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17.181 / 17.182 Sustainable Development: Theory and Policy
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Sustainable Development

17.181-17.182

Week 12 Outline

I. THE CHINA CASE

- **Sustainability Issues**
- **Policy Priorities?**

II. MODELS of VALUE

III. LEGACIES of 20th CENTURY

IV. NEW GLOBAL AGENDA

I. The China Case

"The number of China's elderly is ballooning thanks to improvements in medicine and sanitation, while the number of people born after the government's one-child policy went into effect in 1979 is dwindling. China's immense workforce, key to today's boom, will shrink after 2015."

"But by 2050 close to a third of China's citizens will be over 60--three times the current proportion. With little social security and few pensions to ease the burden, China's only children will have to support two parents (and in many case four grandparents) apiece--a heavy load even for urban factory workers, who typically save a quarter of their wages."

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Source: Karen E. Lange. "Shrinking Workforce" *National Geographic*; May 2008; Pg. 98.

Hungry for Oil

"There's a new contender for the world's oil...China's demand has helped drive up oil prices to record highs, causing pain at the gas pump for drivers around the world."

Countries Exporting Oil to China: 1996

Image removed due to copyright restrictions.

Source: "Hungry for Oil" *National Geographic*. May 2008; pg. 172+173.

Countries Exporting Oil to China: 2006

Image removed due to copyright restrictions.

Source: "Hungry for Oil" *National Geographic*. May 2008; pg. 172+173.

II. MODELS of VALUE

- How to capture the value of an investment
- What principle should be used to determine access and distribution of that which generates 'value'?
- Should everything go through the market place?

Models of Value*

(1) the *proprietary* principle model

(2) the *open-access* model

(3) the *knowledge commons* model

(4) the *value in networking* model.

(5) the *value paradox* model

* Source: N Choucri, *CyberPolitics*, MIT Press, under review.

III. Some Legacies of 20th C.

- **More People**
- **More Countries**
- **More Voices & Demands**
- **More IGO's and NGO's**
- **More Trade**
- **More Technology**
- **More Energy Use**
- **CO2 – GHGs – Pollution**
- **More Environmental Awareness**

Technology - Issues

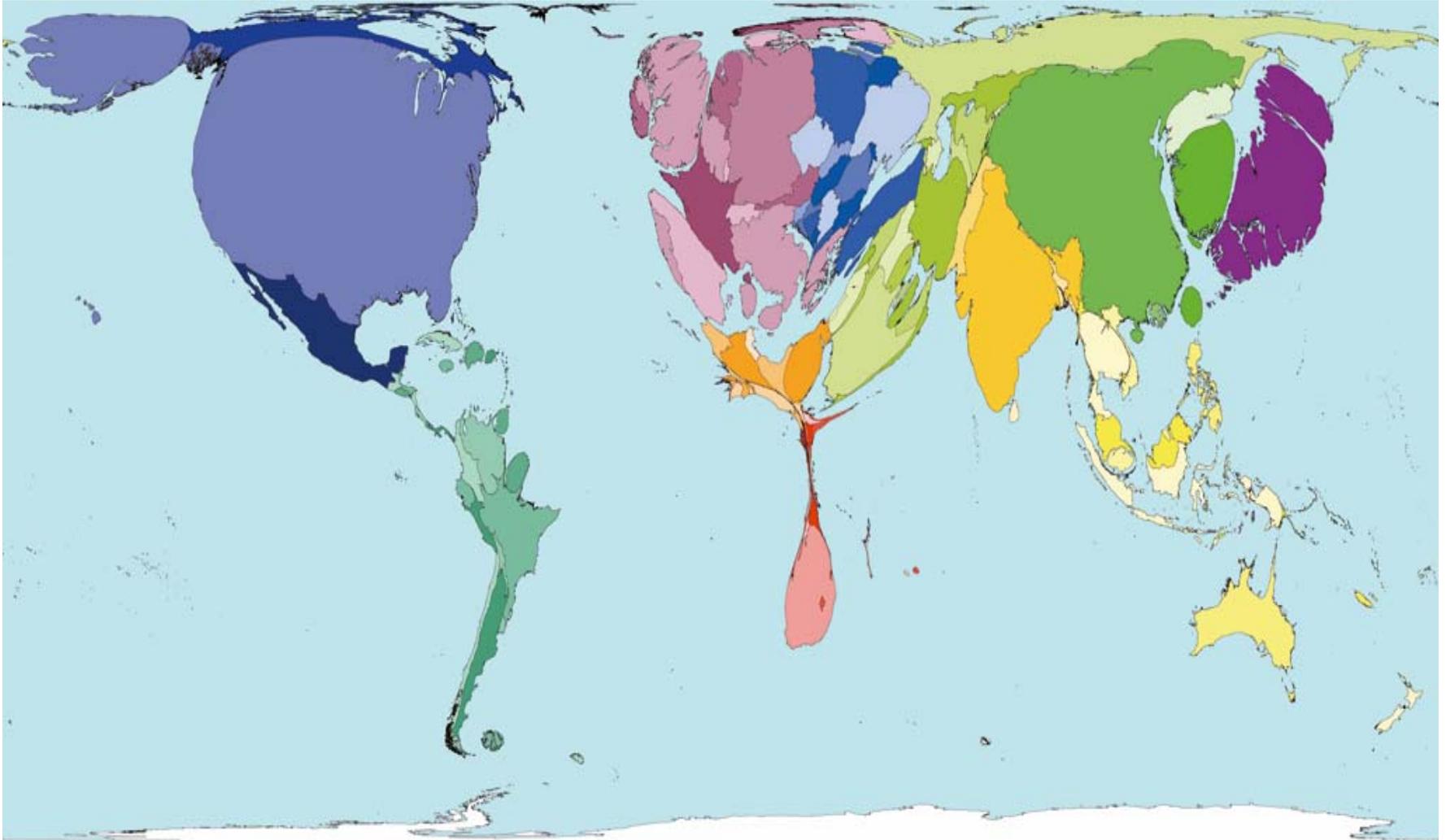
- **Persistent Globalization**
 - People Goods, Services, Ideas, etc.
Crossing Borders
- **“Glocalization”**
 - Local impacts of Globalization
- **Global Race for Knowledge**
 - Increased Knowledge Intensity
in Wealth & Power
- **Reproducing Western Development**

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Climate Change – Potential Effects

- Differential impacts within & across countries
 - **more burdens on the poor everywhere**
 - **more social cleavages**
- Erosion of governance & institutions
 - **Loss of law and order**
 - **Growth of individual ‘self-help’ actions**

Carbon Emission 2002



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Climate Change Index for 189 Countries

- **The 10 countries of highest overall risk account for 2% of GHG Emission**

Djibouti, Egypt, Pakistan, Cuba, Iraq, Morocco, Dominica, Antigua and Barbuda, Mozambique and Somalia.

- **Of the 31 countries with extreme risk, only 3 are industrial**

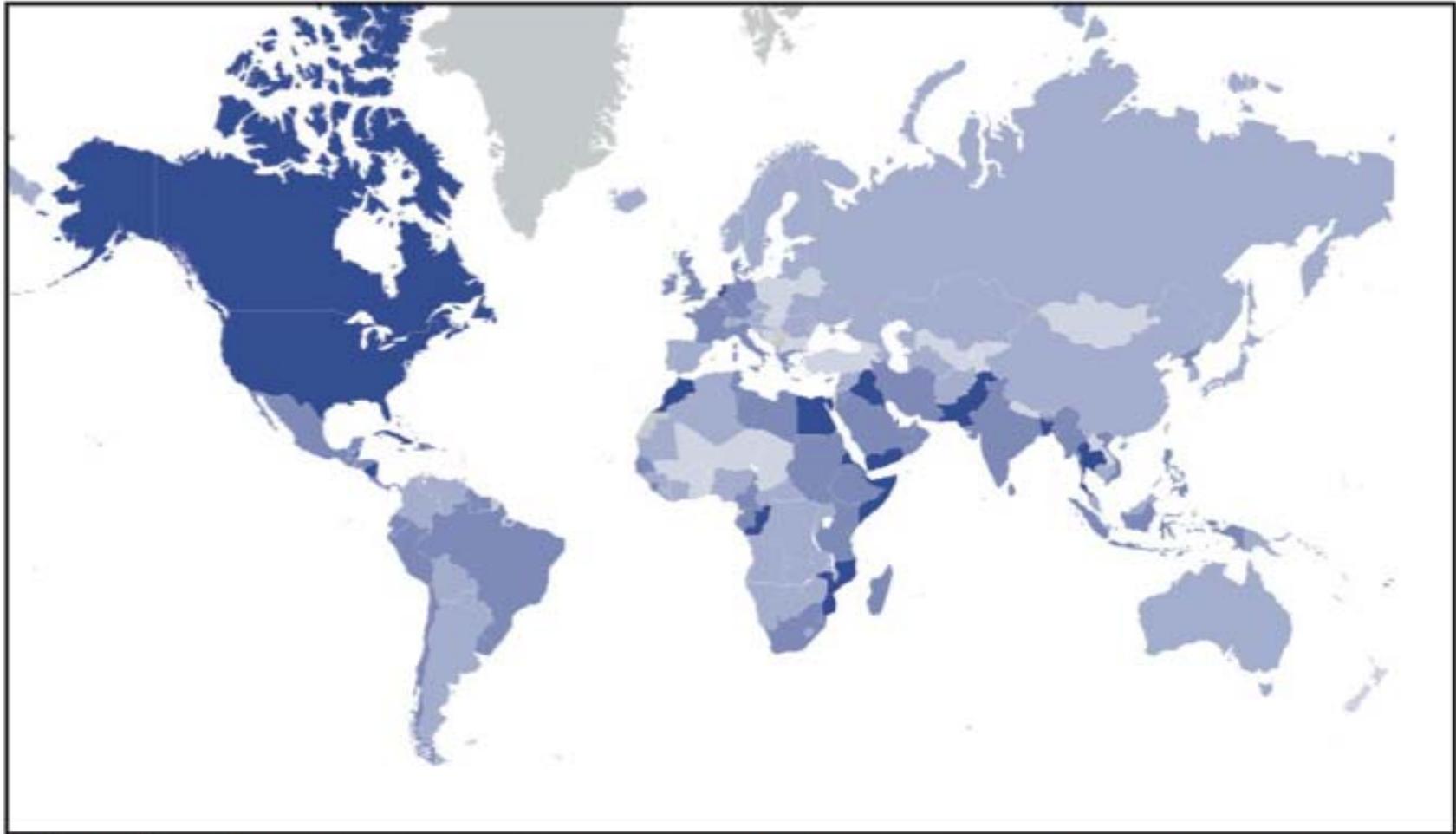
Netherlands, Canada & USA

Source: Mapplecroft Maps The index consists of 3 equal components;

- (i) Coastal exposure; (ii) Inland exposure (iii) Health exposure.
- (iv) Socio-economic or other impacts not covered/.

N. Choucri

Distribution of CCI Impacts



Climate change - levels of exposure to the impacts of climate change.
Darker shades represent higher levels of exposure.

Source: Mapplecroft Maps N. Choucri

Some Potential Dangers

Global sea levels rise as oceans warm & sea ice melts

- uninhabitable conditions

Increase in rainfall intensity will increase tropical storms

- more risk of weather-related disasters
- Infectious disease

Infrastructure must adapt to these changes

- more social & economic pressures
- more stresses on resources

Violent Deaths - 2002



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Self-Inflicted Deaths - 2002



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Refugees - Countries of Origin 2003



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IV. New Global Agenda

- **Salience of Environment**
Growth in Environmental Treaties
- **Framing New Objectives**
“Sustainable Development”
- **Re-Visiting the Fundamentals**
Equity Matters— Not Only Efficiency
- **Addressing New Realities**
Connecting Climate Change &
Sustainability