

# *Asia's Urban Transition*

Mega Trends and the Future of Cities in a Global Age

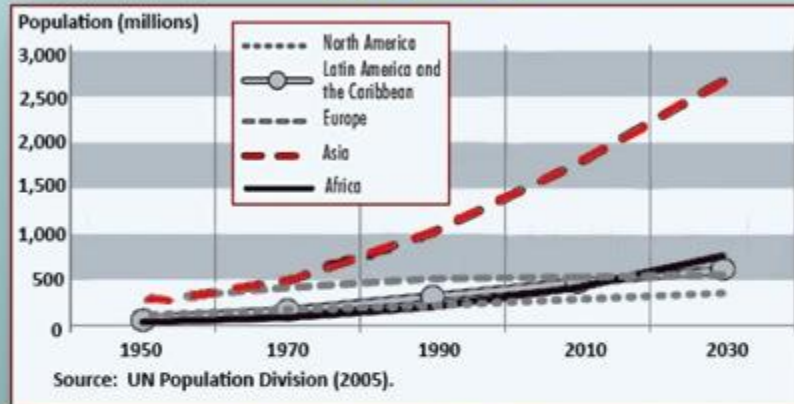


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# Urbanization and Asia in the World Economy

## Urban Population Growth by World Region 1950-2030



### % Urban 2050

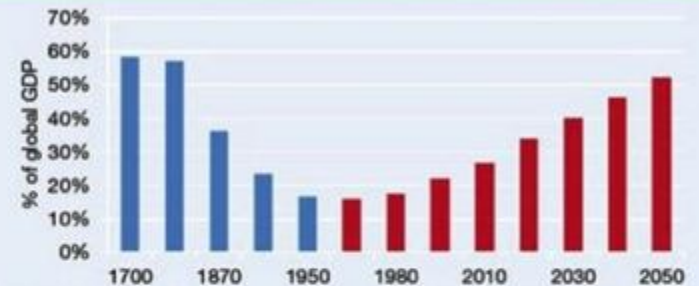
Northeast Asia	74%
South Asia	55%
Southeast Asia	65%
Central Asia	67%

United Nations Statistics Division, 2010.

### Global Middle Class 2009 and 2030



### Asia's Share of Global GDP, 1700-2050

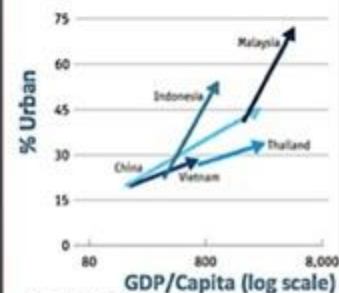


Source: Maddison (1700-1950) (2007); Centennial Group International estimates (1951-2050) (2011). Data for 1750-1790 are PPP and data for 1991-2000 are in market prices.

2000 - 2050: Asia urban population will increase by nearly 2 billion people.

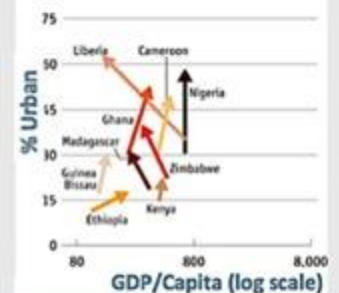
### Urbanization and National Income 1985-2010

#### East Asia



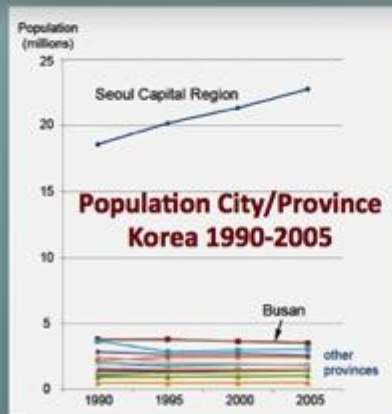
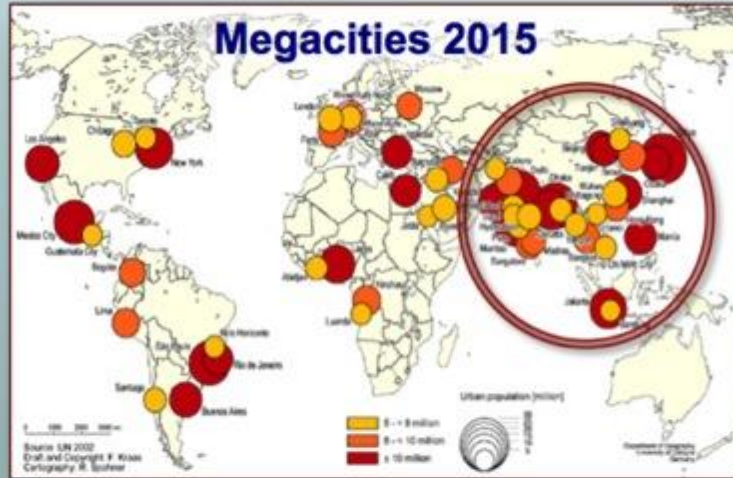
Source: World Bank

#### Sub-Saharan Africa





# Spatial Concentration and World Cities

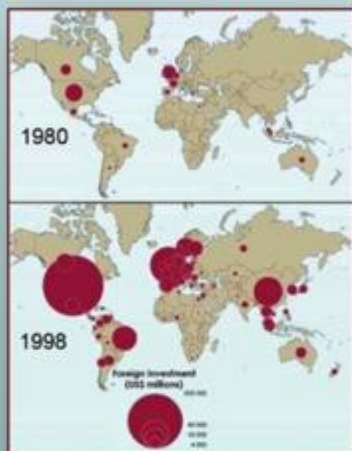


600 cities worldwide will account for two-thirds of global economic growth 2010-2025.  
(McKinsey Global Institute)



# Emerging Pacific Asia Super Corridor

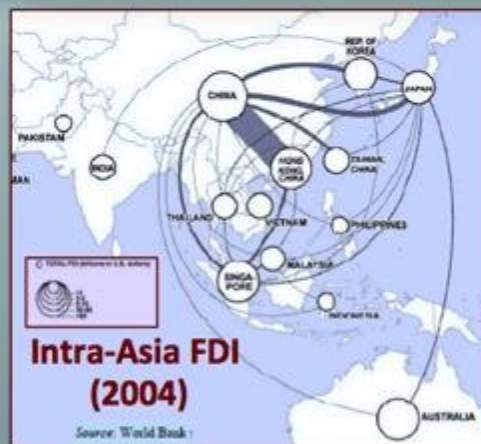
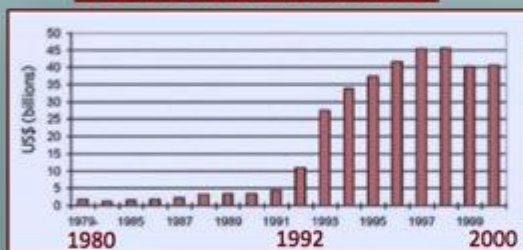
World FDI 1980 & 1998



FDI Inflow 1980-2011 (US\$ millions)



FDI in China 1979-2000



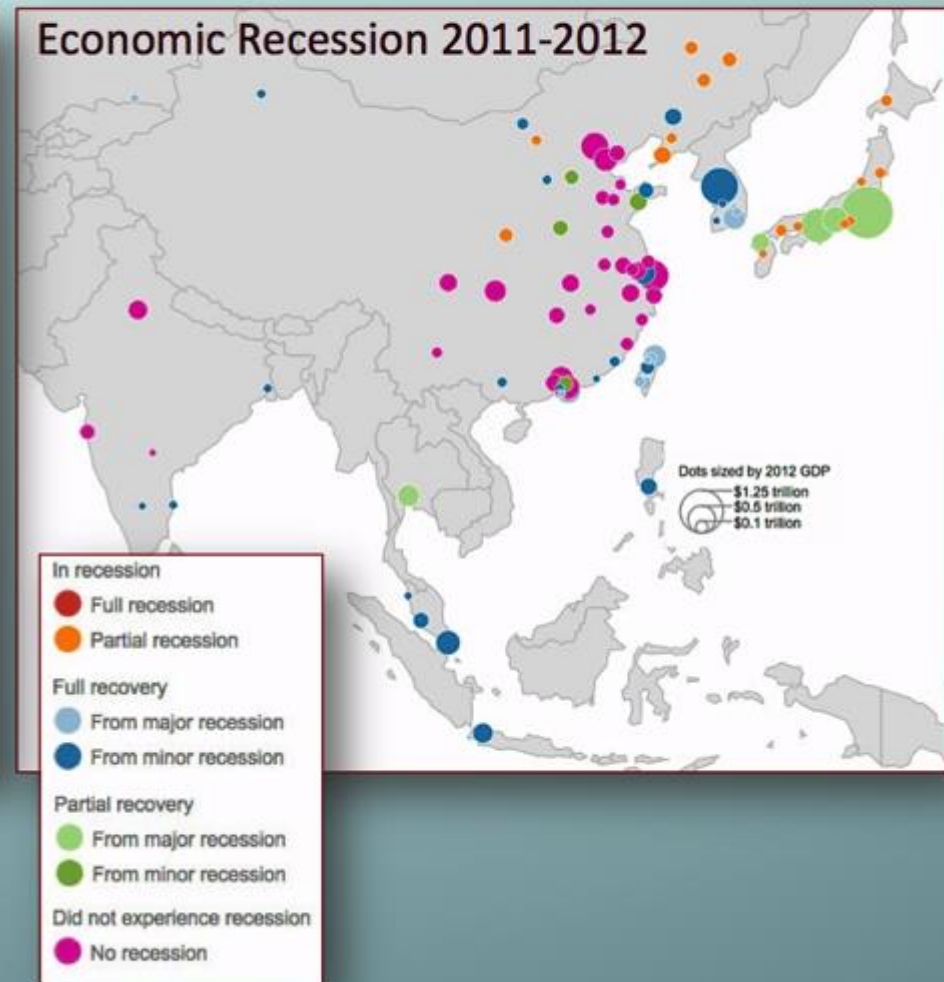
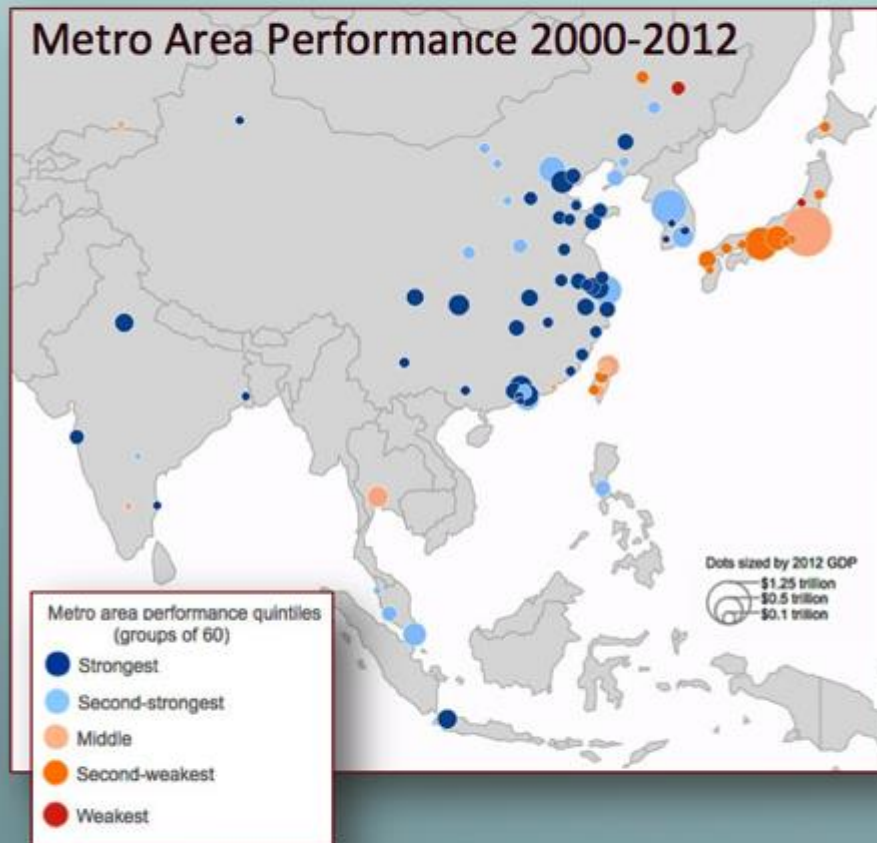
Outward FDI 1980-2006 (US\$ millions)

Economy/Region	1980	1990	1995	2000	2002	2004	2005	2006
Japan	2,385	48,024	22,630	31,558	32,281	30,951	45,781	50,266
China	—	830	2,000	916	2,518	5,498	12,261	16,130
Hong Kong	82	2,448	25,000	59,352	17,463	45,716	27,201	43,459
South Korea	26	1,052	3,552	4,999	2,617	4,658	4,298	7,129
Taiwan	42	5,243	2,983	6,701	4,886	7,145	6,028	7,399
Singapore	98	2,034	6,787	5,915	2,329	8,074	5,034	8,626





# Economic Shifts – China and India



# Population and Labour Trends

## (1) Aging, Population Decline, Rising Dependency Ratios

### Japan 2050 Population

- 40% > age 65
- Returns to 1950 level

### South Korea 2050 Population

- 40% > age 65
- Decline onset 2018



## (2) Precariat > % Labour Force

- ❖ Part-timer and sub-part-time labour = 1/3 Japan's and Korea's wage workers (2009).
- ❖ Shares are increasing, and average wages are falling.

## (3) Intra-Asia Foreign Workers and Multi-cultural Societies

Table 1. Foreign Workers and Populations in East Asia, 2007-2008

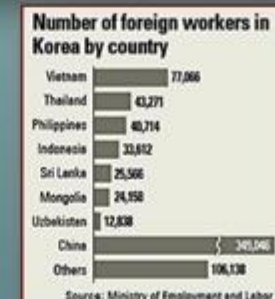
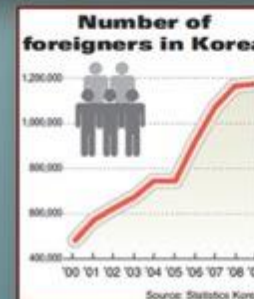
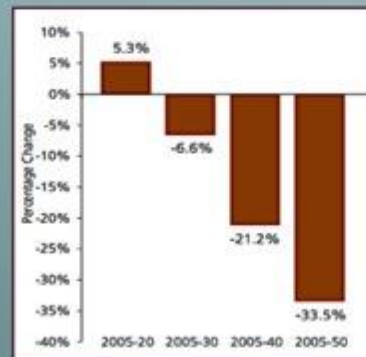
Destination	Legal foreign Workers <sup>1</sup>	Illegal foreign Workers	Registered Foreigners
Japan	477,000	130,000	2.2 million
Korea	480,000	230,000	1 million
Hong Kong <sup>2</sup>	225,000	n.a.	n.a.
Taiwan	374,000	300,000	570,000
Singapore	700,000	n.a.	1.4 million

Source: Migration News. Various issues 2008-2009.

<sup>1</sup>For Japan legal workers include "trainees".

<sup>2</sup>foreign domestic workers and caregivers only.

## Korea Labour Force Decline 2005-2050

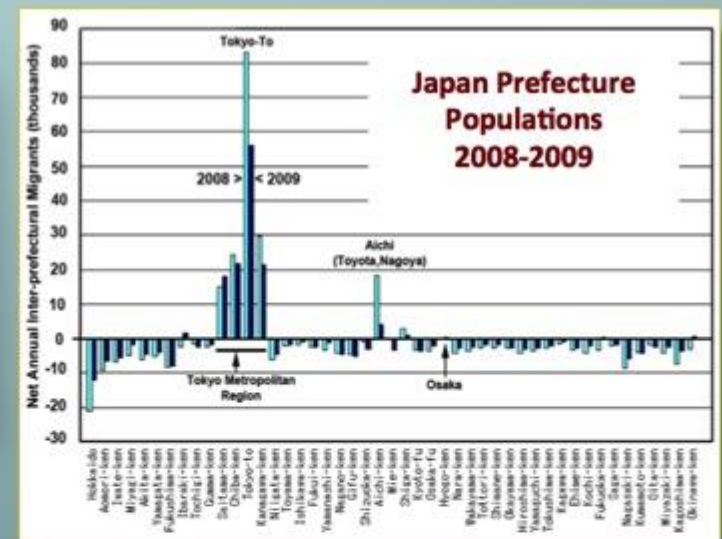


# (Population and Labour Trends)

## (4) Shrinking Cities

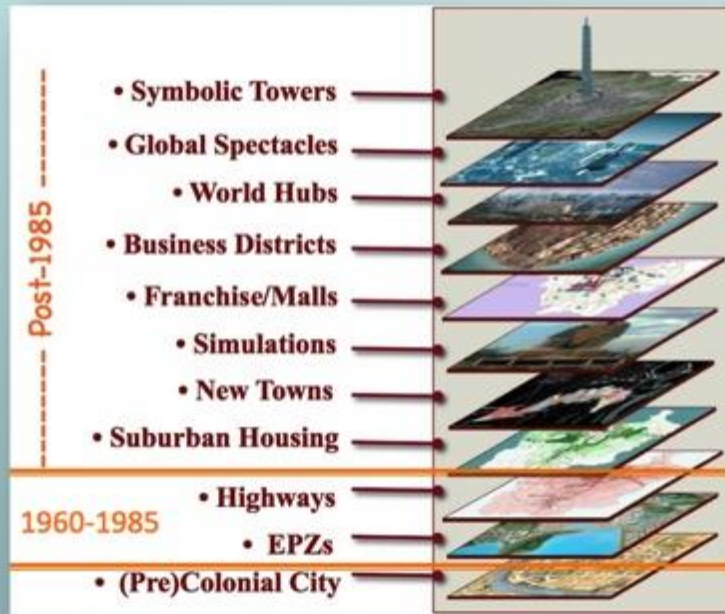
- ❖ "In the last 30 years, more cities in the developed world shrank than grew."
- ❖ "In Japan, hundreds of small and midsize cities are shrinking"
- ❖ China has 50 shrinking cities including Dalian and Chengdu

### Shrinking Cities around the World





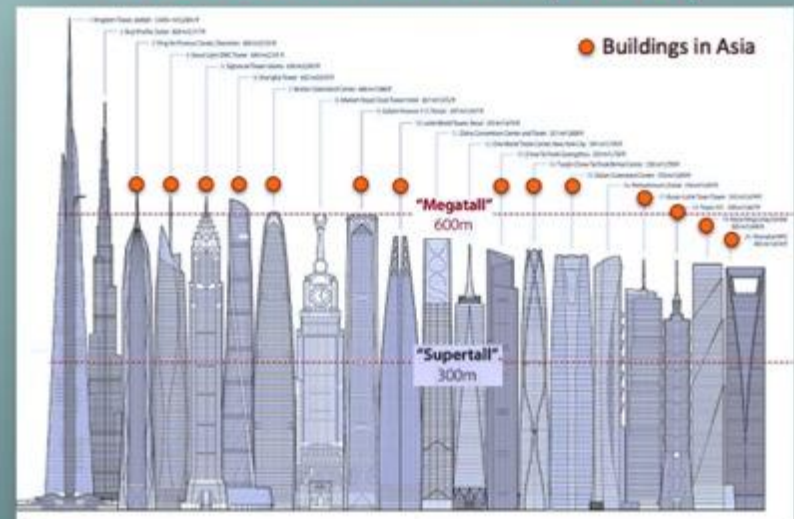
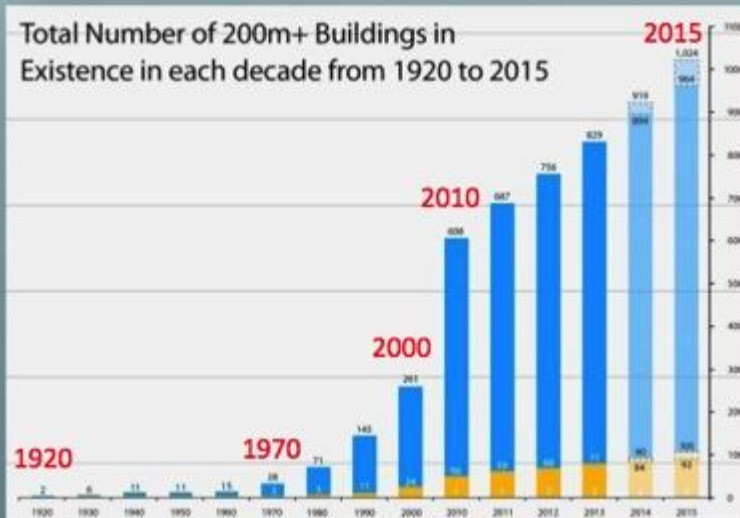
# Transformations of the Social and Built Environment



## Concerns

- ❖ Loss of **public space**
- ❖ Elimination of the **vernacular city** and living urban heritage
- ❖ Scales that inhibit **sociability** and **social capital** formation
- ❖ **Fragmentation** through gating, walling, privatization of access
- ❖ Rising **inequality** in access to housing and urban amenities

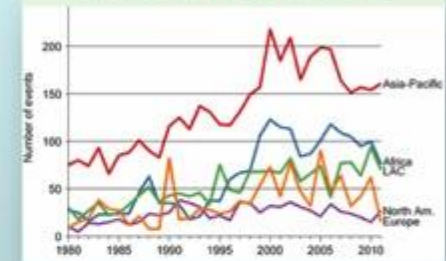
**13/20 Tallest Buildings in the World are in East & Southeast Asia (to 2020)**





# Rising Environmental Disasters Risks

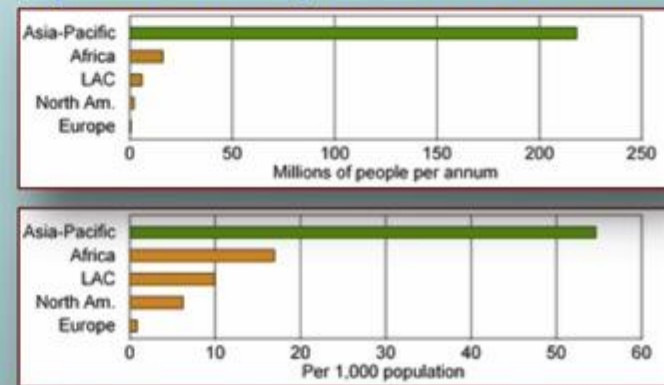
## Number of reported disasters 1980-2011



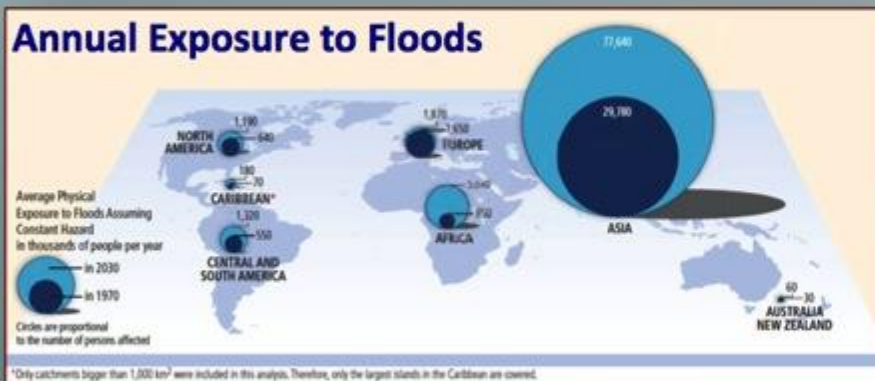
## Exposure to Inundation from Sea Rise and Extreme Storms



## People affected by disasters 2002-2011



## Annual Exposure to Floods



## Exposure to Tropical Cyclones

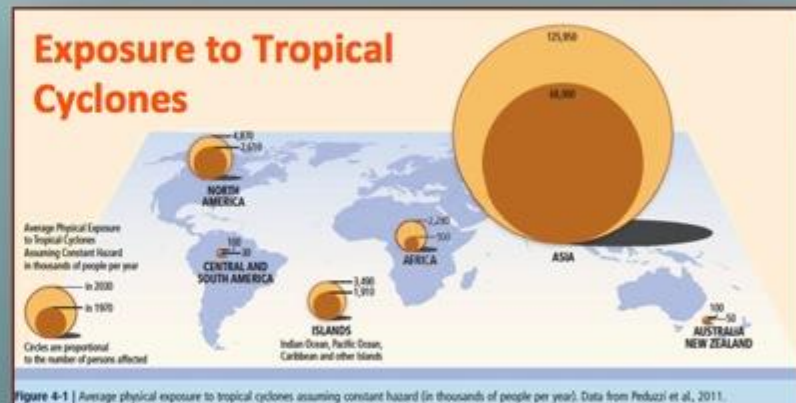


Figure 4-1 | Average physical exposure to tropical cyclones assuming constant hazard (in thousands of people per year). Data from Peduzzi et al., 2011.

# The Urbanization of Environmental Disasters



*The 'Anthropocene' and Urbanization:  
Environmental disasters now occur in an "urban matrix" of interdependencies*

## **5 Effects of Urbanization:**

- **Agglomeration** – Mega-Urban Regions
- **Spatial polarization** in high risk coastal and riparian regions
- New Forms of **Vulnerability** (slums, aging populations)
- **Compound** disaster effects
- **Ecological** reach, disaster incubation, and boomerang effects



# 1. Environmental Disasters and Agglomeration Effects

## Flood Risk and Preparedness, World's Largest Cities (2013)



11 Critically  
Unprepared  
Cities total  
182 million  
people at risk



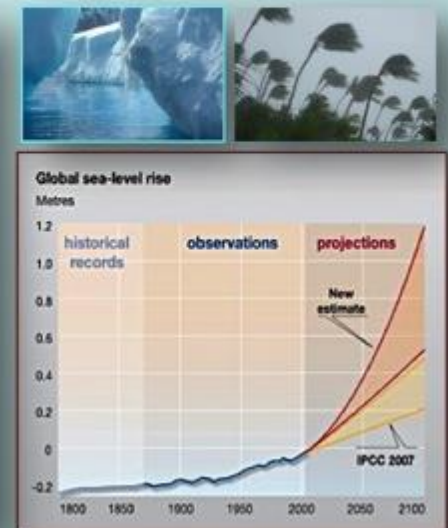
City	Population	Risk of Flooding
Tokyo	32	Very well prepared
Seoul	26	Could be better prepared
Jakarta	23	Critically unprepared
Delhi	22	Critically unprepared
Mumbai	21	Critically unprepared
Mexico City	20	Could be better prepared
São Paulo	20	Could be better prepared
New York	20	Could be better prepared
Osaka	17	Very well prepared
Shanghai	17	Critically unprepared
Manila	16	Critically unprepared
Hong Kong- Shenzhen	16	Critically unprepared
Los Angeles	15	Could be better prepared
Kolkata	15	Critically unprepared
London	15	Could be better prepared
Moscow	15	No high risk
Cairo	14	Critically unprepared
Buenos Aires	13	Could be better prepared
Dhaka	13	Critically unprepared
Beijing	13	Critically unprepared
Karachi	12	Critically unprepared
Rio de Janeiro	12	Could be better prepared
Paris	10	Could be better prepared

- ❖ Most Asian cities are poorly equipped to manage environmental disasters climate change
- ❖ contaminated or unstable land and
- ❖ health pandemics.
- ❖ Many will need massive investments in infrastructure, public services, institutional capacity and environmental programmes.

Source: GreenAsh (2013), Natural Disaster Risk Levels of the World's Largest Cities.



## 2. Spatial Polarization in Coastal/River Regions

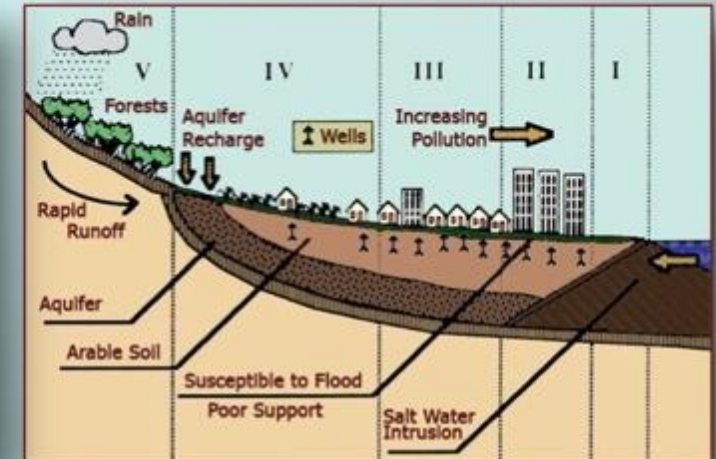
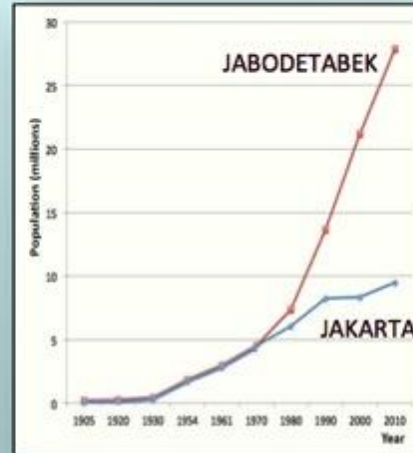
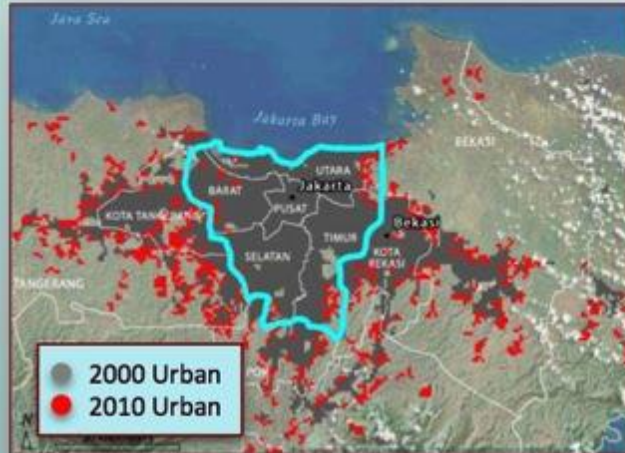


*The increase in concentrations of people and growth of assets in hazardous areas is the single largest driver of disaster risk and greatest challenge for managing disaster risks.*

(Jha and Stanton-Geddes 2013:17)



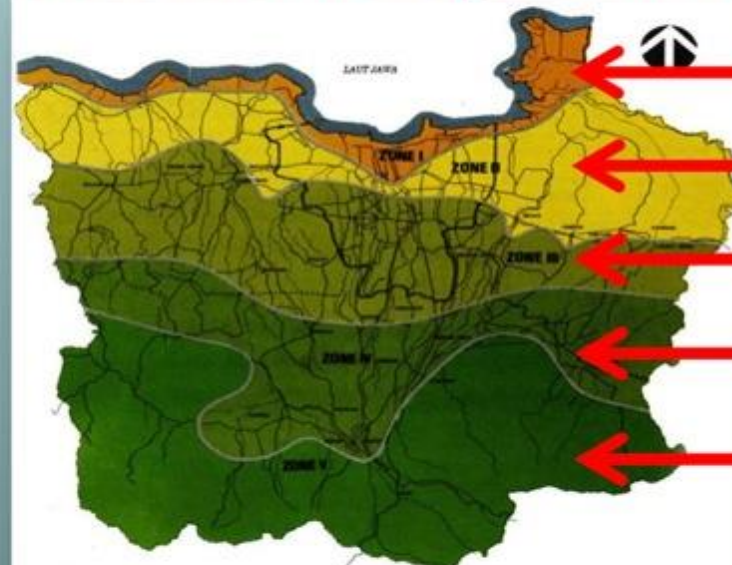
# The Urban Ecology of Flooding – the Jakarta Experience



## Jabodetabek Ecology

- ✓ Land subsidence from over drawing of groundwater;
- ✓ Deforestation in upland areas;
- ✓ Massive increases in non-porous ground cover;
- ✓ Growth of informal settlements along major waterways;
- ✓ Large-scale landslides from heavy rains; and
- ✓ Infrastructure failures.

## Environmental Zoning 1985-2005



Sumber : Master Plan DKI Jakarta 1985 - 2005

No expansion

Limited expansion

Major expansion

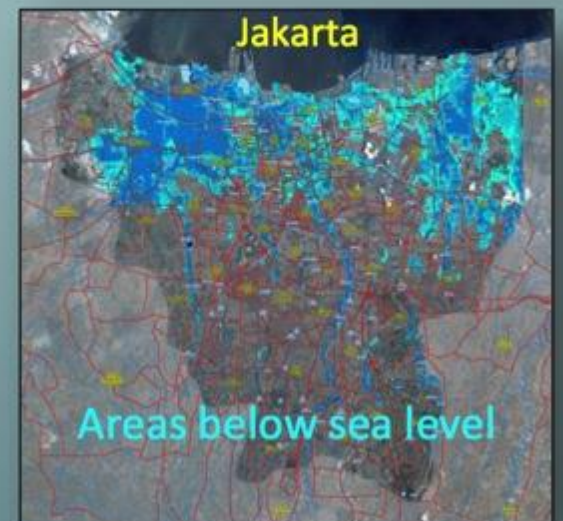
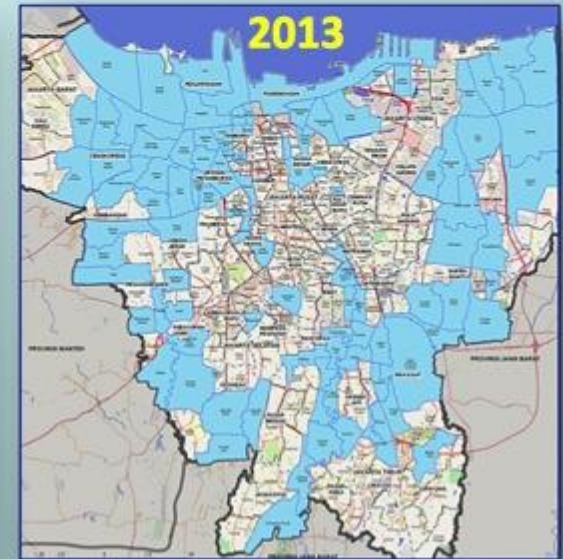
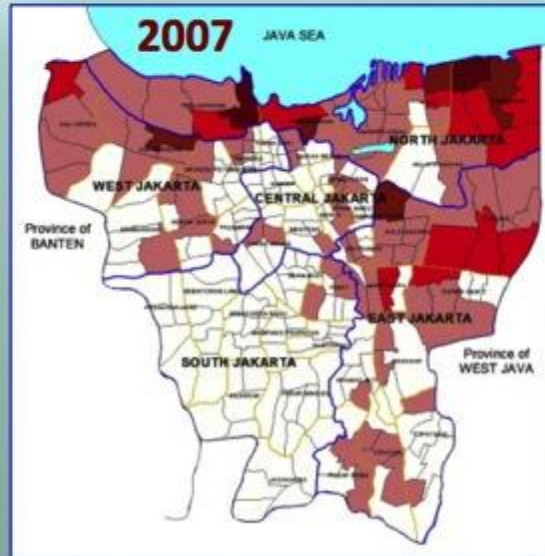
Limited expansion

Protected uplands



2007 floods claimed 80 lives and left 500,000 displaced from homes

2007 floods claimed 80 lives and left 500,000 displaced from homes





# Waterfront Fever



# 3. Compound Disasters

*The increase in occurrence of multiple large disasters is an inevitable consequence of*

- ❖ *increases in the population and spatial density in existing urban centers*
- ❖ *greater reliance on technological solutions to maintaining growth and development in hazardous environments and the fragility of social, economic, and risk management systems.*
- ❖ *There is a need to recognize that compound disasters are a result of a series of component disasters in communities that in their aggregate overwhelm existing abilities to respond.*

**Type 1:** Cascading “natural disasters”

Earthquake ➡ tsunami ➡ nuclear disaster ➡ industrial shutdown

**Type 2:** Network effects – global supply chains

**Type 3:** Intersecting mega-trends: shrinking cities, aging population, loss of familial support, tsunami ➡ accelerated downward spiral with no recovery



# 4. Vulnerability Effects

1. Fast growing MURS
  - ❖ High income inequalities
  - ❖ Huge slum populations in high risk areas
  - ❖ Elderly, women, children, disabled

2. Higher income economies
  - ❖ Shrinking towns and cities
  - ❖ Aging societies

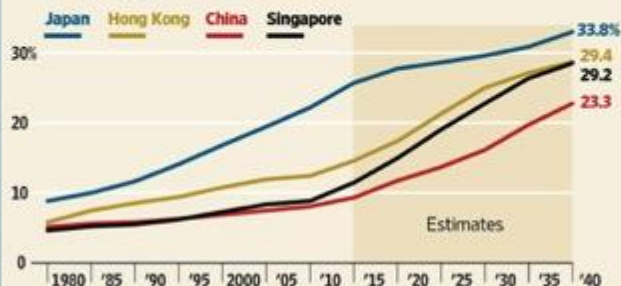
## Asia Urban Population Living in Slums 470 million in 2010

Region	1990	1995	2000	2005	2007	2010
East Asia	160	177	192	195	194	190
South Asia	180	190	194	192	192	191
Southeast Asia	69	76	82	84	84	89
Total Asia	409	443	468	471	470	470



### Graying States

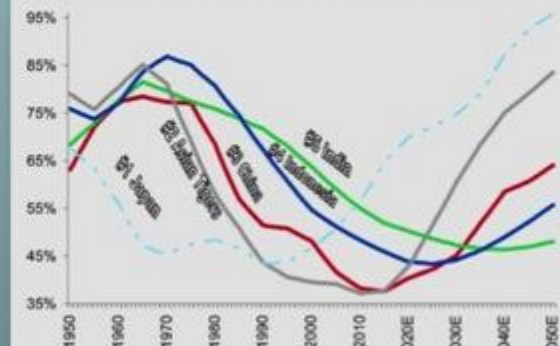
Percentage of populations that are 65 years and older



Sources: U.N. Population Division; Associated Press (photo)

The Wall Street Journal

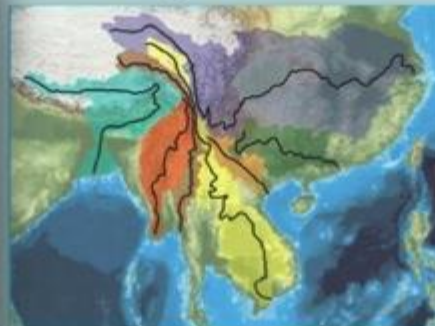
### Age Dependency Ratios: Asia's Demographic Waves



Source: UN Population Database, 2010 Revision, E=UN estimates, Morgan Stanley Research

# 5. Ecological Reach Disaster Incubation, and Boomerang Effects

## Cross-Border Riparian Regions originating from Himalayan Glaciers



### Urbanization Impacts on Water Resources

- ✦ > Demand for water for production and consumption
- ✦ City regions dominate water demand
- ✦ Rural & urban pollution of waterways
- ✦ Endangered species
- ✦ Rural producers (dams and river control)



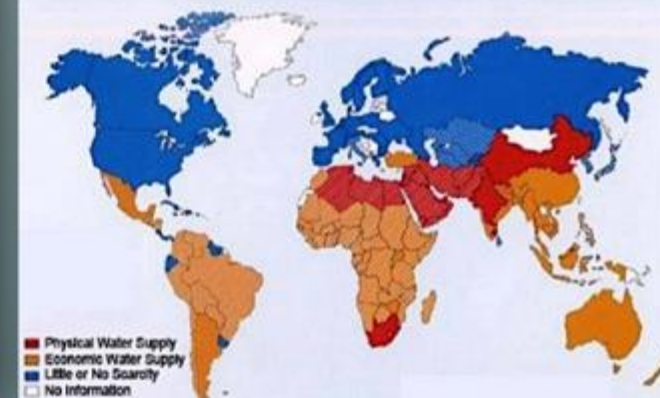
### Global Water Sources



### Mega-dams



### Projected Water Scarcity in 2025



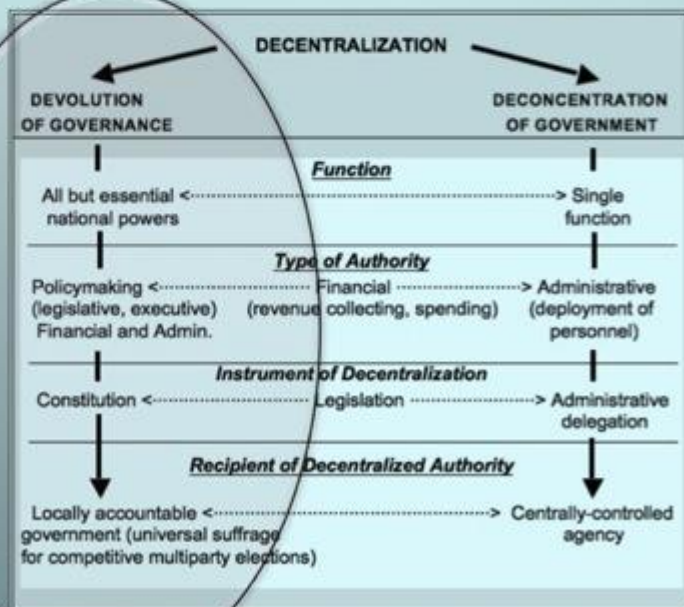


# Sustainability & Scales of Governance

- ✧ **Governance:** public decision-making that includes civil society as well as state and business interests
- ✧ **Prerequisites** for disaster governance: devolution to local level; participatory politics

## Key scales for disaster governance

- ✧ Neighborhood
- ✧ City Region
- ✧ Transborder Riparian Region



## World Democracy Audit 2012

Country	Democracy	Press Freedom	Corruption Perception
Japan	29	19	11
Taiwan	30	28	24
Korea, South	33	40	31
India	49	46	75
Mongolia	55	48	93
Philippines	62	59	101
Indonesia	64	71	77
Singapore	72	110	5
Papua New Guinea	74	28	122
Malaysia	82	104	43
Bangladesh	87	75	93
Thailand	89	99	60
Pakistan	106	95	106
Nepal	108	89	122
Sri Lanka	109	116	66
Cambodia	115	102	132
Vietnam	128	133	86
Kyrgyzstan	121	115	132
China	121	139	56
Kazakhstan	127	128	93
Azerbaijan	129	127	113
Uzbekistan	147	145	144
Turkmenistan	149	149	144
Afghanistan	137	121	147
Laos	141	139	122
Myanmar	148	145	147
Korea, North	150	150	149

Source: World Audit (2012), "Democracy Audit."  
<http://www.worldaudit.org/democracy.htm>.