



Psychological determinants of commons resource use

Andreas Ernst

Center for Environmental Systems Research

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Introductory remarks and overview

- Two common misconceptions
 - „Technological progress will do“
 - “People got to change (their attitude)”
- Three theses
 1. The market will fail: Three types of traps impair sustainable behavior
 2. Knowledge helps – but not alone
 3. The only sensible coercion is the one agreed upon
- What to do with the traps?
- Environmental, economic and social sustainability



The traps

- The egoism traps
- The cognitive traps
- The motivational traps



The egoism traps



The egoism traps

- An immense number of individual human actions result in large scale environmental problems
- The social trap
 - Gain for me, costs to all
- The spatial trap
 - Gain here, costs elsewhere (NIMBY syndrome: Not-In-My-Backyard)
- The security/vulnerability trap
 - Protection for the wealthy (being the cause of it), vulnerability for the poor



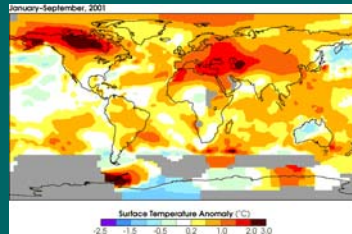
Individual and collective rationality

- In all those traps, there is a contradiction between individual and collective rationality
- An individually rational agent will always decide for the “me”, “now”, and “here”
- The incentives are staged against collective rationality



Conclusion # I

- Without enforced rules, we tend to prefer individual to collective rationality



The cognitive traps



Knowledge helps – but not alone

- The environment is a complex system
 - Many variables
 - Many interactions
 - Dynamic
 - Opaque system behavior
- The problem
 - Our brain is not well adapted to steer this kind of system
 - Cognitive economy
 - Cognitive biases



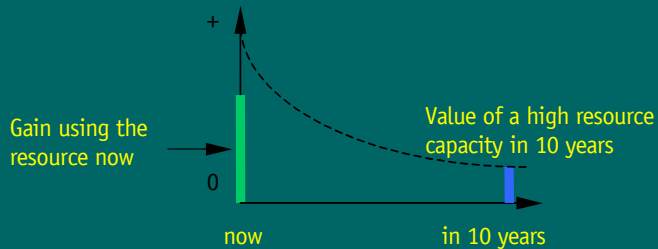
Cognitive traps

- Mono-causal hypotheses
- Thinking in cause-effect-chains vs. cause-effect-nets
- Local thinking (Out of sight, out of mind)



The time trap

- Peanuts and water-lilies
- Human difficulties in grasping non-linear processes in time
- Additional difficulties with the effects of time delays: Positive discounting of environmental costs



Objective risk vs. subjective risk perception

- Technical ("objective") risk defined as
Damage x probability of occurrence
- Subjective risk perception differs in characteristic ways depending on familiarity and dread
- Risk is perceived higher when
 - There is less personal control (even if this control is an illusion)
 - The exposure to the risk is involuntary
 - There is an unfair distribution of gain and losses
 - There the risk is invisible or cannot be perceived otherwise with our senses, when we cannot perceive the exposure
 - There is a new, unknown risk
 - There are time-delayed consequences
 - There might be aggravated consequences for coming generations



Conclusion # II

- Punctual, rare, hard to control risks are being overestimated



- Slowly developing risks are being underestimated



The motivational traps



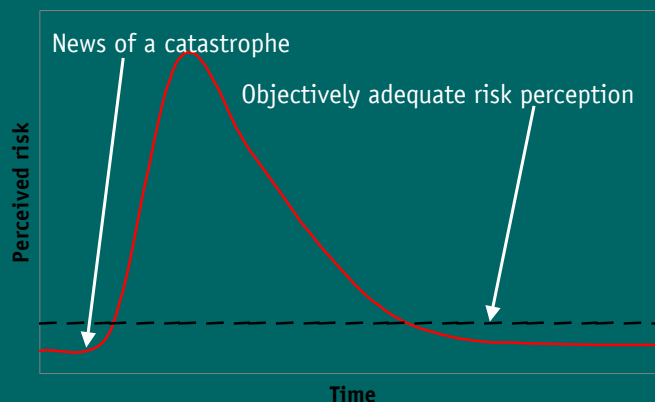
We just think what we want

- Over-optimism (e.g.: tax declaration)
- Illusion of control
- The “big resource”-illusion
- Dominance of day to day tasks (pressing, but unimportant)
- Fading out of existing, but unpleasant risks
- Habits (“It went all well the way we did it, let’s do it the same way”)
- “It won’t be as hard a problem as they want to make us believe. And anyway: It’s not my contribution that will make a difference...”



The societal memory

- E.g.: AIDS, Chernobyl, BSE, living close to a volcano





Conclusion # III



And now?



What to do with the egoism traps

- Good will alone is not enough
- Property regimes
 - Open access
 - Private property
 - State property
 - Common property
- Rules fitted to the problem: Adequacy of costs for resource use
- „Eco-design“



What to do with the cognitive and the motivational traps

- Enhance competency for environmentally adequate behavior and risk perception
 - Immediate feedback (Negative examples: Water use, energy use)
 - Transparency and visibility of very slow environmental processes and the consequences remote in time and space
- Adequate communication of risk: Using imagery, comprehensible, and frank
- Information systems, decision support systems
- Scenario techniques



Environmental, economic and social sustainability

- The dynamics of a catastrophic resource depletion are accelerated by economic and social factors
 - Adaptation of dysfunctional strategies when facing resource pressure
 - „Implicit“ dysfunctional strategies
- The „group climate“
- Fairness and efficiency: Social and environmental questions are strongly correlated
- The social dynamics can be irreversible
 - Asymmetry between the building up and the destruction of trust