

Long Term Trends and Transitions in Nature and Society

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The view beyond my computer



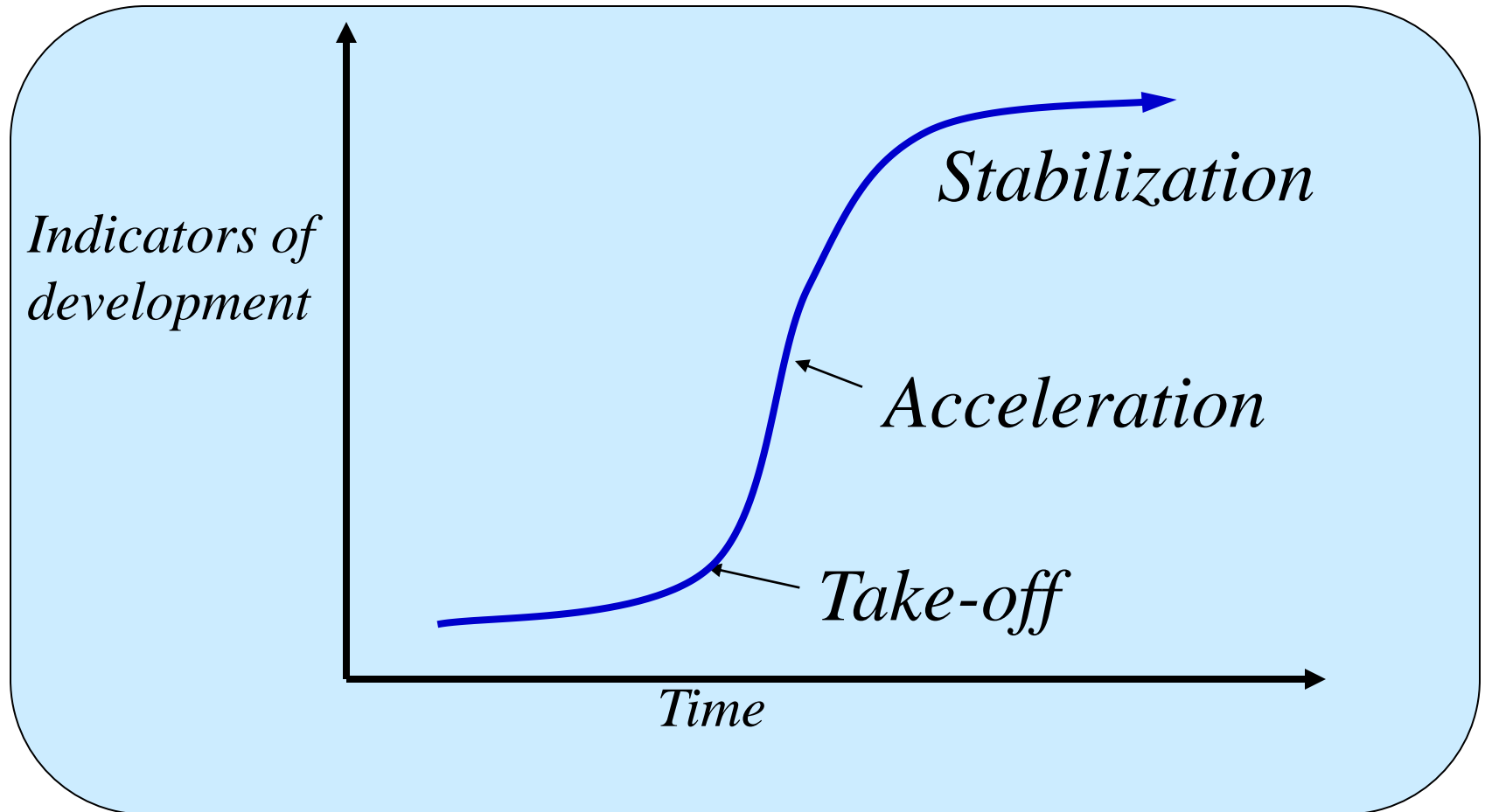
Why study long-term trends?

- **Understand how the world works (ocean view)**
 - **Tides: Cyclical Swings**
 - El Nino, recessions, political shifts, Kondratief cycles
 - **Surges, Undertows, Tsunamis: Surprises**
 - Berlin wall, 9-11, Great recession
 - **Currents: Long-term trends**
 - 10 Sustainable development Challenges
 - **Sea Change: Transitions**
 - Endpoints: Known, uncertain, unknown

Sustainable Development Challenges & Trends

| WCED, 1987 Our Common Future | NAS-BSD, 1999 Our Common Journey | Kofi Annan, 2002 Achievable Agenda | RWK, 2010 Sust. Sci. Reader |
|---|---|---|--|
| Population & Human Resources | Human Population | | Population |
| | | Health | Health & Wellbeing |
| Food Security | Agriculture | Agriculture | Agriculture & Food security |
| Species/Ecosystems | Living Resources | Biodiversity | Biodiversity Ecosystem Servs. |
| Energy | Energy Industry | Energy | Energy Materials |
| Industry | | | |
| Urban | Cities | | Urban growth |
| | | Water | Water & Sanitation |
| | | | Poverty |
| | | | Climate Change |
| | | | Peace/Security |

Phases of Transitions

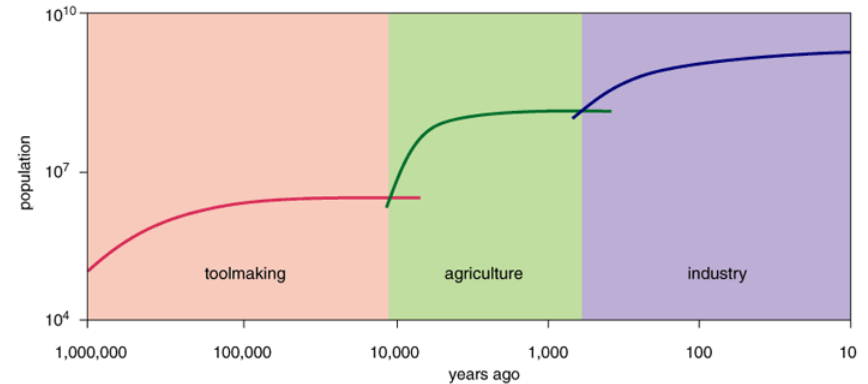
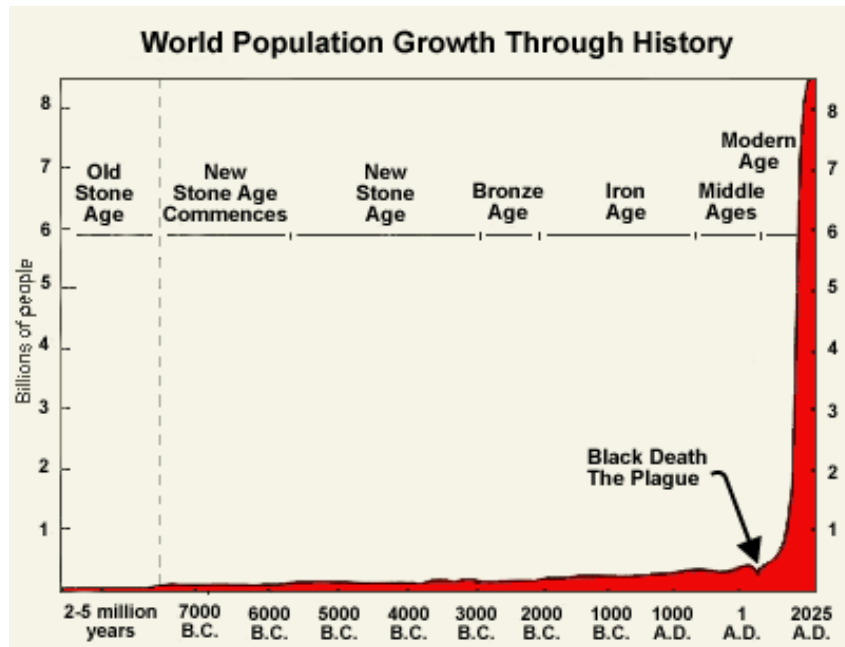


Transitions in Sustainable Development Trends

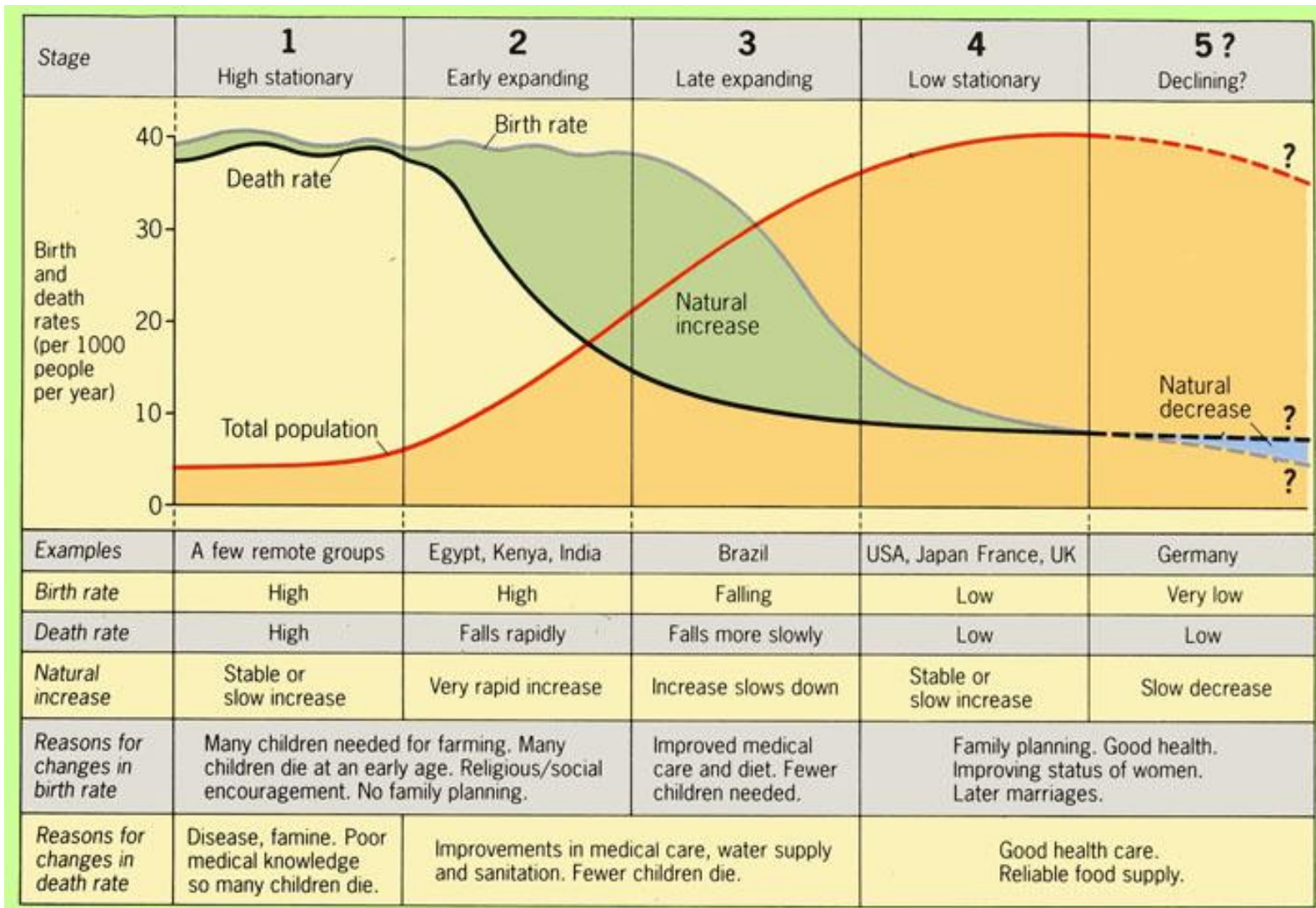
- Likely endpoints:
 - Population, Urban, Health,
- Uncertain endpoints:
 - Poverty, Biodiversity, Climate Change, Energy/Materials, Agriculture/Land, Water
- Unknown endpoints
 - Peace/Security

Population Growth through History

As a grad student in the 1960s

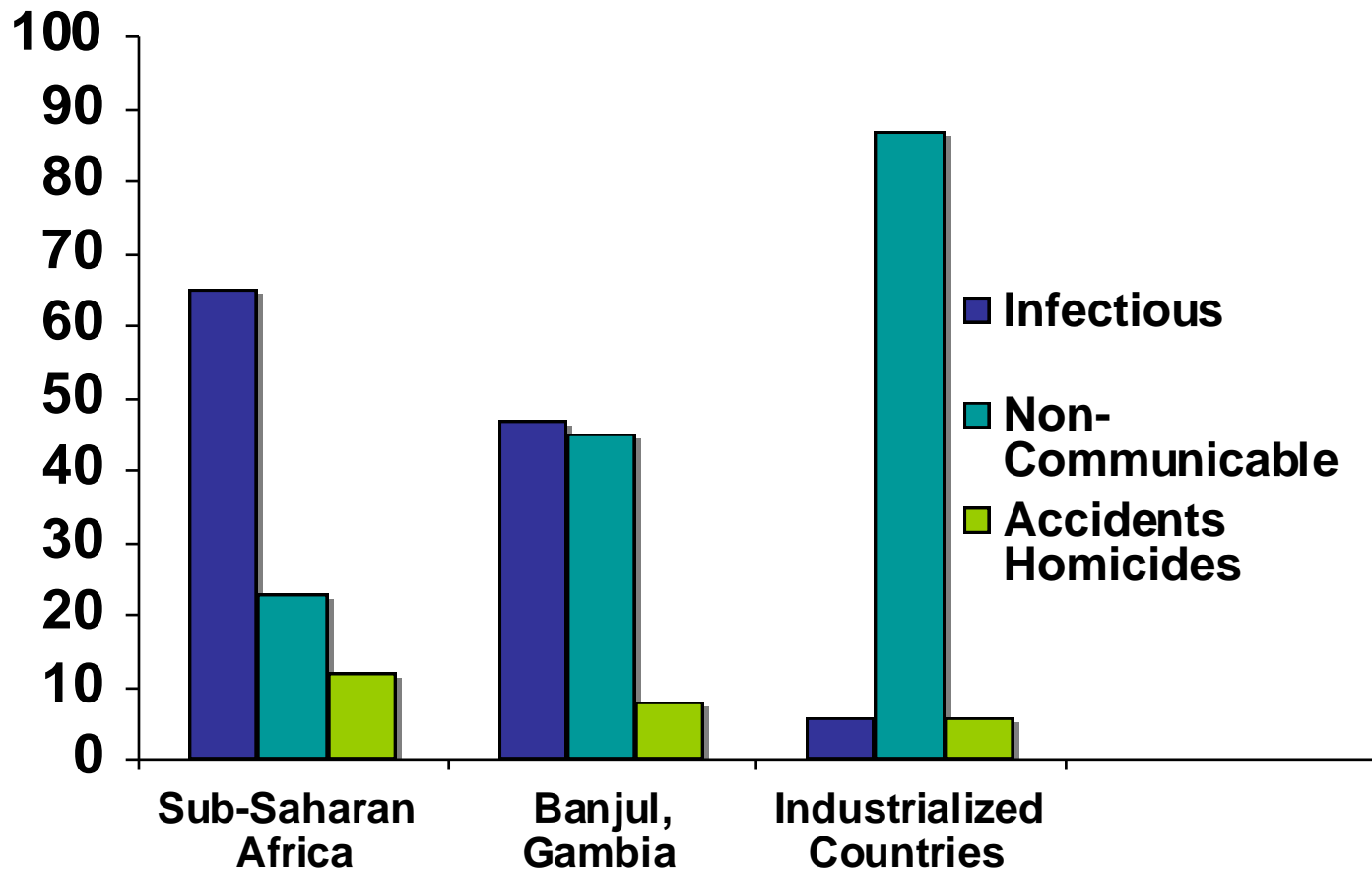


Demographic Transition

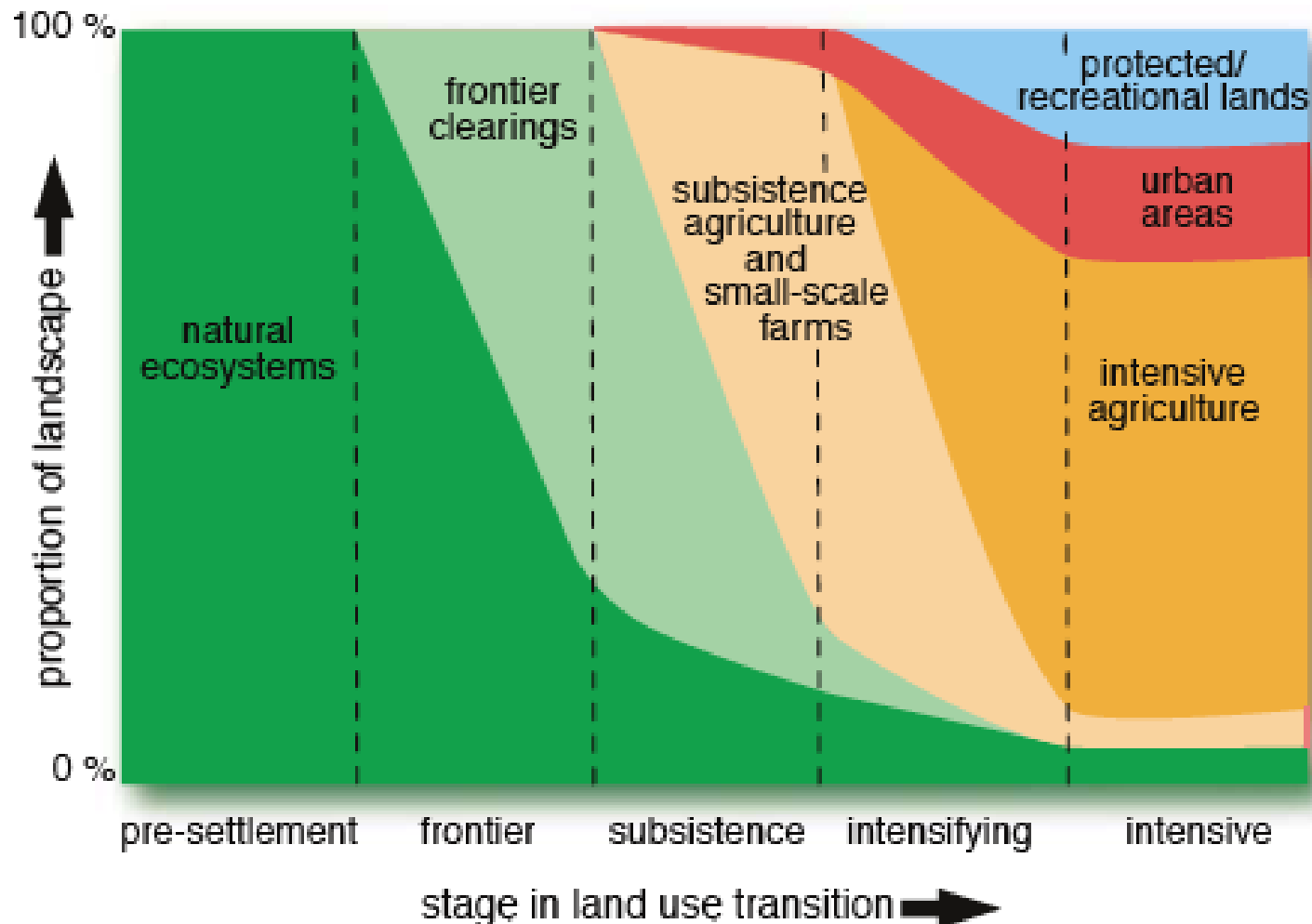


Health transition

% Deaths by Major Cause



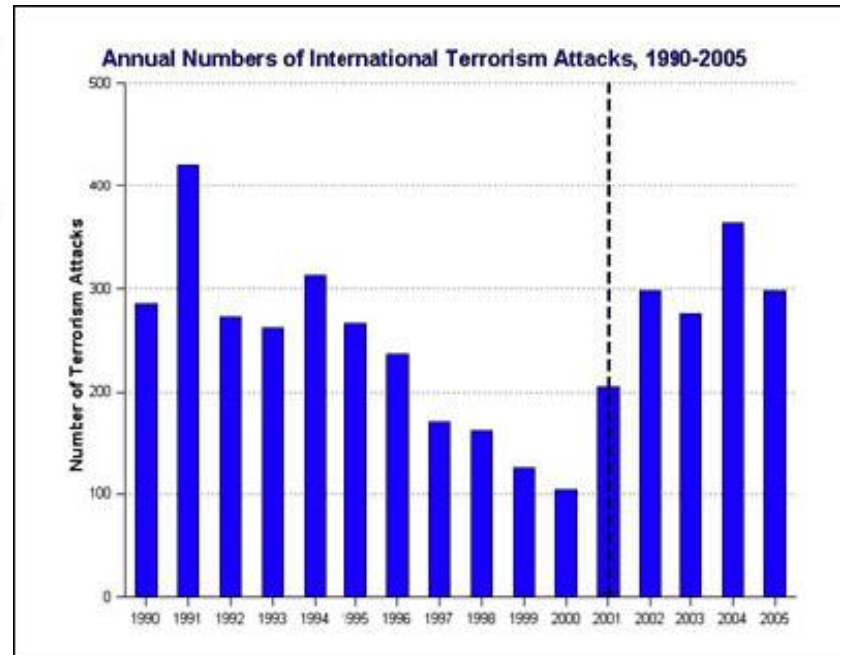
The Land Transition



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Diminished Conflict since 1991

Fluctuating Terrorism since 1990



Transition Questions

- Is a fourth phase of population growth likely or possible in the future and what would its enabling technology be?
- How might a transition from continuing growth in consumption take place and what would be its upper level?
- Do you foresee a sustainability transition, and if so, how long will it take and what would constitute its changes?

What is a sustainability transition?

Sustainable for how long?

- Millennium Development Goals
 - Halfway there in 15 years
- NAS Sustainability Transition
 - Meet human needs, maintain life support, reduce hunger and poverty over 50 years
- Global Scenario Group Great Transition
 - Progressive social evolution, human solidarity and ecological sensibility within a century

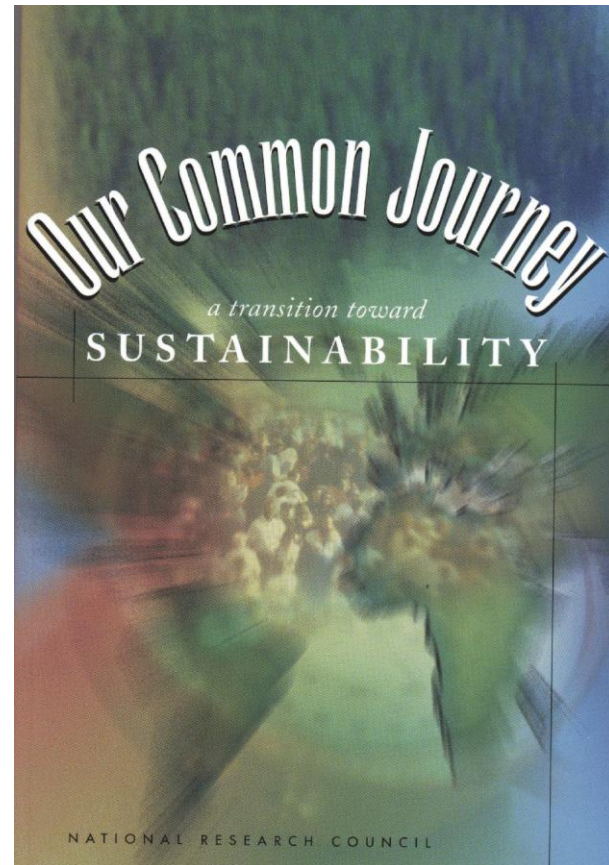
Sustainability Transition I: MDGs

Halfway There



Sustainability Transition II

- **Navigate a sustainability transition**
 - Over 50 Years--2 Generations-9 billion people
 - Meet Human Needs: Feed, Nurture, House, Educate, Employ
 - Maintain Life Support Systems
 - Reduce Hunger and Poverty



Sustainability Transition III: The Great Transition

Global Scenario Group

[<www.gsg.org>](http://www.gsg.org)

Begun in 1995 by Tellus/SEI

21 N-S Scenario Developers

Polestar software

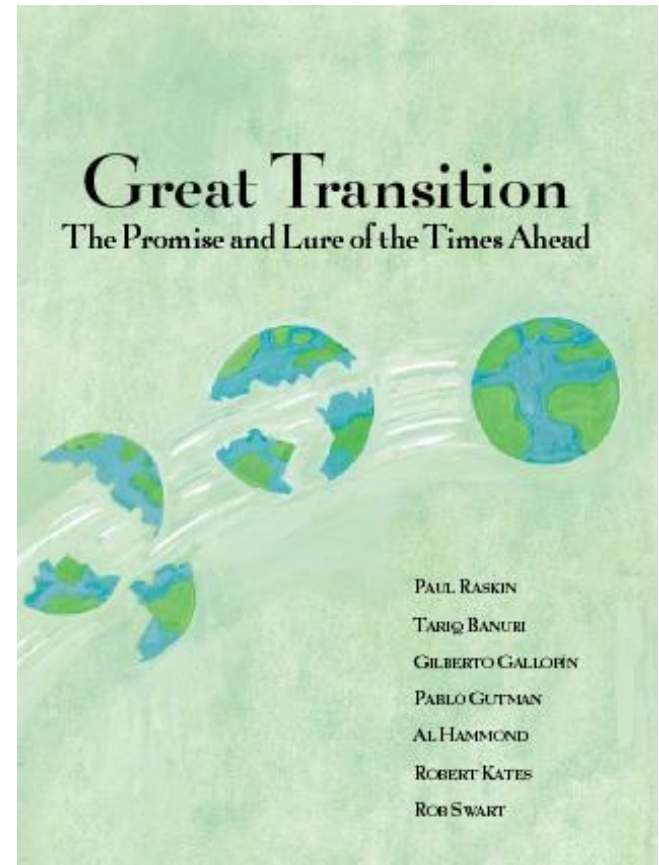
Four visions of future

Great Transition Initiative

[<www.gtinitiative.org>](http://www.gtinitiative.org)

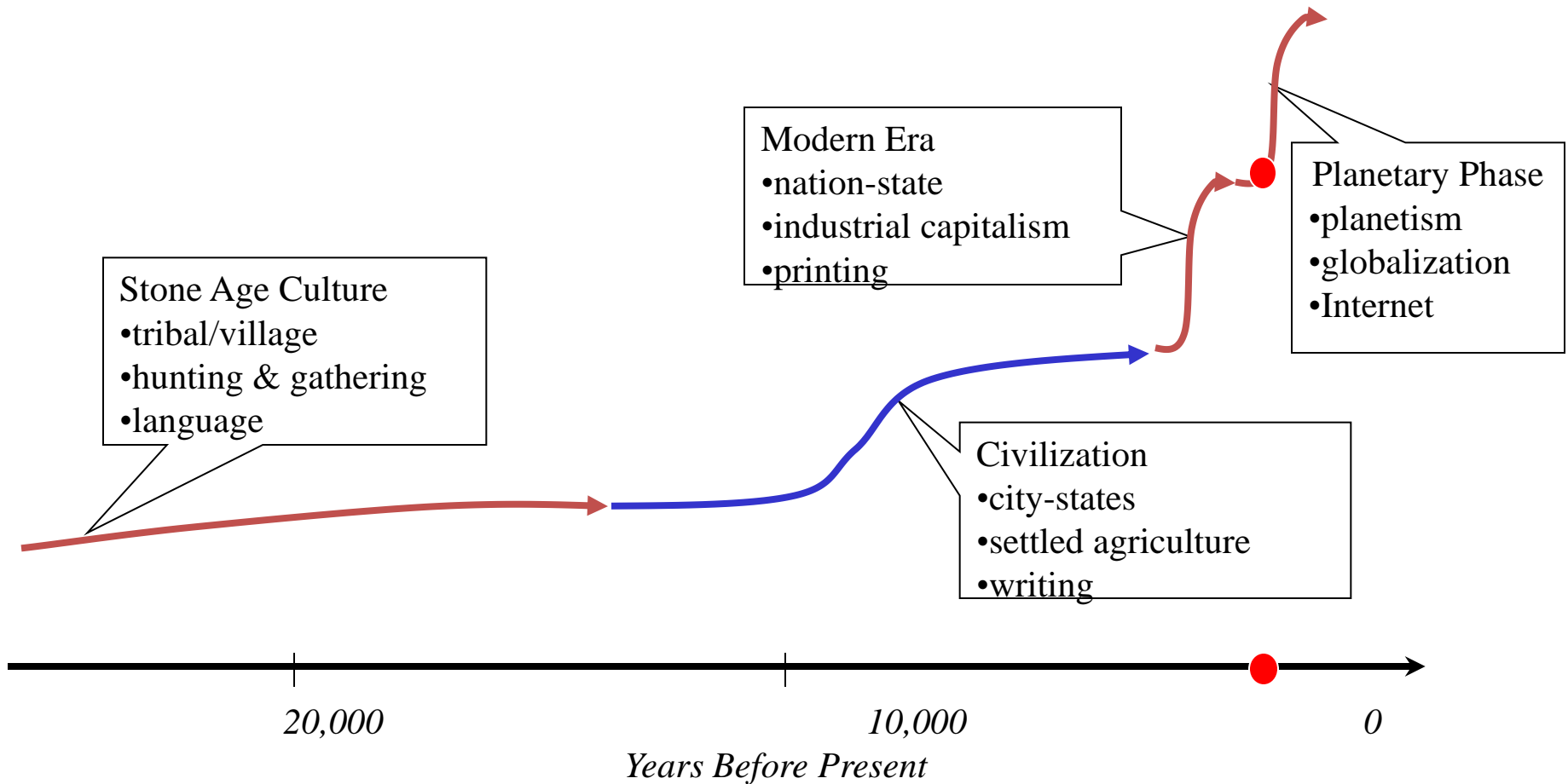
Global Network for GTI

Begun in 2003 by Tellus/SEI



Historical Transitions

Raskin, et al. 2002



Four Selected Visions of the Future

Market Forces

Market optimism, hidden and enlightened hand



Policy Reform

Stewardship through better technology and management



Fortress World

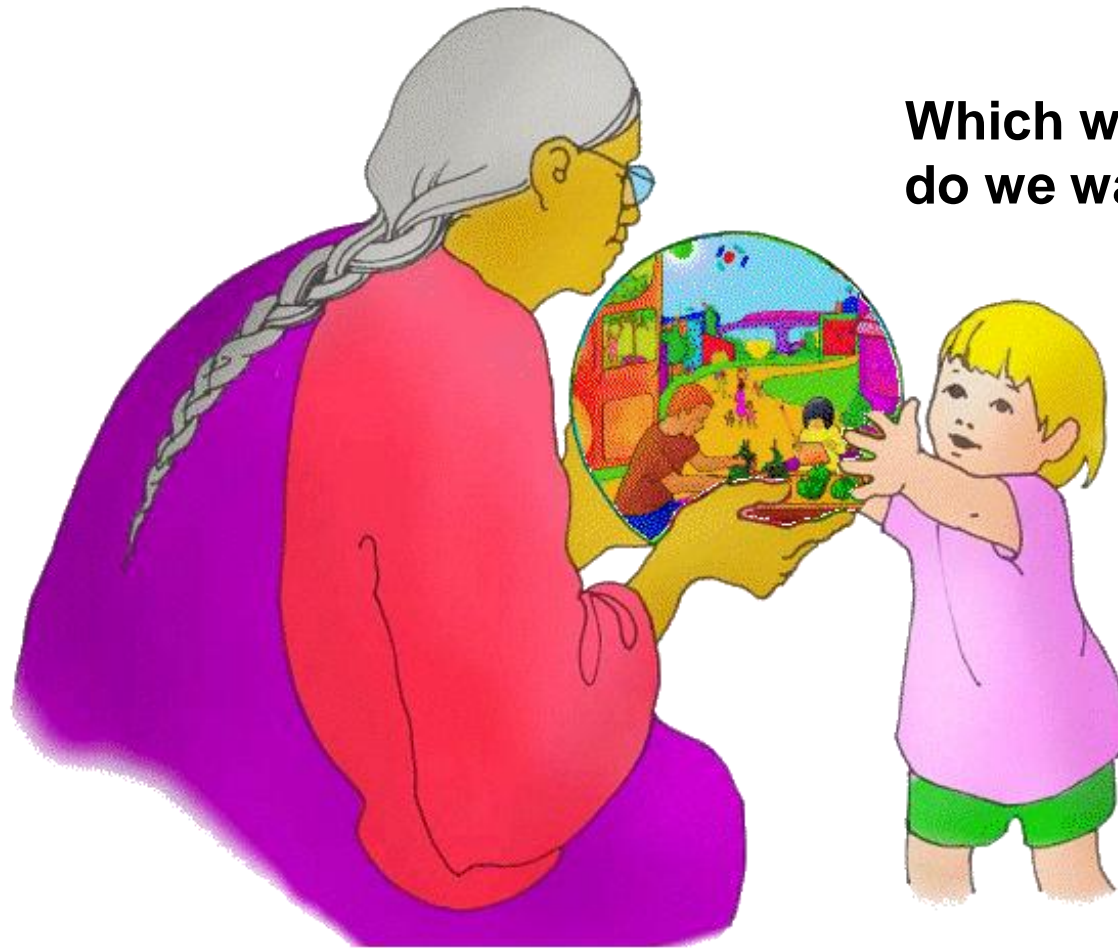
Social chaos, fragmentation, authoritarian “solutions”



Great Transition

Progressive social evolution, human solidarity and the art of living





**Which world
do we want?**

The future is always present, as a promise and a lure.

Karl Popper