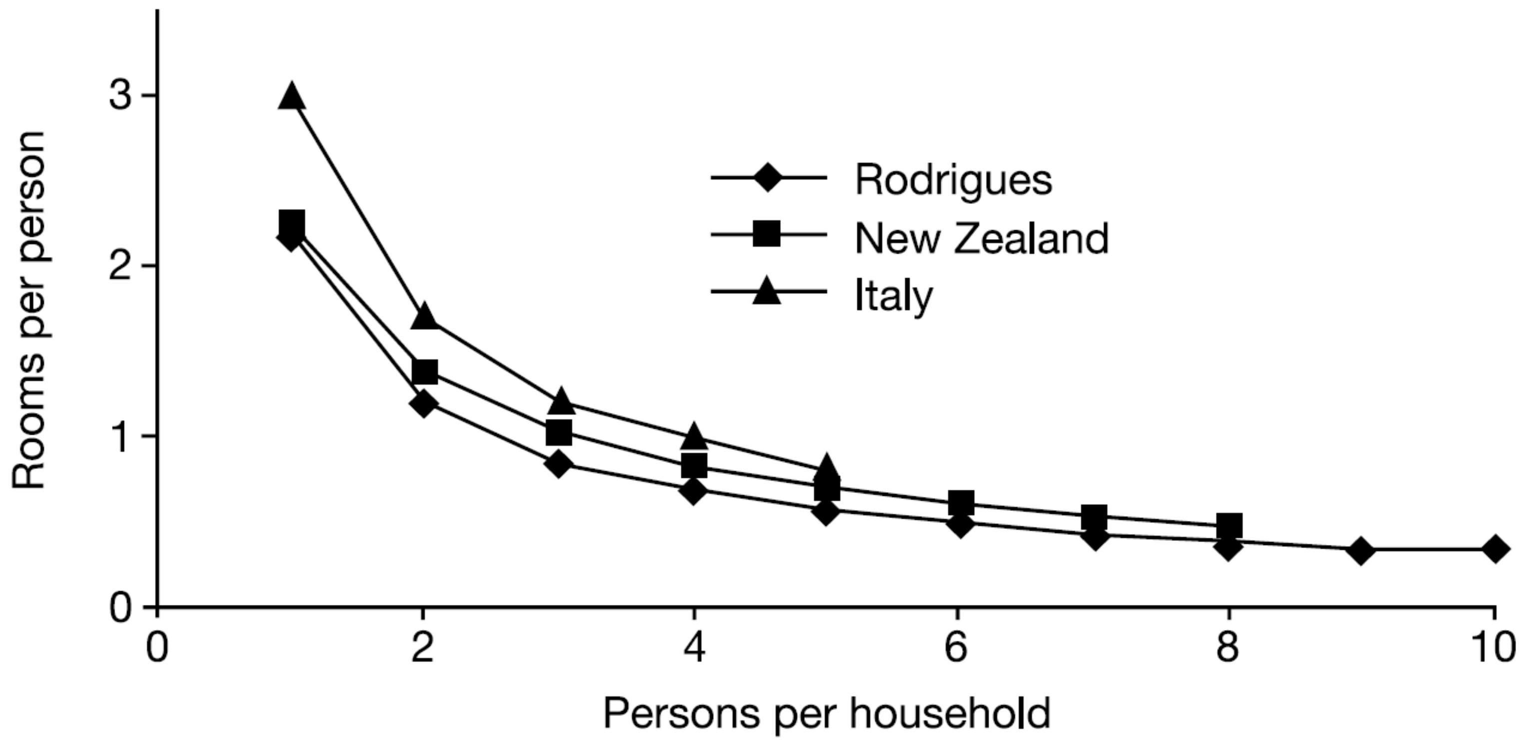


U.S. Living Area, 1950-2000

Decline in
HH size

Increase in
HHs

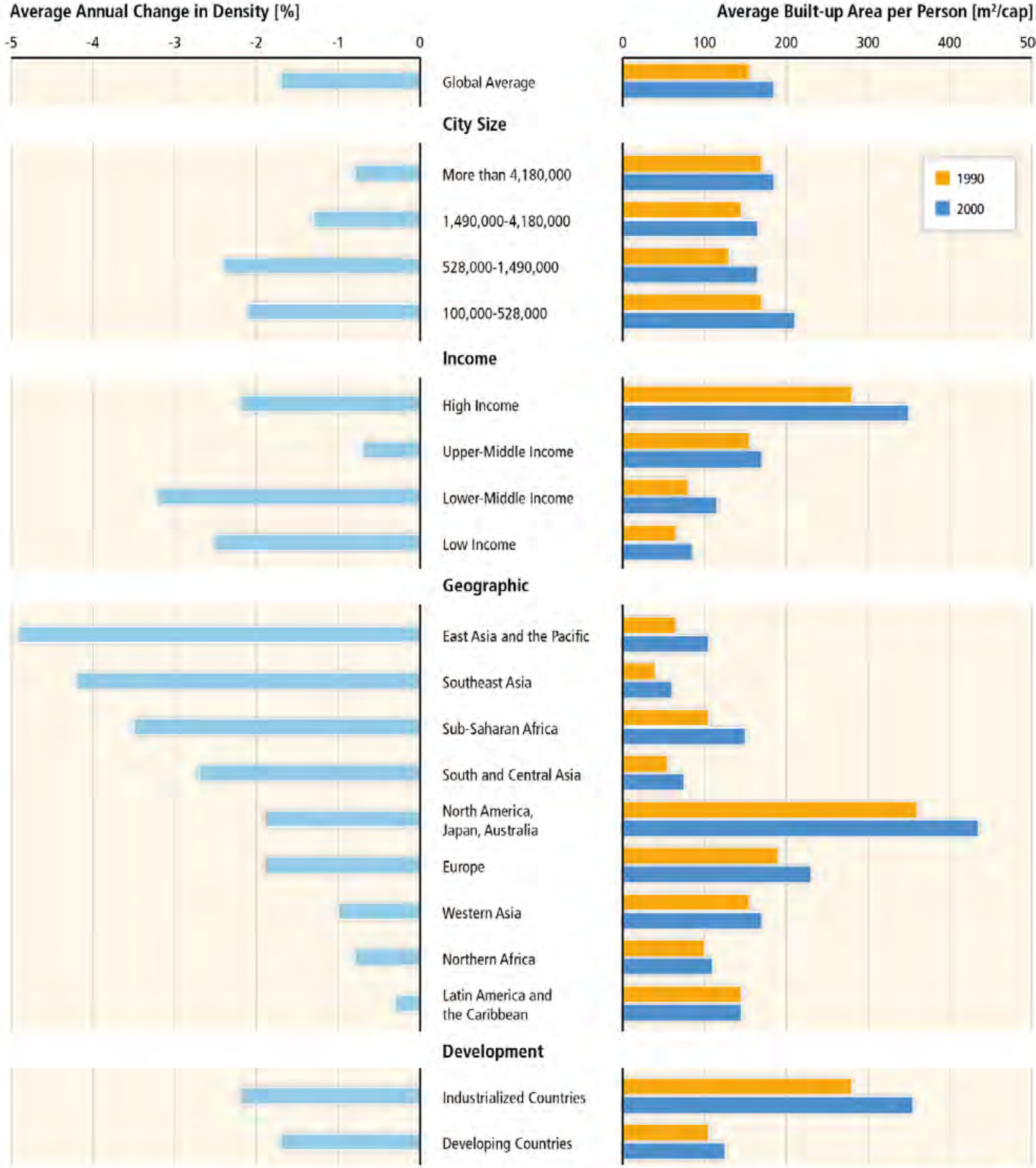
Reduction in household size combined with increase in rooms per person



Liu et al. (2003)

ನಿತೇಶ್ ಎಸ್ಟೇಟ್
"WOW" FACTOR
Nitesh
CAPE COD
MARATHAHALLI - SARJAPUR
OUTER RING ROAD
W: www.niteshestates.com
UNDER HON'LE HIGH COURT
W.P No-6406
Nitesh Estates
Phone: 25327974 / 75
W.P. No. 6404 / 2006 (LB)
Dated 2nd May 2006

深圳會所
Clubhouse
納斯比區
Knightsbridge
翡翠灣一期A區
Emerald Canyons phase
私家中央公園別墅
Rosedale
漢士達區
Hampstead
昆仕頓區
Kensington



Source: IPCC, 2014

"Yes, it's a six hour commute, but where else could we have this standard of living?"

- A 25% decrease in energy required per tonne of concrete in China.

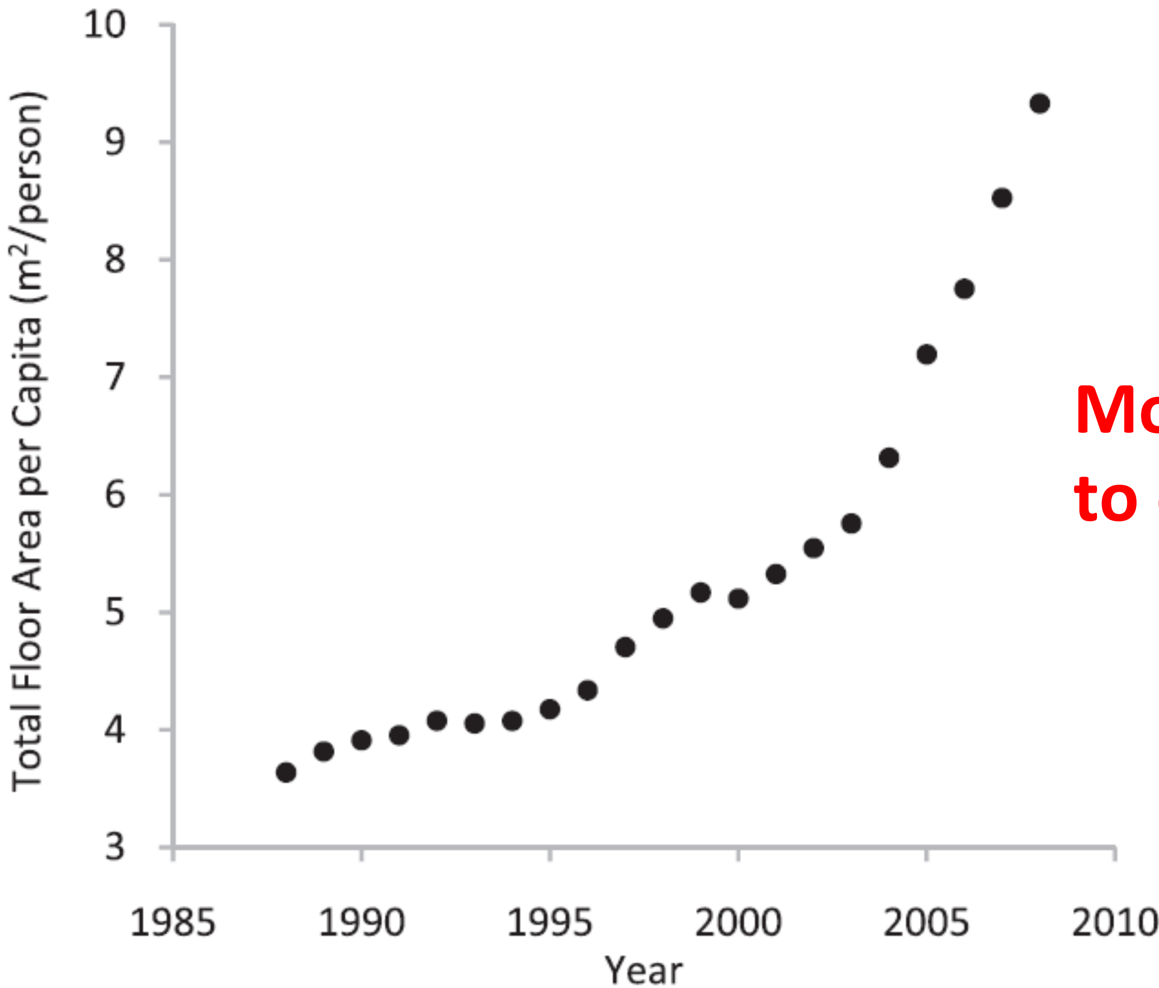
- A 300% increase in annual CO_2 emissions due to concrete used in building construction.

Year	A/C Unit Energy Consumption (GJ/year)	A/C Ownership (%)
1988	1.55	0
1989	1.53	0
1990	1.50	0
1991	1.47	0
1992	1.45	3
1993	1.42	4
1994	1.39	6
1995	1.36	10
1996	1.34	13
1997	1.31	19
1998	1.28	26
1999	1.26	29
2000	1.23	34
2001	1.20	40
2002	1.18	45
2003	1.15	58
2004	1.12	67
2005	1.09	72
2006	1.07	76
2007	1.04	80
2008	1.01	82

35% decrease

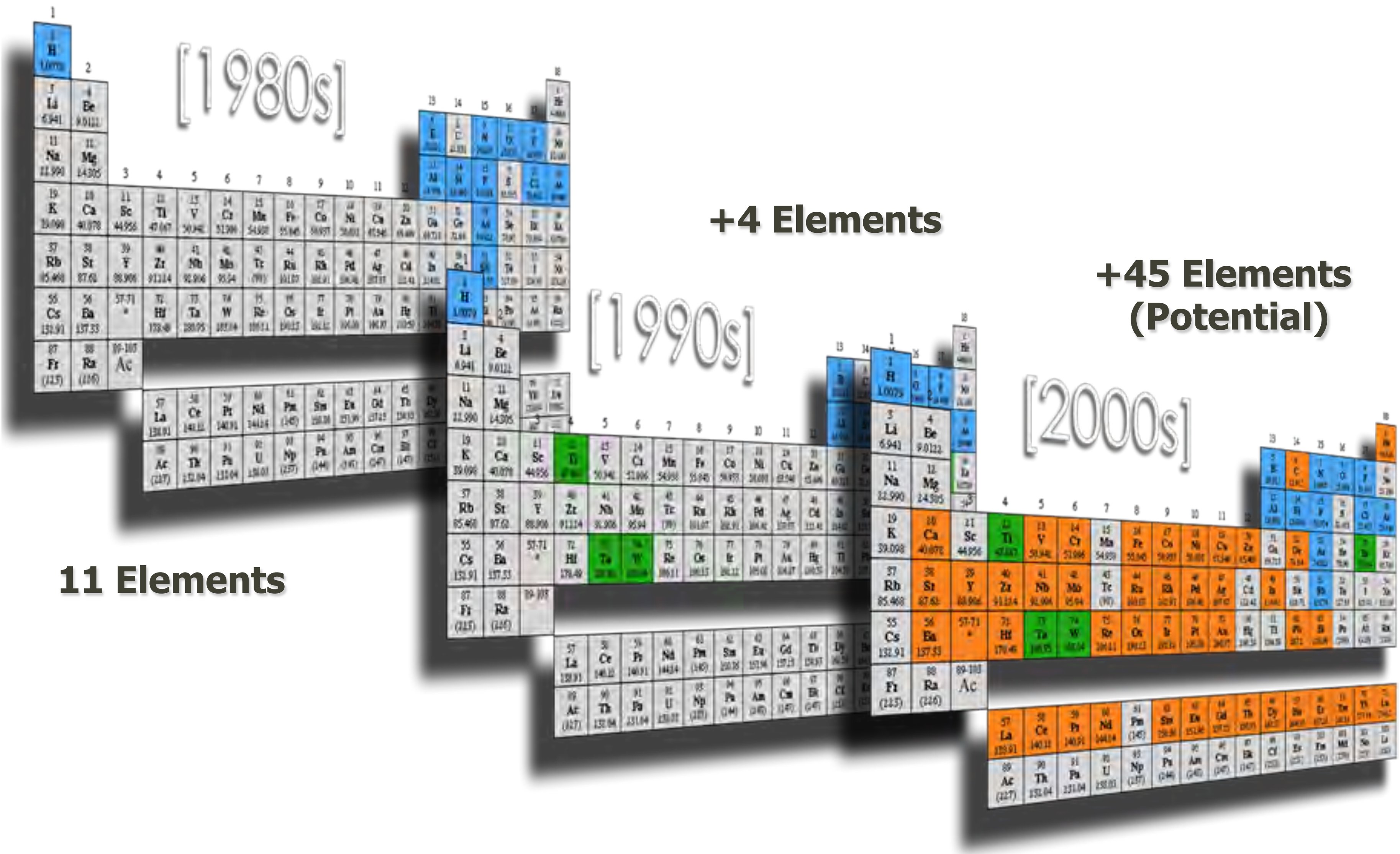
82% increase

(Guneralp and Seto. 2012)

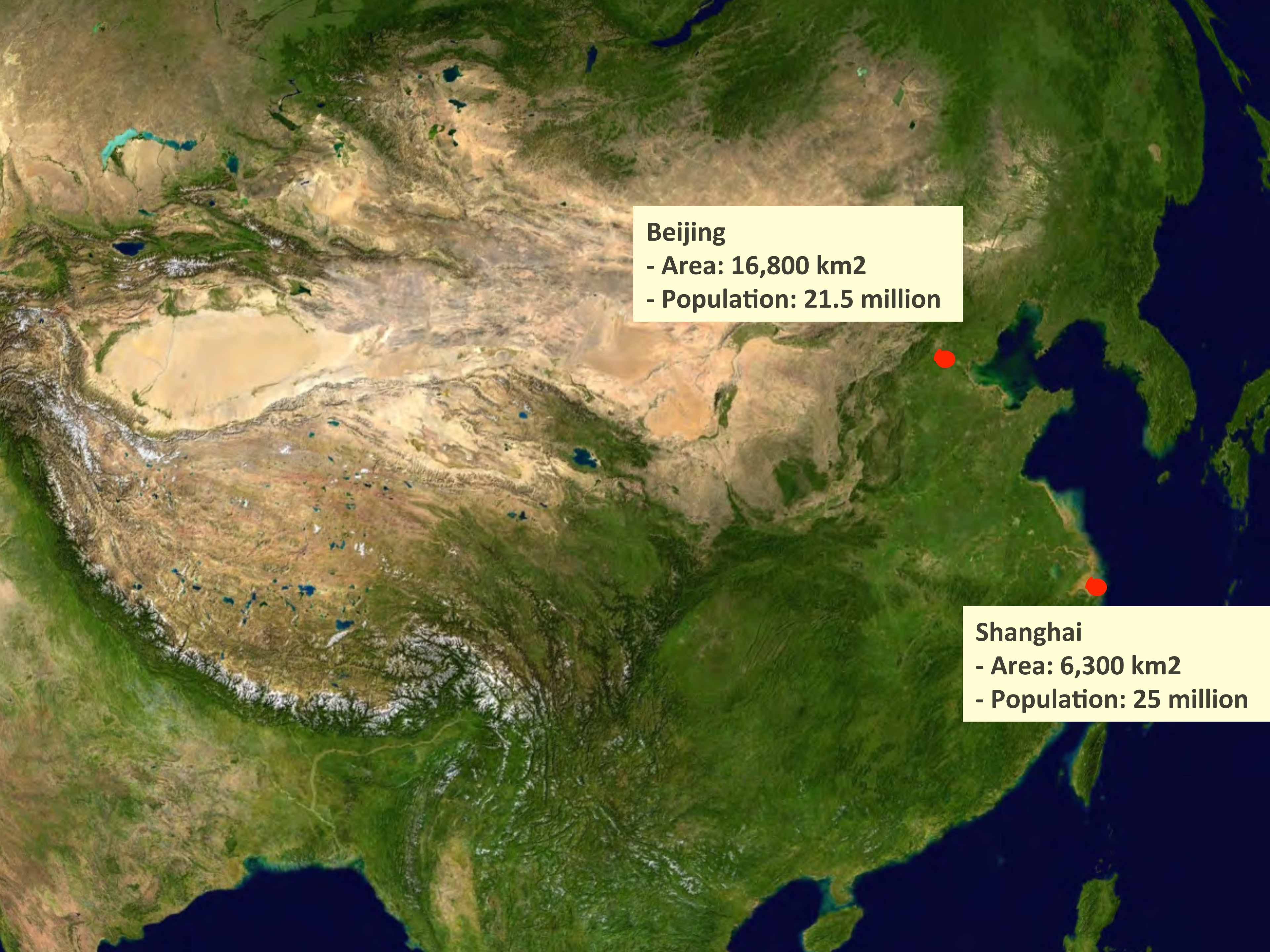


More space to cool

(Guneralp and Seto. 2012)



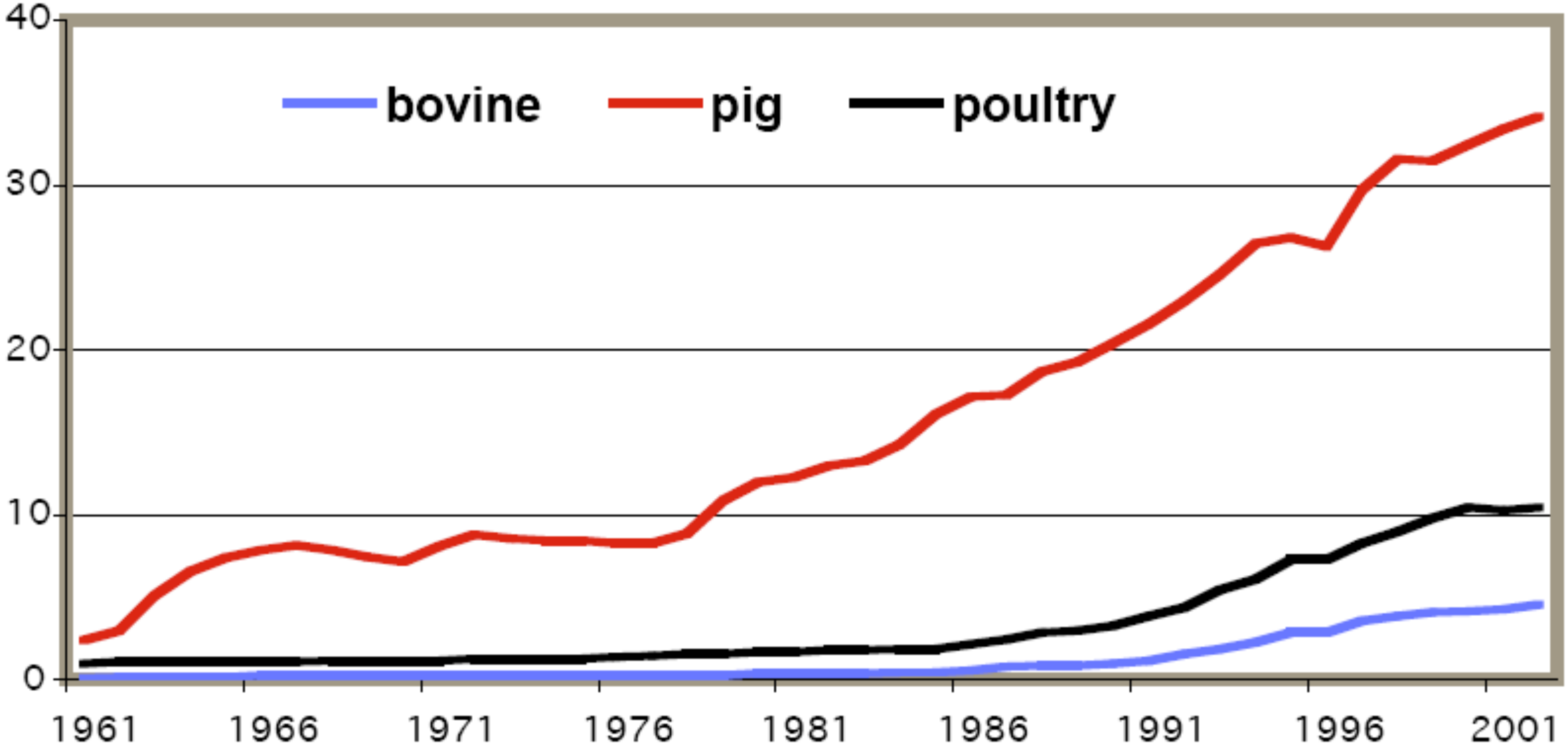
Source: T. McManus, Intel Corp., 2006, Courtesy of T. E. Graedel, Yale


Beijing
- Area: 16,800 km2
- Population: 21.5 million
Shanghai
- Area: 6,300 km2
- Population: 25 million


Australia
- Area: 7.7 million km2
- Population: 23 million

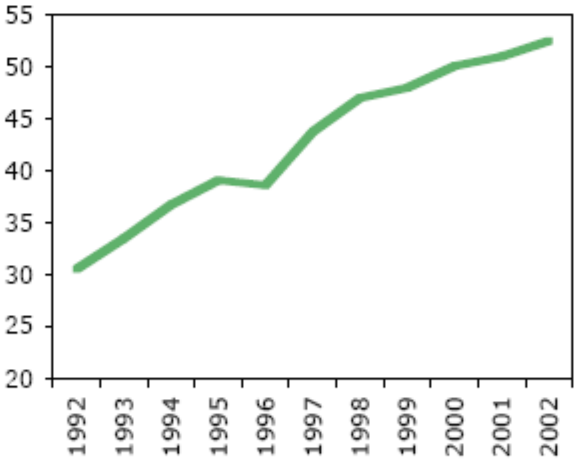

A&W
Arby's
BOSTON MARKET
EST. 1985
BUFFALO WILD WINGS
GRILL & BAR
BURGER KING
california
PIZZA KITCHEN
Carl's Jr.
Chick-fil-A
CHIPOTLE
MEXICAN GRILL
corner bakery cafe
Culver's
Welcome to delicious.
DQ
FREEBIRDS
WORLD BURRITO.
GREEN BURRITO
Hardee's
Jack
in the box
Jersey Mike's Subs
KFC
MOE'S
southwest grill
noodles
& company
Olive Garden
PEI WEI
Pizza Hut
Potbelly
Qdoba
MEXICAN GRILL
Quiznos
Sub
Red BURRITO
saladworks
SONIC
America's
Drive-In.
Steak n Shake
SUBWAY
TACO BELL
THE COUNTER
Wendy's

Consumption of Meat in China (kg/cap/yr)

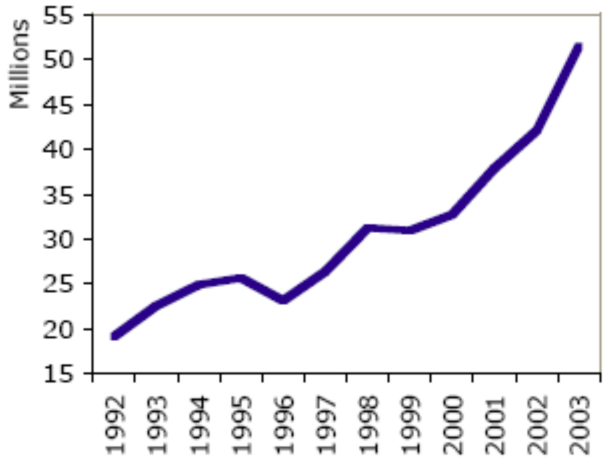


Source: *FAO*

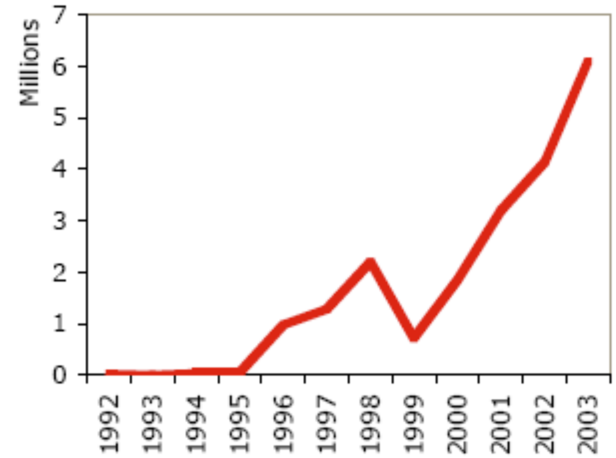
China's urbanization and global supply chains



Chinese per capita meat consumption (kg/cap/yr)



Brazilian soy production (million tons)



Brazilian soy exports to China (million tons)

Modern Ways Open India's Doors to Diabetes

Namas Bhojani for The New York Times

The New York Times

Asia Pacific

China Now Leads World in Diabetes Cases

By THE ASSOCIATED PRESS
Published: March 26, 2010

HANOI — After working overtime to catch up to the West, China now faces a new problem: the world's biggest diabetes epidemic.

One in 10 Chinese adults already have the disease and an additional 16 percent are on the verge of developing it, according to a new study. The finding nearly equals the U.S. rate of 11 percent and surpasses

India Ink

Notes on the World's Largest Democracy

January 29, 2013, 6:46 am 11 Comments

Fighting Fat at India Inc., One Dosa at a Time

By SARITHA RAI

Courtesy of HealthifyMe

A screenshot of the "HealthifyMe" application.

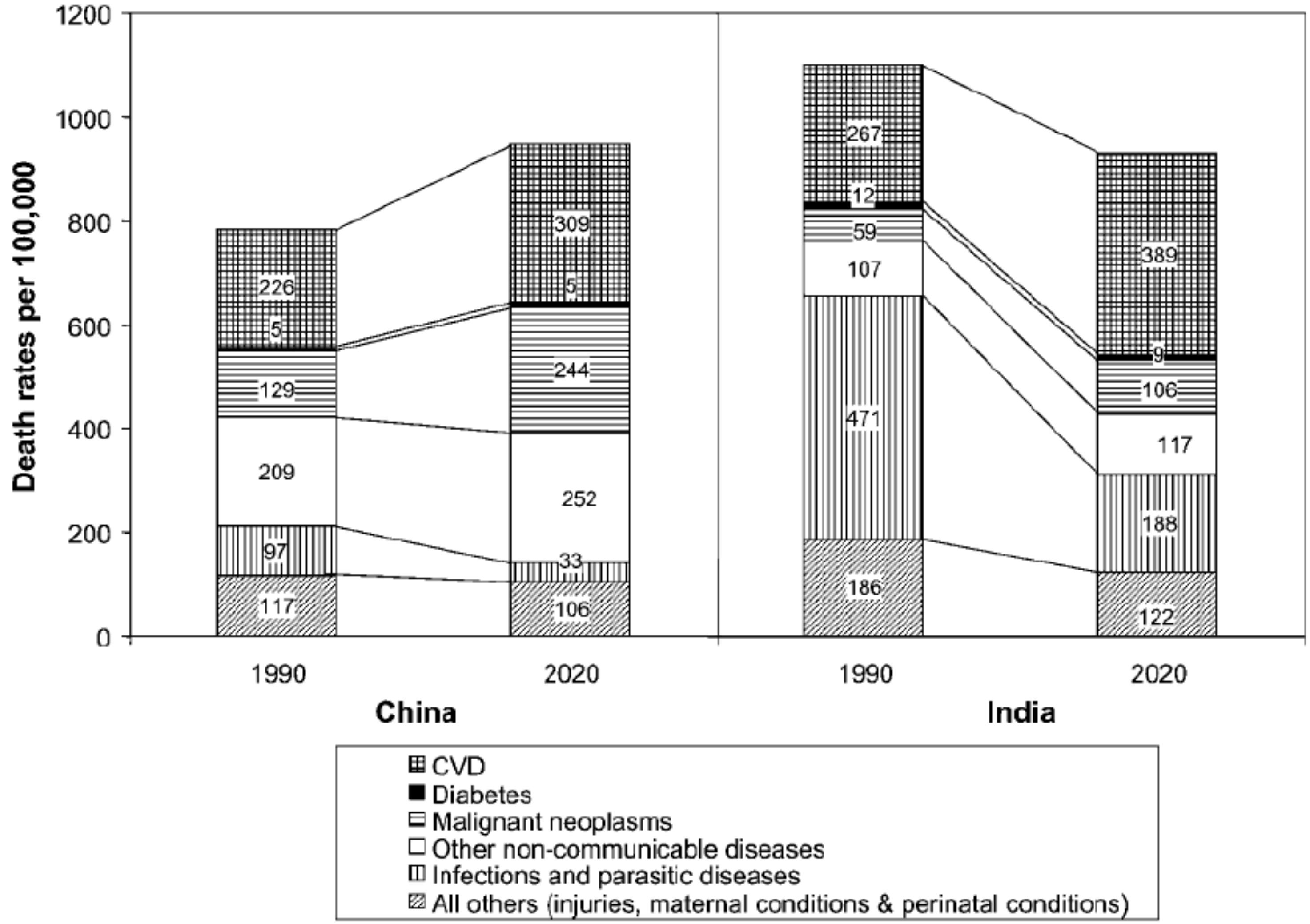
Six-footer Sanjay Jain is at least 15 kilograms (33 pounds) overweight at 95 kilograms. Typical of many of his Bangalore peers, Mr. Jain puts on weight, loses weight and then starts the whole cycle anew.

LIFE AND LOVE IN THE NEW BANGALORE
Tales of ambition and youth from India's outsourcing hub.

Like many professionals in Bangalore and urban Indians everywhere, Mr. Jain, 46, works late hours, trains in stops and bursts, and, until recently, paid scant attention to what, when and how much he ate.

But a few months ago Mr. Jain, a software industry professional and a budding entrepreneur at the Silicon Valley venture capitalist Vinod Khosla's Khosla Labs in Bangalore, decided to lose weight and signed up as a tester for an app called HealthifyMe. For the first time, the vegetarian began measuring

Mortality Trends: Increase in Cardiovascular Disease (CVD), Decline in Infections



Popkin and Du, 2001

Urbanization and GDP growth

- **Increased public awareness**

The Boston Globe

Environmental Awareness and Anger Grows in China

December 4, 2005

CHINA DAILY .COM.CN 中国日报网

No more land for luxury villas

June 1, 2006

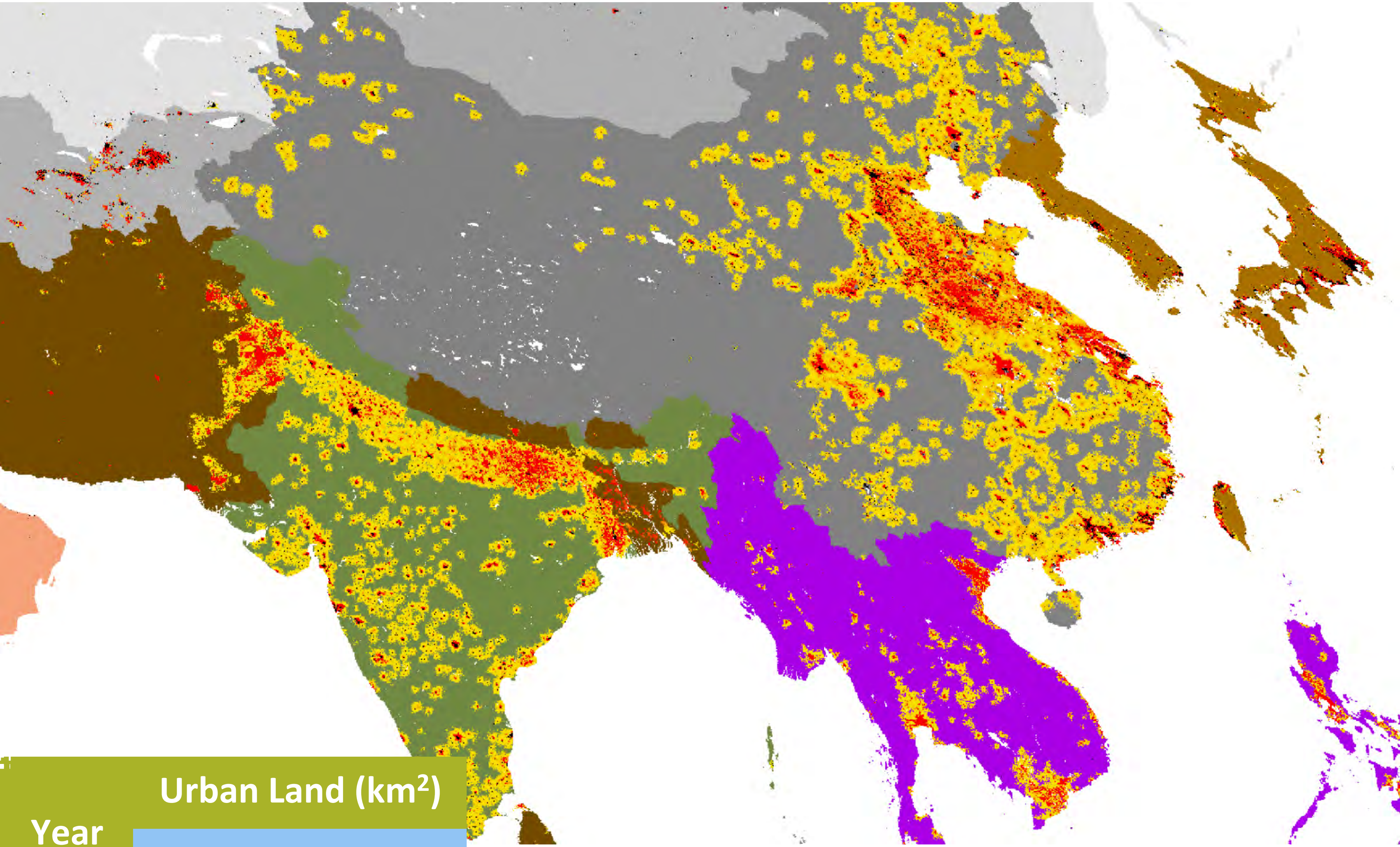
人民网 people www.people.com.cn

China bans golf courses on undeveloped land

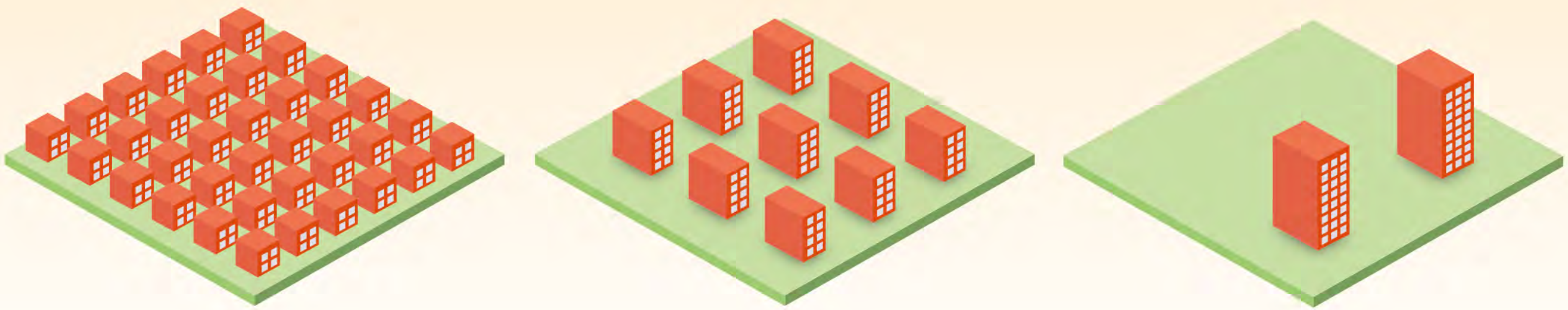
December 18, 2006

- Economies of Scale & Innovation

- **Cities of tomorrow have yet to be built**



Year	Urban Land (km^2)	
	China	India
2000	80,500	30,400
2030	486,000	174,000



"It's a mixed-use facility: retail space, low-rent housing, luxury apartments, and an area set aside for making steel."

https://www.youtube.com/watch?v=mPi4zwEpswE#t=131