



SVENSKA ARALSJÖSÄLLSKAPET

Swedish Aral Sea Society



14. Personal change and Transition of societies

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There is much we need to change to become sustainable!

Use less resources

Use less energy

Recycle all we have used - "waste"

Use things together

Travel in new ways

etc

etc

... ..

I The processes of individual change

Theories of individual change

Individual behaviour change is *not* foremost a question of knowledge and rational choice. It rather depends much on:

- **social interactions**
- **lifestyles**
- **norms and values**
- **support from tailored information**
- **policies**
- **technologies**

Resistance to change

- The natural tendency of most individuals is to **preserve what they have** rather than trying something new, even if it is expected to be better.
- **Status quo has a higher value**, change is uncertain, and requires an effort. As a result most people are habitual.
- As change does not happen the **consequence of not changing is postponed to the future**. Sometimes this is serious as in the economic crisis, but it is equally serious for many environmental issues, including the on-going global warming.

Perception of risk

- Perception of risk is mostly **very irrational** and depends on other factors than on carefully calculated data.
- Risk may be **ignored**, e.g. when it comes to car driving or bad habits for health. Risks may also be **exaggerated**. For example air travel is perceived as dangerous by many although it is far safer than the car trip to the airport.
- **Risk of climate change** has been calculated by the IPCC as very high, about 50% risk of more than 2 degrees global warming. This risk is seldom well understood.

Reactions to threat

- **Risk may be perceived as very real.** Thus when patients who had survived a heart attack were told by their doctors that they had to change behaviour to avoid an almost certain imminent death there were two kinds of reactions to threat.
- **Some faced the danger,** learned much about heart illness and changed behaviour.
- Another group was unwilling to change, **disregarded and played down the danger** and did not change. Today these patients are offered a program to learn a new behaviour.
- A similar split have been seen for **climate change:** Some face the danger, learn about it and change, but many rather avoid the topic and play down the risks.

Incentives, which lead to behaviour change

- Behaviour change has been studied as part of health research.
- **Information** that a behaviour (smoking, drinking) is damaging does not automatically lead to change. Information alone seems to have very little effect.
- **Regulation** by itself is neither an important incentive. For example the law on obligatory safety belts in cars did not have an immediate effect.
- Change is more readily accepted if it is **voluntary** and it is then also more long-lasting.

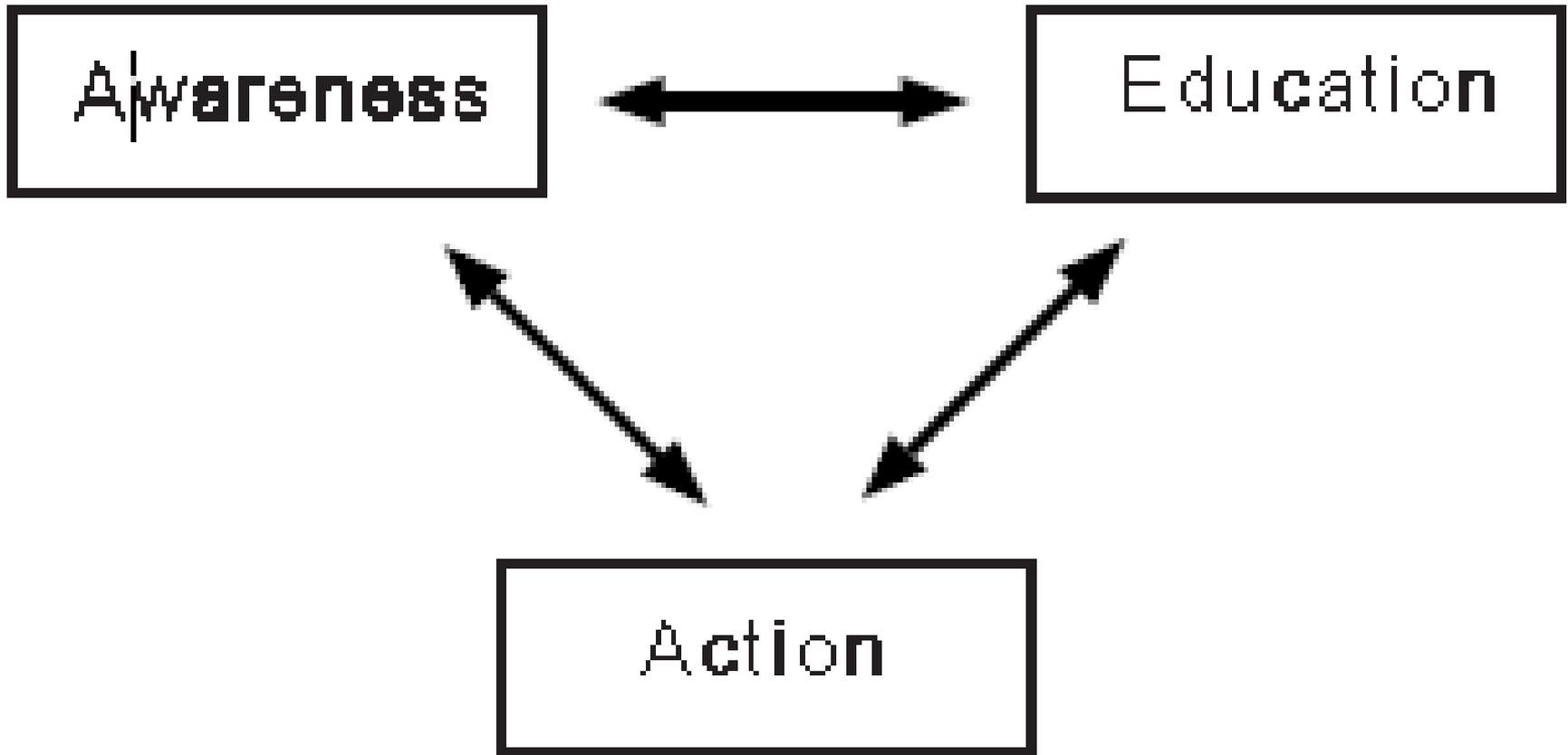


Help create a
world with less
cancer and
more **birthdays.**

Stop smoking. A poster by the American Cancer Society.

The change process

- Environmental consequences are **typically far away, often both in time and space**, and knowing them does not lead to change. **Information** may lead to *increased awareness*, which is followed by behaviour change.
- Environmental research suggests that it is a *new behaviour*, which leads to *new knowledge*, which is followed by a *change in attitude*.



Relation of awareness, knowledge and behaviour (action) is complicated. It is not often that knowledge leads to a different behaviour. In practice, it is rather that new behaviour leads to new knowledge, which, if deepened, leads to a change in attitude.

Antecedents are important

- A typical change process starts in the **practical situation**. The concrete situation, the antecedents, before the effort to induce a change is important.
- The practical conditions should be such that the new behaviour is **easily accessible**. It is easier to stop smoking if there are no cigarettes around.
- The environmentally adverse behaviour should be difficult to carry out, while the **good behaviour should be easy**.

Recycling Bins



Easily accessible

The consequences of a behaviour change

- Since the effect on the environment itself seldom is immediate one needs to construct **“artificial” consequences** to promote behavioural changes.
- ***Economic incentives*** are extremely important. It is crucial that environmentally good behaviours should be less expensive than environmentally bad.

Proper social norms

- A first condition for change is **good practical situation!** E.g. provision of kerbside recycling will raise recycling rates without any underlying shift in culture or attitudes.
- The second most important determinant is **proper social norms**. If his/her neighbour does it it can be regarded as a proxy for the extent to which the behaviour has become a social norm.

Summary: To achieve a change in behaviour

- Arrange the **practical situation** so the new behaviour is easy to carry out.
- The new behaviour should be profitable, that is **economically better** than the old one, e.g. by new charges, taxes or subsidies.
- Enough members of the society should adopt the new behaviour so it becomes a **social norm**.
- This may lead to knowledge of the reason for the new behaviour and a **new awareness** in society.

II Social change and transitions of societies

Civilisation changes

- Large social transformations occur repeatedly in history.
- From an **agricultural society** to an **industrial society**
- From an **industrial society** to a **service society**.
- This development has been caused by technological and organisational developments, such as large-scale production, new machinery, and automation, but equally important is access to new resources not the least fossil energy. The transitions are also characterised by a **steadily increased use of resources**.

Change in the social order

But social change also refers, equally important, to a change in the organisation of society.

- from **authoritarian** to **democratic** government
- from **feudalism** to **capitalism** and market economy
- the development of the **welfare** state
- rise of the civil rights movement and acceptance of **human rights**
- development of the **environmental protection** movements
- **globalisation**, and large-scale use of information technologies

All these changes may be included in **modernisation**, the processes that take a society from traditional to a modern. Modernisation eventually seems to replace the key position of the family in society with the individual, and reduces the role of the church and see a growth of a more secular culture.

Revolution or evolution

- The question of social change has since eternity occupied thinking.
- Is it a sudden change, **a revolution**, by struggle and fight?
- Or is it a slow change, **an evolution**, by political activism and persuasion?

Political changes

Political changes include

- ***de-colonisation,***
- increased ***global cooperation and trade***
- ***less concern*** with military power
- ***economic growth*** as a primary political goal

- After the end of the Cold War a majority of inhabitants in CEE were all positive to the changes, but very soon sentiments changed and many missed the old system. It has taken close to a generation to adapt to the new social order, an adaptation still going on.



Fall of the Berlin Wall,
November 1989. An Eastern
guard speaks to a Westerner
through a broken seam in
the wall. Both were smiling,
representing the jubilant
spirit of the day.

Source: Wikipedia. CC
Photo: Sharon Emerson

Future shock

The future shock concept was introduced by Alvin Toffler in 1970 to describe when persons perceive

"too much change in too short a period of time"

- The accelerated rate of technological and social change and information overload could leave people disconnected and suffering from "shattering stress and disorientation".
- A similar concept is *culture shock*. It is the alienation and anger, which may occur when a person is transferred to a new culture. Culture shock is most often used in connection with migration.

How many are needed to achieve a change?

- One study proposes that when just 5% of a society accepts a new idea, it becomes "embedded".
- When 20 % adopt the idea, it is "unstoppable."
- The study also showed that it normally requires 50 % of the population to be "aware" of the idea in order to reach the 5 % who will adopt it.

Diffusion of innovations

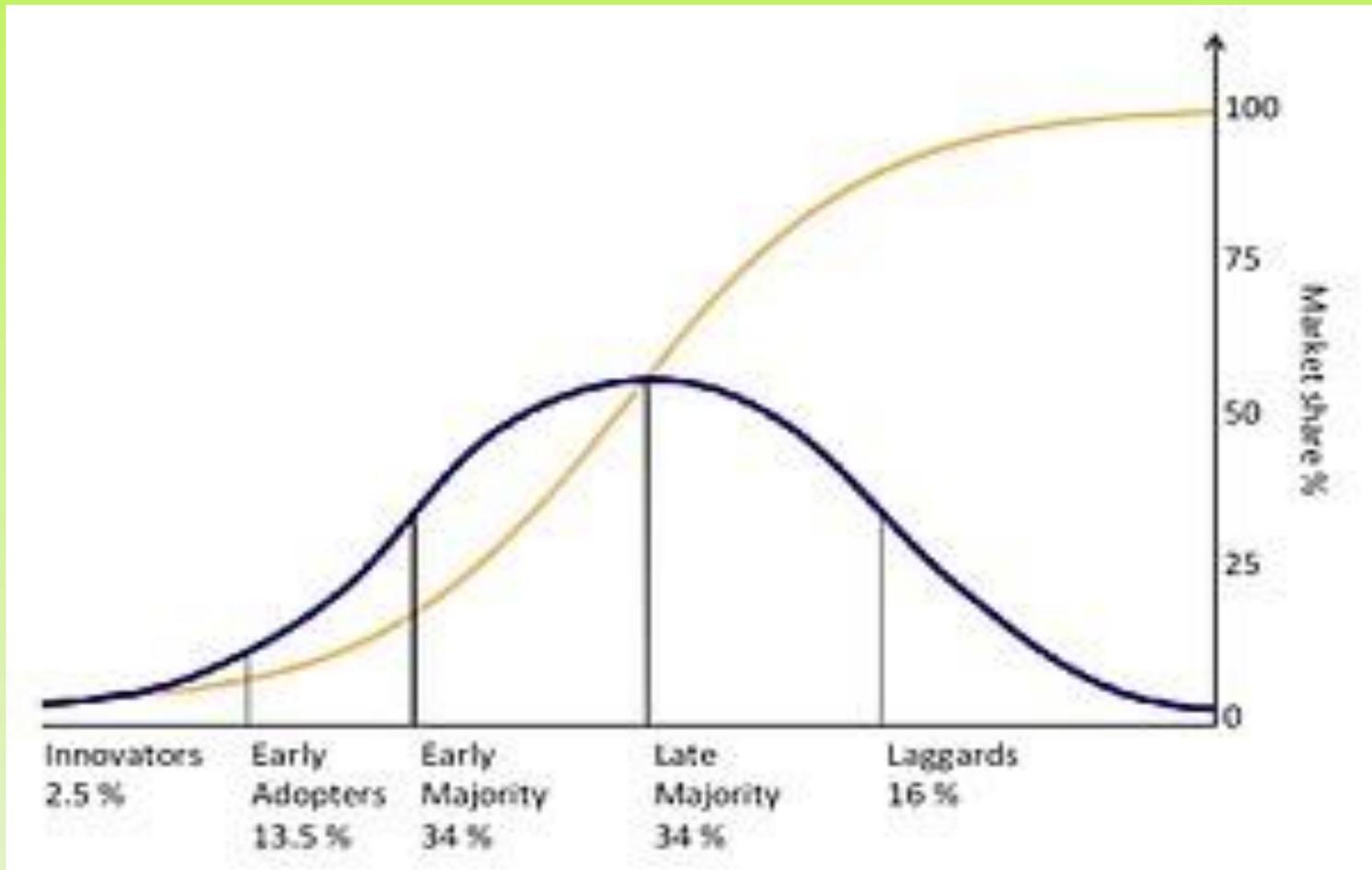
Everett Rogers published 1962 his theory of how innovations are adopted in a society, among individuals and organisations. Individuals progress through five stages:

- knowledge,
- persuasion,
- decision,
- implementation, and
- confirmation.

Diffusion of innovations

The main elements that influence the spread of a new idea are the innovation itself, communication channels, time, and the social system. It progresses through several actors known as:

- innovators,
- early adopters
- early majority
- late majority
- laggards



The diffusion of innovations according to Rogers (1962). With successive groups of consumers adopting the new technology (shown in blue), its market share (yellow) will eventually reach the saturation level. Graph by Tungsten based on Rogers, E. (1962) Diffusion of innovations. Free Press, London, NY, USA

Personalities in relation to change

- **Reactionaries** are very sceptical to all kinds of changes,
- **Laggards** are slow to change and do not want to get involved.
- **Mainstreamers** constitute the biggest group in most situations and come after those who set the path.
- **Change agents**, the forerunners are the key individuals when it comes to change.
- **Transformers** are able to implement change, often authorities.
- **Innovators** more concerned about their own ideas, but still very important, and others who are just a nuisance.

Actors in social change

- **Social movements** play a vital role as discontent members of society push for a change.
- **Those with vested interests** protest when they understand that they will suffer in case the proposed change is brought about.

Transition to a sustainable society

- Instead of adapting to the existing limits to growth and resource flows which the environment can cope with policies in the world is promoting economic growth, as an overarching goal.
- It would be more reasonable to focus on energy and demography than growth. The economist Nicholas Stern concluded (2006) that it is far better to invest about 1% of GDP in mitigation climate change now, instead of suffering much worse costs in 20 or so years.
- But the world is postponing changes. They are perceived as costly and less pleasant even if some may accept them as unavoidable in the longer term.
- In this way the transition to a more sustainable society is similar to the economic crisis. Loans are taken to keep life style unchanged. In the meantime consequences become more serious, as the change is postponed.



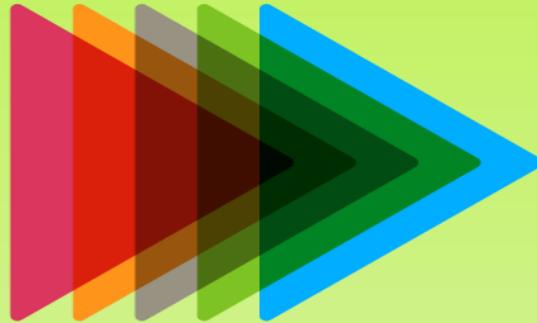
Big History and Great Transition

Visions of a Sustainable World
Interview with the GTI Director

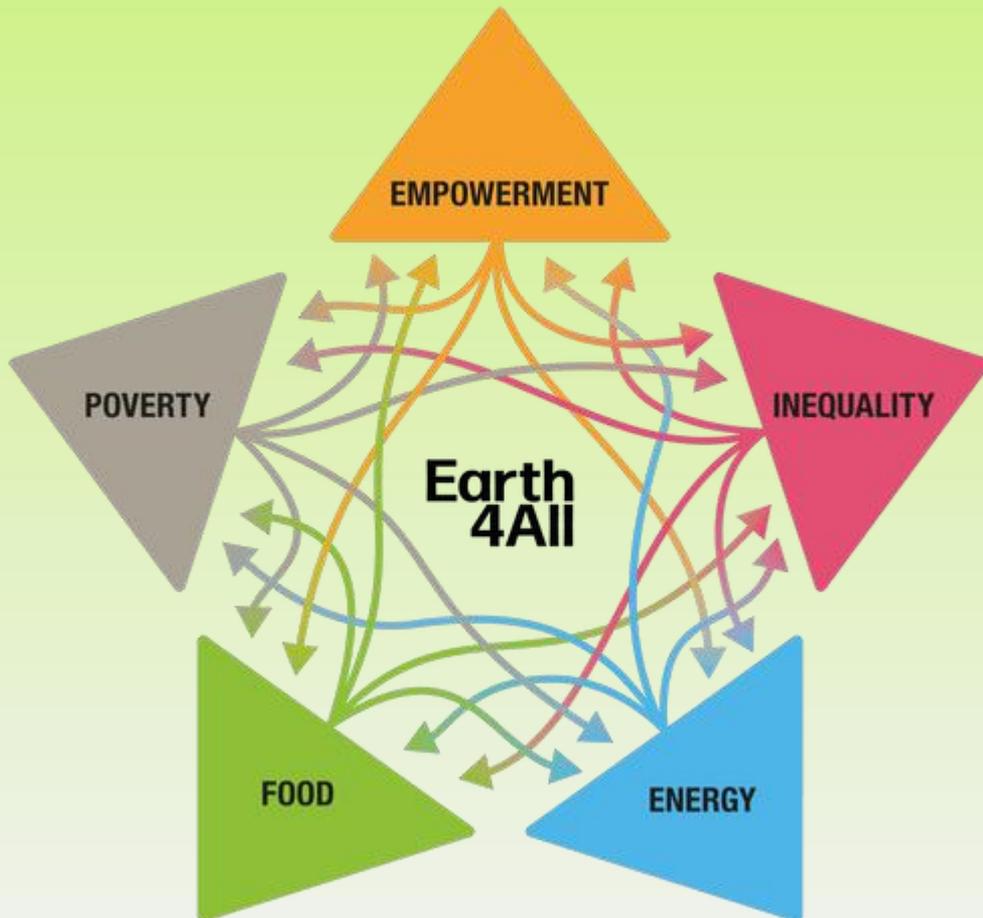
Journey to Earthland: The Great Transition to Planetary Civilization

<https://www.greattransition.org/>

Earth 4All



The dominant
economic model is
destabilising
societies and the
planet.
It is time for change.



<https://earth4all.life/>

BREAK

**When did you make a major change in your life?
What did you change?**

Why did you change? Was it difficult?

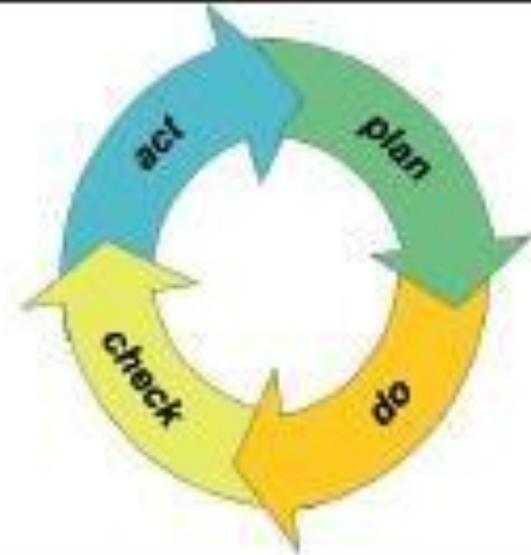
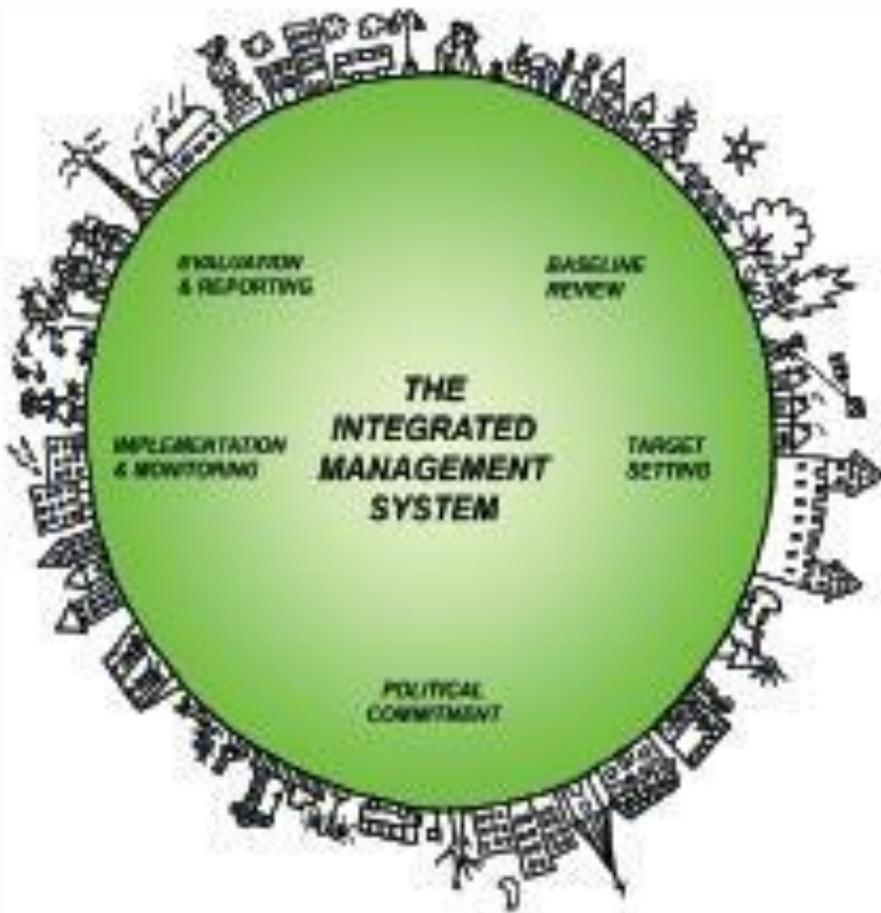
**Identify a change in your society which led to
increased sustainability!**

III Managing change

Work conditions for an organisation in change

- The whole organization need ***strong support from the leadership.***
- ***institutional learning,*** as a crucial work strategy.
- ***Integrated work*** from all sectors.

Management systems

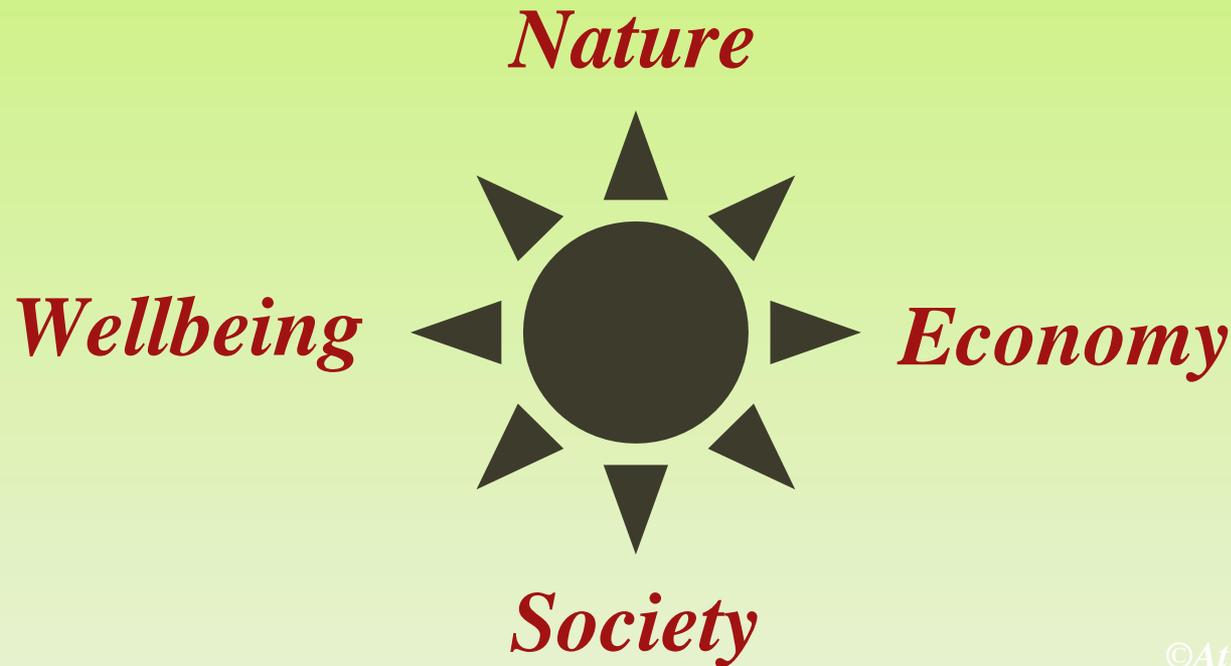


Managing Urban Europe (MUE 25) developed a five-stage management cycle (left) for urban sustainability work based on the original Deming circle (right).
<http://www.localmanagement.eu>

The Compass:

A Sustainability Framework

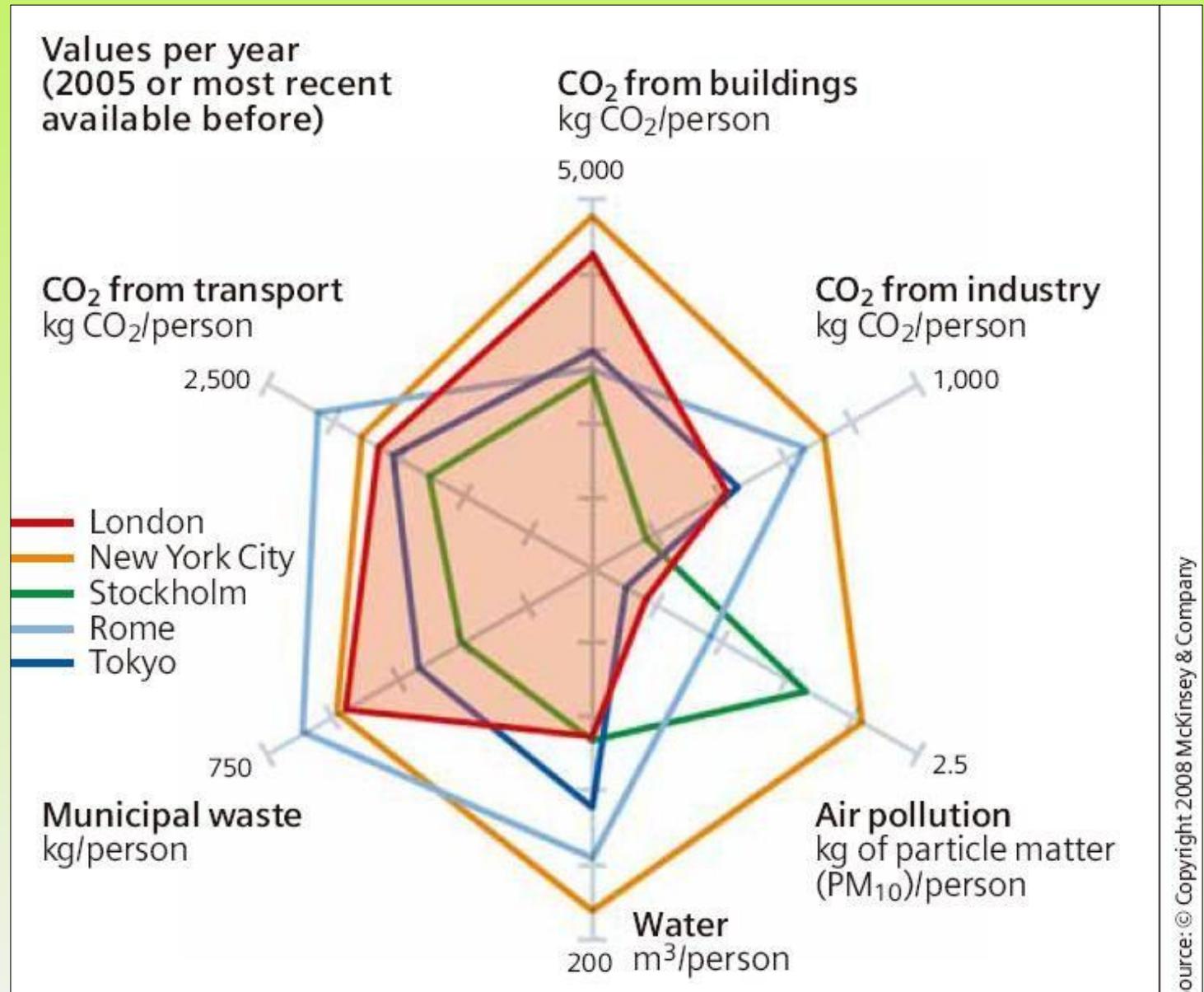
Alan AtKisson, 2004



©AtKisson, Inc.

*Uses: Introduce sustainability ... assess it ...
develop sustainability indicators ... communicate results ...*

Urban environmental indicators (examples)



Baltic University Urban Forum project, BUUF

Conclusion: for cities SD is best operationalised as resource management

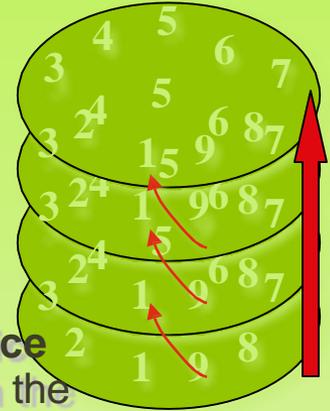
- 1. Material resources - all material flows in the municipality**
- 2. Urban space resources – all area planning in the municipality**
- 3. Human resources - all inhabitants in the municipality**
- 4. Societal resources - the city administration and all its institutions**
- 5. Economic resources - companies and all other economic units**

**These resources are not exchangeable,
and they are all limited.**

***Sustainable development is here defined as
proper management of limited resources***

9 Critical Steps for Doing Sustainable Development (ISIS method of AtKison)

1. Understand systems in general
2. Understand sustainability in general
3. Distinguish between "development" and "growth" in goal-setting
4. Have adequate information on current developments and trends for the system in question ("Indicators")
5. Understand the dynamics of the specific system in question ("Systems Analysis")
6. Identify best-practice changes to make in the system ("Innovation")
7. Understand how to make change in that system ("Strategy")
8. Successfully implement change ("Agreements and Actions")
9. Continuous monitoring and adaptation ("Strategic Evaluation")



Pyramid workshops

The procedure is used in so-called **pyramid workshops** where the participants work together for learning about and designing change in a system. The workshop consists of building a pyramid of four sides and five layers. The layers correspond to the steps in the ISIS method, and the four sides to the frames of the system using the compass.





Natural Step Foundation.

- Another well-known method for managing a change to increased sustainability has been worked out by the **Natural Step Foundation**.
- The basis of the method are the four so-called **systems conditions** developed at Chalmers University of Technology in the early 1990s.
- Ways to fulfil the system conditions are worked out and a **plan for how to proceed**. Back-casting is made to identify partial goals in the project.

Successful change processes.

There are several ways to try to inspire and influence a person or a group to change. Scott Geller model of *actively caring* includes three factors:

- 1) self-esteem – I am valuable
- 2) empowerment and optimism – I can make a difference
- 3) belonging and ownership – I belong to a group

These factors may induce individuals to choose a new lifestyle. They may also make people actively recruit others to a new lifestyle, that is, to become **change agents** and help them to influence others to become involved.

IV. Education for Sustainable Development, ESD

**“Education is the most powerful
weapon you can use to change the
world.”**

Nelson Mandela



The 21st century teacher

What are the
necessary
competences?

8 Key competencies essential for sustainable development

- *Systems thinking*
- *Collaboration competence*
- *Futures thinking / Anticipatory Competence*
- *Critical thinking*
- *Values thinking*
- *Personal competence*
- *Strategic thinking*
- *Integrated problem-solving*

The 21st century teacher

What is
necessary to
know?

Relevant content?

SUSTAINABLE DEVELOPMENT GOALS



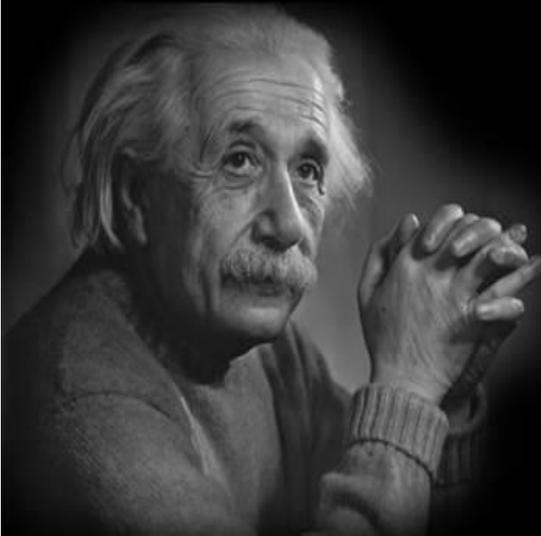
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“Social and economic development within planetary boundaries creating a decent and healthy life built upon fairness and social justice”

The 21st century teacher

How should
we teach
about these
issues?

**We cannot solve our
problems with the same
thinking we used when
we created them.**



Albert Einstein

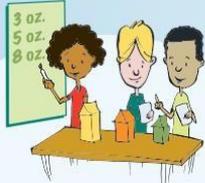
German Theoretical-Physicist

(1879-1955)

QuoteHD.com

Paths to 21st-Century Success

Essential skills at school



INVESTIGATIVE EXPLORERS
Developing research skills and using technology to find solutions



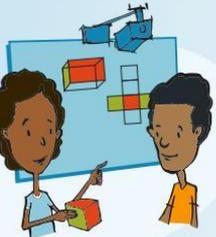
INNOVATIVE PROBLEM SOLVERS
Investigating real-world problems and finding creative ways to solve them



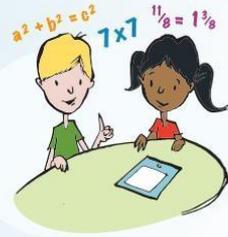
CREATIVE COMMUNICATORS
Exploring different points of view and using evidence to support and express ideas



VERSATILE READERS
Learning about the world with challenging fiction and nonfiction texts



CRITICAL THINKERS
Analyzing complex topics and learning academic vocabulary to navigate different subjects



RESOURCEFUL LEARNERS
Building a strong foundation of skills and expanding on those abilities every year

21ST-CENTURY COLLEGE AND CAREER SKILLS

Colleges and employers are seeking people to solve the problems of tomorrow. Here are **3 TOP SKILLS** students will need for college and career success in the 21st century:



ADAPTIVE PROBLEM SOLVING
Versatile individuals who approach problems in creative ways



COLLABORATIVE COMMUNICATION
Global thinkers who express themselves effectively and work with people all over the world



DIGITAL FLUENCY
Tech-savvy workers who use technical and digital media skills in their everyday work

There is much to change!

Transport

Bike or walk short distances

Use public transport for school or work

Use electric bike!

Vacation in Europe, Interrail

Take the train instead of flying

Carpool instead of owning a car

Lease a car if needed

Use the car together

Work from home once a week

Use biogas, hybrid or electric car

Food

Less meat, more vegetarian When
meat grazing or game

When fish, certified according to MSC

Walk or bike to the shop

Plan carefully; eat all, do not waste

Cook the residues

Seasonal food Ecological food

Locally produced food

Living

Use renewable electricity

Use sun, wind or wave electricity

Insulate the house more

Use energy efficient fridge and freezer

Turn off all standby e.g. computers

Always fill up your washing mashine

Use LED lamps everywhere

Grow your own food

**We are not
passengers**

**– We are the
crew**



**Thank you for your attention
during all these 14 lectures in
Sustainable Development and
Sustainability Science.**

**Do not forget the homepage
where you have all material
for the course:**

<http://www.aralsjon.nu/en/>