

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Institute for Environmental Decisions (IED) Natural and Social Science Interface (NSSI) ETH Zurich

Dr. Michael Stauffacher, Pius Krütli, Dr. Thomas Flüeler, Prof. Roland W. Scholz

Workshop Series: Strategic conflict management of large infrastructure projects
Workshop n° 1 Frankfurt/Main, 10-11 March 2007



Overview

- General (max 5 min):
Short overview of your organisation/ your scientific background/ your general research interests
- Specific (approx. 15 min)
Overview of main work related to the subject matter of the WS series (this can be your main research questions, some major findings or conclusions relevant for the joint discussions, your particular project settings etc.)

Our work within the structure of ETH Zurich

DUWIS
Department of
Environmental Sciences

IED

NSSI
Natural and Social
Science Interface

- Department of Environmental Sciences (as of 1987):
 - Anthroposphere; human-environment-systems as one focus
- Institute for Environmental Decisions IED (as of 2006):
 - 6 full professors from three departments
- Chair of Natural and Social Science Interface NSSI (as of 1993):
 - Questions of sustainable transitions of urban, regional, organisational systems with transdisciplinary processes
 - Method focus (e.g. embedded case study methods)
 - Theories how and when human systems (individuals, companies, communities, countries, etc.) act sustainably
 - Approx. 20 persons in total – four in RadWaste
- MSc Env. Sc. Major Human-Environment Systems (as of 2007)
 - Approx. 15 students/year, 50% from outside Switzerland
 - One core element: transdisciplinary NSSI case study

Persons (core team in RadWaste only)



Roland W. Scholz (RWS)

- Full Professor ETH Zurich, Chair NSSI
- Scientific background: Mathematics (Dipl.-Math.), Social Psychology (Dr.phil.), Cognitive Psychology (Dr.phil.habil.)



Michael Stauffacher (MSt)

- Senior researcher and lecturer
- Scientific background: Sociology (LicPhil., Dr.phil.)



Thomas Flüeler (tf)

- Associate senior researcher
- Scientific background: Earth and life sciences (MSc), Decision sciences (PhD)



Pius Krütli (pk)

- PhD student and lecturer
- Scientific background: Environmental natural sciences (MSc)

Our work in radioactive waste management (major)

- 2007-present: Transdisciplinary case study on stakeholder preferences with respect to involvement [RWS, MSt, pk, tf]
- 2006-2007: Transdisciplinary case study on the former siting project for LLW at the Wellenberg [RWS, MSt, pk, tf]
- 2006-present: Collaboration project with Swiss nuclear power industry on nuclear waste management [RWS, MSt, pk, tf]
- 2004-2007: European Commission FP7 project COWAM 2 [tf, pk]
- 1997-2002: Radioactive waste management in Switzerland. Patterns of decision making in complex socio-technical systems [PhD project tf; supervisor RWS]

Transdisciplinary case study at the ETH Zurich

- Starting in 1993, yearly transdisciplinary case studies directed by the chair NSSI
- Compulsory course for all students in the HES major (10 Credit points)
- "Learning to research environmental problems in a transdisciplinary setting" (transdisciplinarity: going beyond science, involving stakeholders from outside academia)
- Case study as laboratory for transdisciplinarity (TdLab)
- Up to now more than 20 transdisciplinary case studies in six universities and four countries (Switzerland, Sweden, Germany, Austria)
- Two NSSI case studies in RadWaste
 - 2006-2007: decision processes Wellenberg
 - 2007-present: international comparison of stakeholder preferences

Transdisciplinary project with the Swiss NP industry

- Socio-technical problem of site selection for radioactive waste
- Nuclear industry as partner (mutual learning process) but numerous contacts with other stakeholders, too (incl. opponents)
- Co-leadership (Prof. Scholz/ETH & P. Hirt/SwissNuclear)
- Sponsoring (joint definition of research questions)
- Project duration: three years (2/2006 – 12/2008)
- Two PhD theses
 - distributive and procedural justice [pk]
 - risk perception in context [N.N.]
- Numerous bachelor and master theses

Our major contribution to this field

- Transdisciplinary case studies a means for 'analytical mediation' and sustainability learning [as of 1994]
- Transdisciplinary case studies as functional-dynamic approach to 'participation' [as of 2000]
- Socio-technical approach to radioactive waste governance - integrating societal and geo-technical decision process perspectives [as of 2005]
- Development of a novel method to elicit stakeholder preference of decision processes [as of 2006], *see below*
- Working on the integration of cognitive, social-psychological and sociological approaches to risk perception [as of 2007]

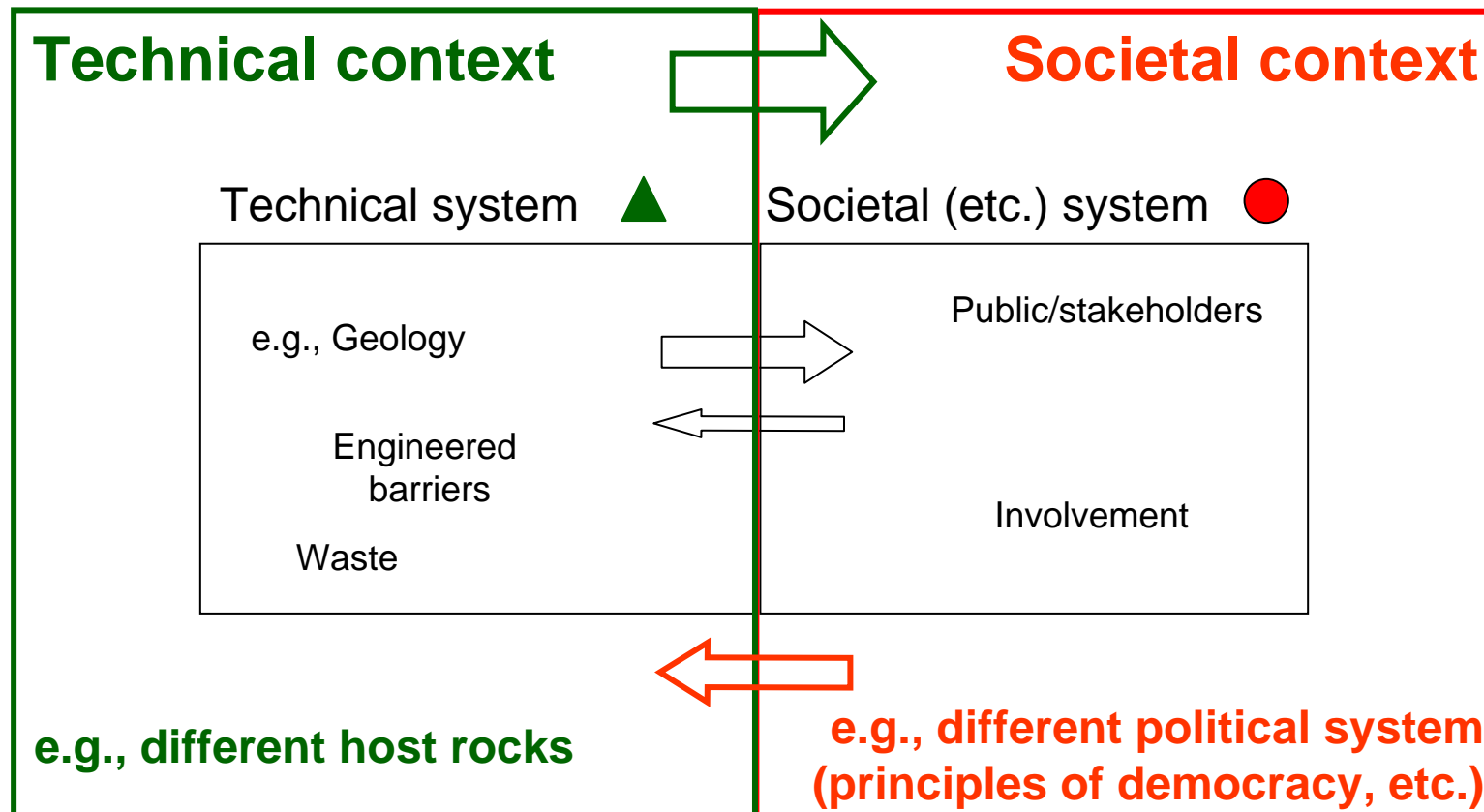
ETH-NSSI Case Study 2006

- Issue: Decision processes for a repository for low-level waste in Wellenberg (canton NW)
- Local advisory group (N > 20 persons) to discuss project questions, data collection instruments, results and conclusions (review of all book chapters)
- Results published as book
- Three project groups: (i) media analysis (N = 600 articles), (ii) postal survey (N = 532 persons), (iii) "exploration parcours" (see below)
- "Exploration parcours" (assessment of stakeholder preferences)
 - N = 41 persons assessed (individually) different aspects for site selection policy process
 - 10 different aspects (weighting of each aspect was assessed)
 - Each of the aspects had three to four different attributes (preference ratings for each attribute were elicited)
 - Two different answer patterns in the exploration parcours

ETH-NSSI Case Study 2008

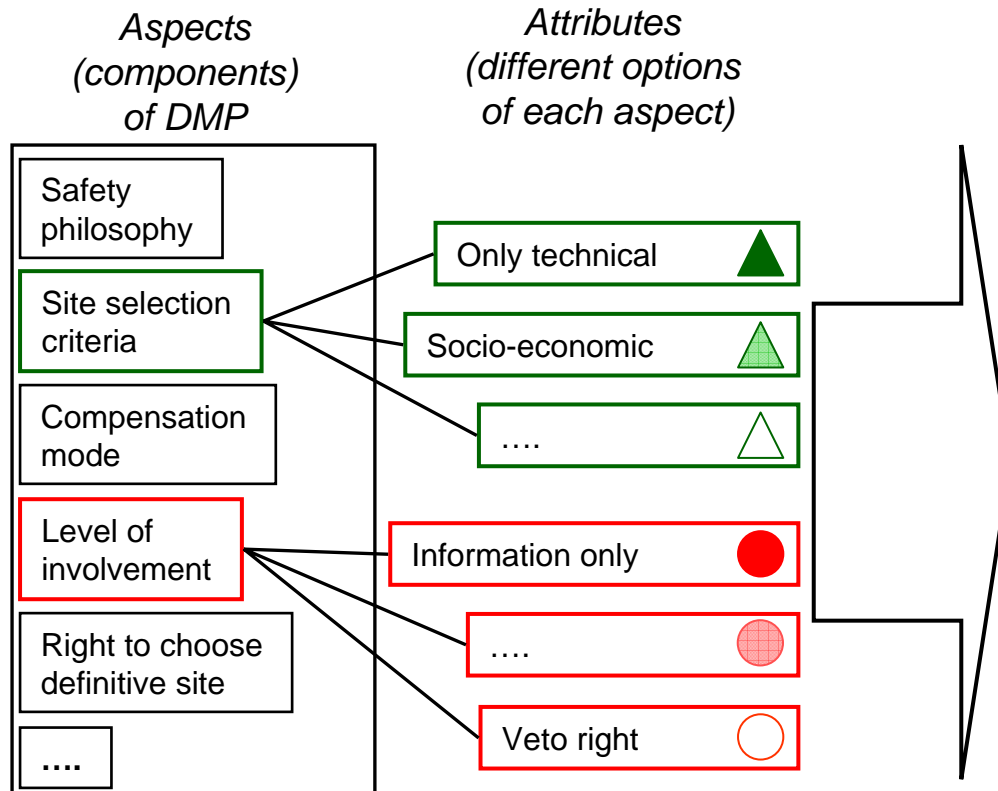
- Issue: International comparison of stakeholder preferences of decision making processes (DMP) in radioactive waste management (RWM)
- Two full case studies in Switzerland and Sweden
- Guiding question
 - What can we learn about the strengths and flaws of the own and the others' ideas of ideal socio-technical processes?
 - How can the socio-technical processes be designed that they are acceptable for all stakeholder groups?
- International "Td Board", national support groups
- Time table
 - Preparation: October 2007 – February 2008
 - Core phase (with students): 14-Feb-2008 till 20-Jun-2008
 - Follow up: approx. till end of October 2008

RWM in the (geo-)technical and socio-cultural context

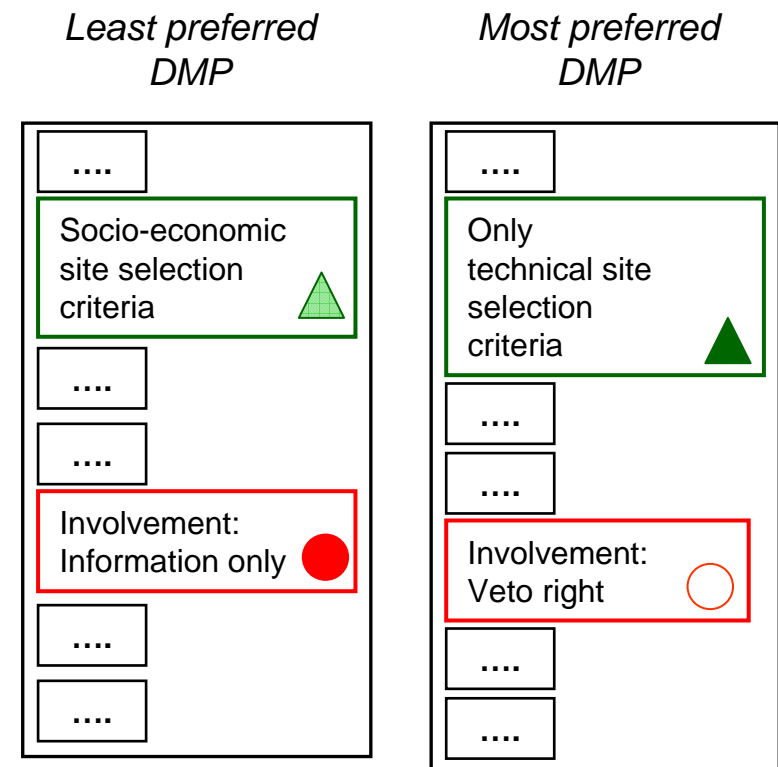


Assess preferences for DMP of stakeholder groups

Elaborate relevant aspects and attributes



Assess preferences from stakeholders



A comparative international study

