

Sustainability

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What is it?

Definitions vary but a good one is **“an activity that meets the needs of the present without compromising the ability of future generations to meet their own needs”** (from the 1987 UN Conference on Environment and Development).

A number of businesses have formal sustainability efforts within the company, run by high level managers. Some use the “triple bottom line” for reporting traditional returns and sustainable efforts: **Environmental, Economic, and Social Success**. In addition, state and local governments and NGOs have established sustainability offices.

Expanding Environmental, Economic and Social categories

- Environment (climate change, biodiversity, pollution).
- Resources (energy, water, food, materials).
 ----- Above are commonly discussed components of sustainability but it also includes those below.
- Demographics (population growth, migration and immigration, age distribution).
- Economics/Finance (development, trade, debt, infrastructure, institutions).
- Globalization/Governance (governance and civic structure, poverty, prosperity, security, peace, culture).
 ----- Below are the primary tools to address sustainability.
- Science/Technology (information, bio, materials, automation).
- Social/Cultural (communication, behavior, change, learning).

Examples of Sustainable Measures and Indices

Metrics	Indices
Emissions (pollution/CO ₂), energy use Progress in literacy, health, labor	Dow Jones Sustainability Indexes (several) GRI Sustainable Reporting Guidelines

Why is it important to understand the basics of sustainability?

- Several long term trends are not sustainable under current approaches and assumptions.
- The increasing interaction among changing trends brings new uncertainties and options.

How can we better understand the concepts of sustainability?

- Review events in history, anticipate the future, and understand why you cannot just extrapolate the past.
- Identify early warning signals and develop a long-term perspective by practicing “forward thinking”.

Representative Questions about Sustainability

- Will technology and innovation avoid predicaments (as they have done in the past)?
- What if there are no good alternatives so some decisions represent dilemmas to be managed, not solutions?
- How do we fix certain problems without destroying the economy or culture (e.g., global climate change, water and energy availability, efficient and effective government, national security and personal freedom.
- Is “sustainable resilience” a better term – this allows for experiments that involve improvements and failures?

Anticipating the Future

- Be aware of the major driving forces (groups of trends), uncertainties, wildcards, assumptions.
- Use scenarios or “alternate realities” (scenes or stories of realistic choices for the future) to test your ideas.
- Read widely and pay attention to the extreme views as well as the “balanced” views.

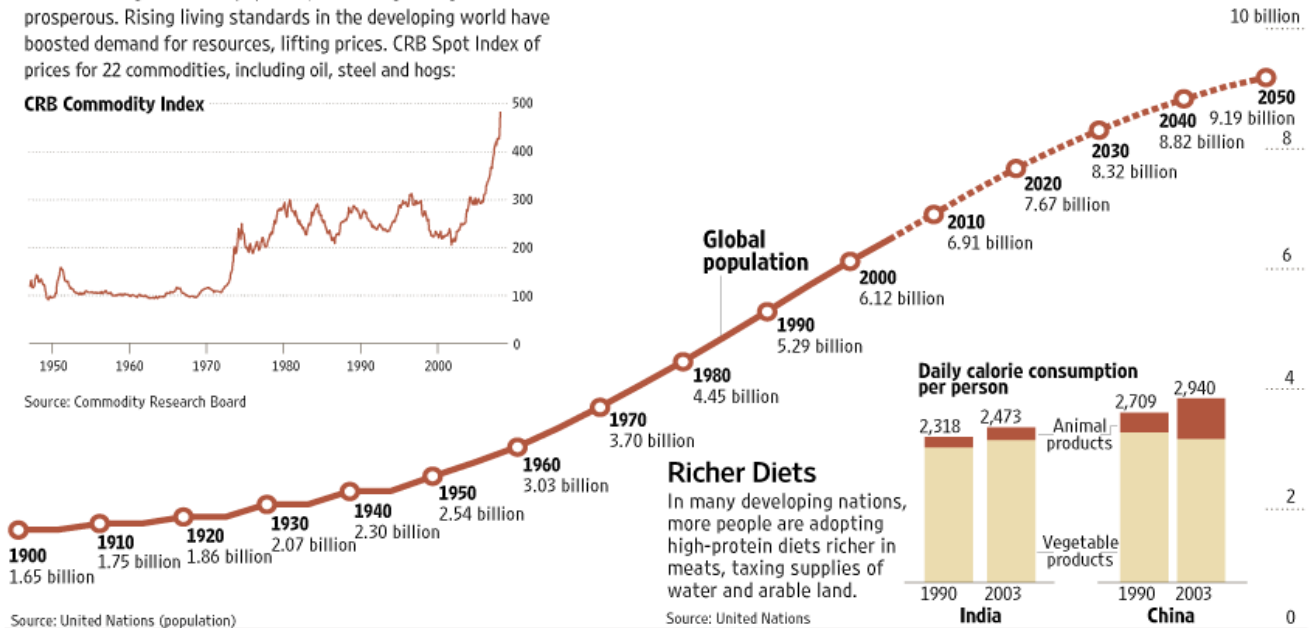
Conclusions

- Understanding the future improves today’s decisions. Sustainability is a defining term for the future.
- The world is becoming more **volatile, uncertain, complex, and ambiguous – VUCA**
- We can live with that situation by being **flexible, agile, innovative, and responsive - FAIR**
- Change management is key – some change is accepted (iPods) and some is not (your job disappears).
- Defining “tradeoffs” as a strategy may be insufficient to deal with the difficult “dilemmas” we can anticipate.

The Global Resource Squeeze

As the world grows more populous, it is also growing more prosperous. Rising living standards in the developing world have boosted demand for resources, lifting prices. CRB Spot Index of prices for 22 commodities, including oil, steel and hogs:

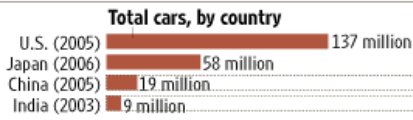
CRB Commodity Index



Source: United Nations (population)

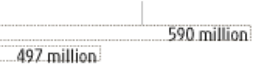
Auto Planet

Car ownership rates in China and India are rising, which could add significant new pressure on oil supplies.



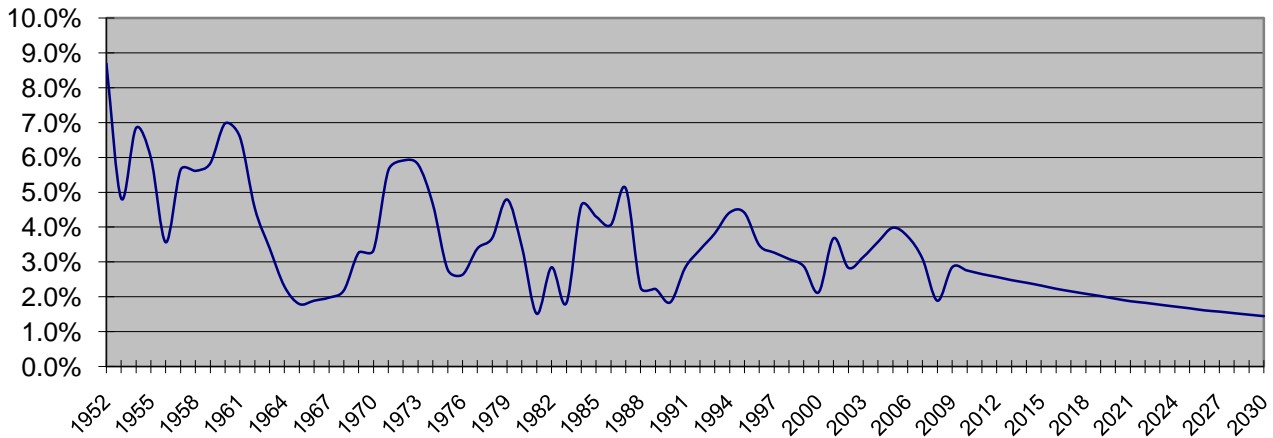
Sources: International Road Federation; Japan Automobile Manufacturers Association; Japan Statistics Bureau.

Number of cars if per-capita ownership rates rose to U.S. levels



From Wall Street Journal - New Limits to Growth Revive Malthusian Fears. March 24, 2008, Page A1.

Arizona Population Annual % Increase 1951-2000 US Census, 2001-2007 AZ DES Projections 2008-2030 from DES (March 2006)



Further Reading

1. Sustainability for Arizona: The Issue of Our Age (ASU Morrison Institute) - <http://morrisoninstitute.org/>
2. Anticipating the Future (course) <http://cals.arizona.edu/futures/ref/sustainability.html>
3. Business Week on green business - http://www.businessweek.com/green_business/newsletter/index.html
4. 3M - Sustaining our Future: Environmental, Social, Economic Sustainability - <http://3M.com/sustainability>
5. Center for Sustainability (organized by Aquinas College) - <http://centerforsustainability.org>
6. United Nations Division for Sustainable Development - <http://www.un.org/esa/sustdev/>
7. Guidance on how to pursue a more sustainable future - <http://www.sustainable-development.gov.uk/>