

Workshop

## Conceptualizing Sustainability under Uncertainty

October 2–5, 2008 | Camp Reinsehlen, Germany

*Sustainability Economics Group, University of Lüneburg, Germany*  
*Research Group for Fishery Economics, University of Kiel, Germany*

### Background

The imperative of *sustainability* requires sustaining nature, and its functioning and services for humans, over a long time into the future. There is an ongoing, broad and diverse discussion about how exactly to define, operationalize and measure sustainability, reflecting the breadth and diversity of ideas about (i) what exactly is the normative content of sustainability and (ii) how exactly can the structure and functioning of economy-environment systems be described.

As *uncertainty* is one of the essential challenges of the long run, and sustainability is – by any definition – about the long run, the question arises of how to conceptualize sustainability under uncertainty.

Uncertainty prevails about both the needs of future generations and the exact functional relationships that govern economy-environment interactions and the provision of ecosystem services from different types of natural capital. Relevant types of uncertainties comprise *risk*, where the possible future development paths and their probabilities are known, Knightian uncertainty or *ambiguity*, and even fundamental *ignorance*. Different approaches exist to conceptualize sustainability under different types of uncertainty:

- In economics, sustainability under risk is generally identified with *non-declining expected welfare*, in analogy with the expected utility approach in individual decision theory.
- In ecological and natural resource economics sustainability (under conditions of certainty) has often been conceptualized as non-declining stocks of natural capital. Such a conceptualization has been termed 'strong sustainability', as opposed to 'weak sustainability' which requires that the aggregate capital basis does not decline. Under conditions of risk, the *viability* of ecosystem stocks and services may be a suitable measure of strong sustainability.
- Inspired by a more ecological perspective, the *resilience* of ecological or coupled ecological-economic systems has been suggested as an essential prerequisite of sustainability.

- As a guiding principle for taking action, the *precautionary principle* has been invoked as an expression of responsibility towards future generations. Different operational approaches to precautionary decision-making have already been formulated.

### Aims and Scope of the Workshop

The aims of the workshop are twofold: (1) Taking stock of the current state of the discussion about how to conceptualize sustainability under uncertainty. (2) Exploring the potential of emerging concepts such as *viability*, *resilience* or the *precautionary principle* to provide operational criteria of sustainability under uncertainty. In particular, the relationship of these concepts to the conceptualization of sustainability as non-declining expected welfare will be discussed, and the most promising strands for future research will be identified.

The workshop brings together a small and focused group of approximately 25 participants, including eight invited speakers, in a stimulating environment for an intensive and fruitful discussion.

### Speakers

*Geir B. Asheim*, University of Oslo  
*Wolfgang Buchholz*, University of Regensburg  
*Luc Doyen*, Muséum National d'Histoire Naturelle, Paris  
*Richard B. Howarth*, Dartmouth College  
*Frank Krysiak*, University of Basel  
*Charles Perrings*, Arizona State University  
*Per Sandin*, Royal Institute of Technology, Stockholm  
*Hans-Peter Weikard*, Wageningen University

## Venue



The workshop will take place at the conference guest house Camp Reinsehlen in the heart of the Lüneburg Heath, just 30 minutes from Hamburg. The quietness and colorful vastness of its traditionally conserved landscape provides a peaceful atmosphere and recreational environment which should build the basis to stimulate fruitful discussions and productive research. The guest house's philosophy to live in harmony with nature and among each other, which serves the topic of the event, is furthered by the cheerful atmosphere and the celebration of the deliberate and exquisite slow food concept. Last not least, the heathlands are a nice example for a strongly coupled ecological–economical system.

More information at <http://www.campreinsehlen.de>



## Program

Thursday, October 2, 2008,

till 6:00 pm	arrival and check-in
6:00 pm	welcome reception
7:00 pm	dinner

Friday, October 3, 2008

full day	scientific program
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Saturday, October 4, 2008

morning	scientific program
12:15 pm	end of scientific program
afternoon	hike in the Lüneburg Heath

Sunday, October 5, 2009

till 11:00 am	check out
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## Hosts

The workshop is organized jointly by the *Sustainability Economics Group* of the *University of Lüneburg* (head: Stefan Baumgärtner) and the *Research Group for Fishery Economics* of the *University of Kiel* (head: Martin F. Quaas).

More information at <http://www.leuphana.de/seg/>  
<http://www.ozean-der-zukunft.de>

## Contact

### Scientific organizers

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## Travel Information

### By plane:

The closest airport is Hamburg (HAM). There will be a shuttle transfer from/to the airport for workshop participants.

### By train:

The most convenient railway station is Schneverdingen (Bahnhof). The conference venue can be reached from the station by taxi.

Detailed travel information will be provided later.

## Acknowledgement

The workshop is funded mainly through a grant from the German Federal Ministry of Education and Research.



# Workshop *Conceptualizing Sustainability under Uncertainty*

## – Preliminary Scientific Program –

Friday, 3 October 2008

8:45– 9:30	<b>Stefan Baumgärtner</b> (Leuphana University of Lüneburg) and Martin F. Quaas (University of Kiel): Introduction: Conceptualizing sustainability under uncertainty
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	Chair: Andreas Lange (University of Maryland)
9:30–10:45	<b>Wolfgang Buchholz</b> and Jan Schumacher (University of Regensburg): EU-theory and intergenerational ethics: match or mismatch?
	Coffee break
11:15–12:00	<b>Geir B. Asheim</b> (University of Oslo) Discounting the future under sustainable preferences and productivity risk

12:30 Lunch

	Chair: Johannes Schiller (Helmholtz Center for Environmental Research Leipzig)
16:00–16:45	<b>Per Sandin</b> (Royal Institute of Technology – KTH): Sustainability - stewardship, states and processes
16:45–17:30	Silke Gabbert and <b>Hans-Peter Weikard</b> (Wagenigen University): Precautionary chemicals policies: conceptual and practical issues

Coffee Break

	Chair: Andreas Lange (University of Maryland)
14:00–14:45	<b>Luc Doyen</b> (Muséum National d'Histoire Naturelle, Paris): Viable control under uncertainty: conservation, precaution or intergenerational equity?
14:45–15:30	<b>Charles Perrings</b> (Arizona State University): Uncertainty and irreversibility

19:00 Workshop Dinner

Saturday, 4 October 2008

	Chair: Johannes Schiller (Helmholtz Center for Environmental Research Leipzig)
8:45– 9:30	<b>Frank Krysiak</b> (University of Basel): Sustainability, risk, and responsibility
9:30–10:45	<b>Richard B. Howarth</b> (Dartmouth College): Our children's keepers? Sustainability, uncertainty, and duties to posterity

Coffee break

	Chair: Martin F. Quaas (University of Kiel)
11:15–12:15	Final discussion
12:15	Closing of scientific program

12:30 Lunch