

Sustainability:

- Explain it in your own terms

2005/5/10

Japan for Sustainability
Manager

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2 Lectures

- My Goal:
 - “What is Sustainability?”
 - Grasp a big picture / explain it in your own terms.
- Game Plan:
 - Latest Thinkings - Basics
 - Workshops to develop vision and indicators
 - “Limits to Growth”

1st lecture -- Lessons

- 1) What is Sustainability?
 - Variety of definitions
 - Conditions + Values (participation, equity, wellbeing, etc.)
- 2) How are countries responding?
 - National indicators and strategies
- 3) How can we measure and track it?
 - Variety of indicators
 - Cluster analysis

Today

1. “Limits to Growth” – key points 15 m
2. Workshop – vision & indicators 70 m
 - ✓ Individual work
 - ✓ Group work & discussion
3. Questionnaire 5 m

“Limits to Growth – The 30-Year Update” - why another book?

1. **Stress that humanity is in overshoot and that the resulting damage and suffering can be greatly reduced through wise policy.**
2. Offer data and analysis that contradict prevailing political pronouncements that humanity is on the correct path for its 21st century.
3. **Inspire the world’s citizens to think about the long-term consequences of their actions and choices – and muster their political support for actions that would reduce the damage from overshoot.**
4. Bring the World3 computer model to the attention of a new generation of readers, students, and researchers.
5. Show what progress has been made since 1972 in understanding the long-term causes and consequences of growth.

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.”

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 is is far behind in the fight for public attention and respect. This book is a new attempt to close that gap.”

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

“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>

Let's suppose the next World Summit on Sustainable Development will be held in 2005, 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.

<Process>

- 5 persons * 7 - 9 teams
- Area: Energy (& global warming), food, waste, bio-diversity, resource-productivity, equity, satisfaction...
- Individual work (10 minutes) – Post It
- Group work (30 minutes) – Flip chart
- Presentation & Discussion (25 minutes)

Workshop - Vision & Indicators

Presentation example

<Vision – Polestar>

• Energy mix will be...

• CO2 emissions 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 a 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

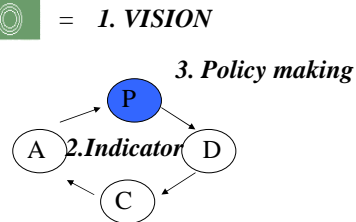
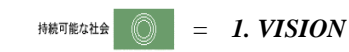
Vision, Indicator, and Policy making

フォアキャスト手法



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バックキャスト手法



Example: The UK's “Headline Indicators”

INDICATOR	SINCE 1970	SINCE 1990	ANNUAL TREND	UPDATED
11.1.1. Economic output	✓	✓	Improved	2000
11.2. Investment	✗	✗	Stagnant	2000
11.3. Employment	✗	✗	Stagnant	2001
11.4. Poverty	✗	✗	Stagnant	2001
11.5. Education	***	✓	Improved	2000
11.6. Health	✓	✗	No new data	1998
11.7. Housing	***	✗	No new data	1996
11.8. Crime / Violent	✗	✗	Deteriorated	2000/2001
Violence, burglary	✗	✓	Improved	2000/2001
11.9. Climate change	✓	✓	Improved	2000
11.10. Air quality	***	✓	Improved	2000
11.11. Road traffic	✗	✗	Stagnant	2000
11.12. River water quality	✗	✗	Improved	1999
11.13. Wastes (landfill, burnt)	✗	✗	No new data	1999
11.14. Land use	***	✗	Deteriorated	2000
11.15. Waste	***	✗	No new data	1997/98

Standards

The “Bellagio Principles”

- | | |
|--|--|
| 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.

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.