Transformative Governance for Global Change

Arnim Wiek, Sander van der Leeuw
Arizona State University

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Sustainability is a social challenge

We are not destroying the environment, we are rendering it uninhabitable
We are destroying our future as a species
AND WE KNOW IT!
Society seems convinced that something needs to be done
Scientists are generating ideas about what can be done
Governments wish to do something, but not many are willing
The current crisis offers an opportunity for change
Yet little happens ...
WHY?
Convergence of Recent Governance Paradigms

Anticipatory Governance
  – Guston, 2008

Reflexive Governance
  – Voss et al., 2007

Earth System Governance
  – Biermann, 2007

Governance for Sustainable Development
  – van Zeijl-Rozema et al., 2008

Risk Governance
  – Roco, 2008
Key Features of Transformative Governance

Anticipatory Competence
- Inter-generational equity and legacy

Systems Thinking Competence
- Feedbacks, non-linearity; cross sectors/scales; cascading effects

Normative Competence
- Values, goals; dissent, conflict, power; balance of interests

Transformative Competence
- Between innovation and sustainability

Collaborative Competence
- Negotiations, mediation, coordination among multiple actors
The Reality of Our Shortcomings

Path dependency
- Bureaucratic fossilization of disciplinary structures

Power isolates and corrupts
- Loss of contact between government, science and society

Fragmented vision
- Insufficient for evaluation of multidimensional choices in complex systems

Short time horizon
- Limited knowledge of the system; lack of strategy (re-active rather than pro-active)
Example – **Research**: Project ‘Alpha’

- NSF Program
- 16 Co-PIs from various academic institutes
- Budget: more than $20 Mio.
- Goal: “seeks to help chart paths along which society’s consumption of resources and generation of wastes can be brought into balance with the carrying capacity of the environment”
Project Alpha – The Eclectic Version

Urban Dynamics

**Part 1**
Scientists Experts
Modeling Constructing scenarios

Urban Social Futures

**Part 2**
Stakeholders
Desirable futures Construct pathways

Urban Innovation

**Part 3**
Business Engineers
Engineering & marketing solutions

Urban Sustainability
Project *Alpha* – The *Transformative Version*

**Critical Urban Dynamics**

- **Module # 1**
  - Scientists
  - Experts
  - Problem perception
  - Modeling
  - Scenario development
  - Sustainability assessment
  - Systems transformation

- **Module # 2**
  - Government
  - Public
  - Problem perception
  - System knowledge/experiences
  - Scenario development
  - Sustainability ‘valuation’
  - Social transition paths

- **Module # 3**
  - Business
  - Engineers
  - Problem perception
  - Technical/entrepr. know-how
  - Scenario development
  - Sustainability ‘check’
  - Strategic options

**Differences, conflicts, synergies**

- Negotiation, mediation, coordination

**Urban Sustainability**
Conclusions

To attain sustainability, we must simultaneously:

- Learn from, and educate all stakeholders
- Transcend boundaries between scientists, government, engineers, business, the wider public
- Develop a long-term strategy and step-by-step implementation measures
- Transform scientific practice from question-driven to solution-oriented
- Promote true intellectual fusion between all concerned