

What is Sustainability? vol.3 - Vision & Indicators

Japan for Sustainability
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3 Lectures

- My Goal:
 - What is sustainability? Grasp a big picture & explain it in your own terms.

- Game Plan:

_____	_____	_____
vol.1	vol.2	vol.3
Basics	Communication	Vision/Indicators

news on sustainability	sustainable state in 2050	

Homework => Report

<Mission>

Let's suppose the next World Summit on Sustainable Development will be held in 2007, and there each country is required to present its vision and indicators for 2050. We are just commissioned by Prime Minister to present a draft.

1. Choose one area: Energy (& global warming), food, waste, bio-diversity, resource-productivity, equity, satisfaction...
2. Describe the vision for 2050 and your strategy to realize it.

<Reference>

JFS Sustainability Indicator

<http://www.japanfs.org/en/view/index.html>

Sustainable Sweden 2020

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National Strategy for Sustainable Germany

http://www.nachhaltigkeitsrat.de/service/download_e/pdf/Perspectives_for_Germany.pdf

Today

1. "Limits to Growth" – Overshoot 5 m
2. Workshop – vision & indicators 60 m
 - ✓ Group work & discussion
3. Wrap up 5 m

“Limits to Growth – The 30-Year Update”

Some quotations

“We worry that current policies will produce global overshoot and collapse through ineffective efforts to anticipate and cope with ecological limits.”

“Ecological overshoot seems to us to be a much more important concept in the 21st century than free trade. But it is far behind in the fight for public attention and respect. This book is a new attempt to close that gap.”

Key points

1. **10 different pictures** of how the 21st century may evolve
2. Purpose is to **encourage learning, reflection, and personal choice.**
3. Report will be updated in 2012 – there will be abundant data to test the reality
4. “You have to form your own opinion about causes and consequences of growth in the human ecological foot print.”

World 3 Model – looking at dynamic systems

- ✓ Sets of interconnected material and immaterial elements that change overtime
- ✓ Many elements of demography, economy, and the environment as one planetary system
 - Stocks and flows
 - feedback loops
 - sources & sinks
 - thresholds
 - Overshoot

=> See demo simulation soft “Stella”

“Overshoot”

<daily examples>

hangover, driving on icy road, CFCs, stock market...

<Causes>

- Growth, acceleration, rapid change
- Limit, barrier
- Delay or mistake in the perceptions and the responses that strive to keep the systems within its limits

<Results>

- Crash of some kind
- Deliberate turnaround, correction, careful easing down

World 3 Model - Lesson

- When do we start observing the effect of “overshoot”?

⇒ First decade of the 21st century will still be a period of growth.

⇒ It will take another decade before the consequences of overshoot are clearly observable and two decades before the overshoot is generally acknowledged.

Workshop - Vision & Indicator

<Mission>

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<Process>

- 5 persons * 4 teams (Japan, China, Thai, Indonesia)
- Area: Energy (& global warming), food, waste, bio-diversity, resource-productivity, equity, satisfaction...
- Individual work (5 minutes) – Post It
- Group work (30 minutes) – Flip chart
- Presentation & Discussion (25 minutes)

Workshop - Vision & Indicators

Presentation example

<Vision – Polestar>

- CO2 emissions will be ...
- Energy mix will be...



<Indicators>

- Energy consumption per capita
- % of nuclear energy for electricity



Workshop - Vision & Indicators

<To start your thinking... >

1. Vision –

In 2050, we want the situations concerning energy will be like this....

When it comes to oil/nuclear energy, ...

When it comes to renewable energy, ...

The CO2 emissions level is where ...

Once we achieve this vision, we will be able to ...

2. Indicator –

We recommend YY as an indicator to measure our progress toward this vision.

YY is...

It can tell us

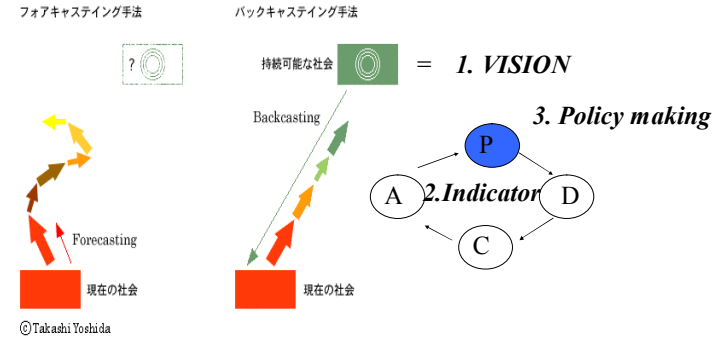
The reason why we think YY is better than ZZ is that....

Other possible indicators are...

What is vision?

- Different from “forecast” / “prediction”
- “The Polestar”
- An ideal state
 - Where you want to go
- Guide us through the journey
- Inspire best brains

Vision, Indicator, and Policy making



Example:

The UK’s “Headline Indicators”

INDICATOR	SINCE 1970	SINCE 1990	ANNUAL TREND	UPDATED
H1 Economic output	✓	✓	Improved	2000
H2 Investment	✗	✗	No change	2000
H3 Employment	⚡	⚡	No change	2001
H4 Poverty	✗	⚡	No change	2001
H5 Education	⚡	✓	Improved	2000
H6 Health	✓	⚡	No new data	1998
H7 Housing	⚡	⚡	No new data	1996
H8 Crime	✗	✗	Deteriorated	2000/2001
	✗	✓	Improved	2000/2001
H9 Climate change	✓	✓	Improved	2000
H10 Air quality	⚡	✓	Improved	2000
H11 Road traffic	✗	⚡	No change	2000
H12 River water quality	⚡	✓	Improved	1999
H13 Wildlife (Farmland birds)	✗	✗	No new data	1999
H14 Land use	⚡	⚡	Deteriorated	2000
H15 Waste	⚡	✗	No new data	1997/98

Keys for ISD (Indicators for Sustainable Development)

- **Systemic**
 - sources, sinks, change rates, thresholds, feedback ...
- **Integrated**
 - environmental, economic, social, individual
- **Long-term**
 - minimum one generation

by Alan Atkisson

ISD: DIFFERENT AT DIFFERENT SCALES

Global: CO2, Population, Food Production

National: GDP, HDI, ESI, Employment

Regional: Baltic Sea Fisheries & Industries

Local: Transit, Energy Use, Health Stats

Neighborhood: # of Abandoned Buildings

by Alan Atkisson

Standards for assessment of progress for sustainable development

The “Bellagio Principles”

<http://www.iisd.org/pdf/bellagio.pdf>

1. Guiding Vision and Goals

(clarity about sustainability)

6. Openness

(transparent methods and sources)

2. Holistic Perspective

(systems and subsystems)

7. Effective Communication

(simple, and audience focused)

3. Essential Elements

(ecology, economics, social equity)

8. Broad Participation

(diversity, completeness, link to policy)

4. Adequate Scope

(temporal and spatial)

9. Ongoing Assessment

(iterative, adaptive, learning-focused)

5. Practical Focus

(clear standards, manageable tools)

10. Institutional Capacity

(support, maintenance, development)

What have we achieved?

- My Goal:
 - “What is Sustainability?”
 - Grasp a big picture / explain it in your own terms.

=> Explain it in your own terms to the person next to you.

Report

<Mission>

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Lessons from World3

- ✓ Change the “structure”
 - Change feedback structure/information links in the system
 - Change the content and timeliness of the data that actors in the system have to work with
 - Change the ideas, goals, incentives, costs, and feedbacks that motivates or constrain behavior
 - In time, system with a new information structure is likely to change its social and physical structures.
 - It may develop new laws, organizations, technologies, people with new skills, machines and buildings.
 - Such a transformation need not be directed centrally; it can be unplanned, natural, evolutionary, exciting, joyful.