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Integrated Analysis of the Science-Policy Interface in research projects on global change and sustainability: implications for the actors involved in the co-production of knowledge

Universiteit Utrecht

Maastricht University *Leading in Learning!*

Prof. René Kemp

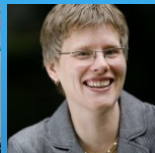Session 1.5: Knowledge co-creation in climate adaptation research (NWO-KfC) (9.45-11.15)

Knowledge for Climate

NWO
Netherlands Organisation for Scientific Research

Research team

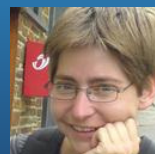| Prof. René Kemp	Dr. Carel Dieperink	Dr. Dries Hegger	Dr. Annemarie van Zeijl-Rozema	Prof. Harro van Lente
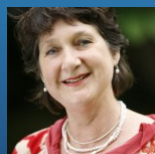
Dr. Ron Cörvers	Dr. Jeanine Schreurs	MSc. Astrid Offermans	Drs. Ymkje de Boer	Dr. Femke Merkx

Problem statement: we need **empirically tested design principles** for setting up and executing joint knowledge production projects

- Joint knowledge production is **complex** but believed to <u>enhance knowledge</u> that produces scientific excellent papers **and** answers to the needs of policymakers, companies and societal organizations.

- Much literature is **conceptual**, <u>empirical studies are lacking</u>

- We need empirical studies to better understand how successful knowledge coproduction works and how it can be stimulated

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Main objective: identify **success conditions** (design principles) for making science-policy collaboration in projects more effective

- In which ways can joint knowledge production take place?

- What opportunities and barriers occur in practice?

- How can its effectiveness be determined?

- What factors account for this effectiveness?

- How effective are different ways of co-production in practice?

The above answers will be studied for projects about global change and sustainable development (*Leven met water* & *Klimaat voor Ruimte*)

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1st academic contribution:
Integrated framework for empirical analysis of joint knowledge production projects

- Identification of seven theoretical success conditions based on diverse bodies of literature (STS, environmental governance; sociology of knowledge)

- Identifying **constructivist** evaluations of the success of joint knowledge production projects (actors' criteria for credibility and salience of the knowledge produced and legitimacy of the knowledge production process)

- Published in '*Environmental Science and Policy*' in 2012

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2nd academic contribution:
Application of the framework to six Dutch empirical cases

- Operationalization of the framework, empirical analysis and application of/ to Hotspot Zuidplaspolder → Paper in '*Regional Environmental Change*' (accepted)

- Used the framework for a comparative analysis of six Dutch adaptation projects → Invited paper for special issue of '*Ecology and Society*' (submitted)

    Conclusions:

- Confirmation of the added value of our constructivist approach

- Design principles pertain to: 1) decisions for the institutional location of a project on the research-policy nexus 2) application of resources, manpower, competences and finance

- First steps towards empirical knowledge base

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3rd academic contribution:
Analysis of **social perspectives on knowledge production** based on Cultural Theory

- Success of joint knowledge production is <u>inherently subjective</u> and depends on people's perspective on what is **salient**, **credible** and **legitimate** knowledge

- We developed a theoretical framework to <u>operationalize</u> and <u>measure</u> **perspectives** on knowledge and joint knowledge production

- **Transparency** and **openness** about differences in perspectives may led to a more constructive dialogue and shared expectations on the type of knowledge that is required

- Paper on the relevance of the Cultural Perspective Method for joint knowledge production in progress

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Example questions about perspectives

The role of knowledge brokers (intermediaries) is:

a) Is necessary as they fulfill an important bridge-function between the separated world of science and policy (22.5%)

b) Is useful, even in situations where scientists and policy makers do already talk with each other (72.5%)

c) Is often unnecessary; I prefer direct contacts between scientists and policy makers (without mediation by broker) (25%)

d) Is sometimes handy to arrive at decision making, but those decisions are not necessarily the best decisions (15%)

Stakeholder input (e.g. farmers, citizens, nature organization):

a) Is often one-sided. It is good to situate this in a broader perspective with the help of scientific knowledge (37.5%)

b) Are complementary to scientific knowledge, but too often neglected. More and better inclusion of stakeholder view in scientific research would lead to better applicable policy (52.5%)

c) Dependent on the topic and goals. It may be efficient and necessary, but may also be unnecessarily leading to delays (42.5%)

d) Science is one of the stakeholders that may be part of a project. Knowledge from other sources are equally relevant (32.5%)

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Example questions about projects

Project characteristics	Totally agree- Totally disagree
Within the project there was a clearly demarcated goal	0 0 0 0
The goal was jointly set by project members together	0 0 0 0
There were different problem perceptions	0 0 0 0
Stakeholders were pushed aside during the project	0 0 0 0

Project experiences -Process	
We met frequently enough during the project	0 0 0 0
Everybody could contribute opinions during the project	0 0 0 0
Controversies were avoided	0 0 0 0
Responsibilities were clear during the project	0 0 0 0
Knowledge integration turned out to be difficult in practice	0 0 0 0
Successful knowledge integration is more a result from personal characteristics than project structures	0 0 0 0
Differences between scientists and policy makers blurred during the project	0 0 0 0

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Example questions about projects

Project experiences -Results	
I am satisfied about the project outcomes	0 0 0 0
I think that other project members are satisfied with the project outcomes	0 0 0 0
I feel that the project had benefit for myself	0 0 0 0
The project results contributed to usable knowledge for policy	0 0 0 0
The project results contributed to scientific knowledge	0 0 0 0
The project results could only be achieved through collaboration between policy and science	0 0 0 0

Project experiences- collaboration	
Policy makers and scientists have collaborated constructively	0 0 0 0
Policy makers had influence on the problem analysis	0 0 0 0
Scientists did not sense well enough what would be important for policy makers	0 0 0 0

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An experience-based **non**-academic contribution

- *"Of je kiest ervoor om niet met AIO's te werken, maar met onderzoekers die bereid zijn een dergelijk flexibel pad in te gaan. Dat zou voor dit soort langjarige projecten een sterk verbeterpunt zijn. Terugkijkend zou je dat eigenlijk moeten inbouwen voor alle projecten vanaf twee jaar. Hierdoor kun je het beleid ook beter mee laten praten over die kennisontwikkeling. Nu heb je toch te maken met een structuur waarbij onderzoekers niet op hun maatschappelijke bijdrage worden afgerekend maar op publicaties, en als hier een spanningsveld in komt dan gaat die publicatie toch voor."*
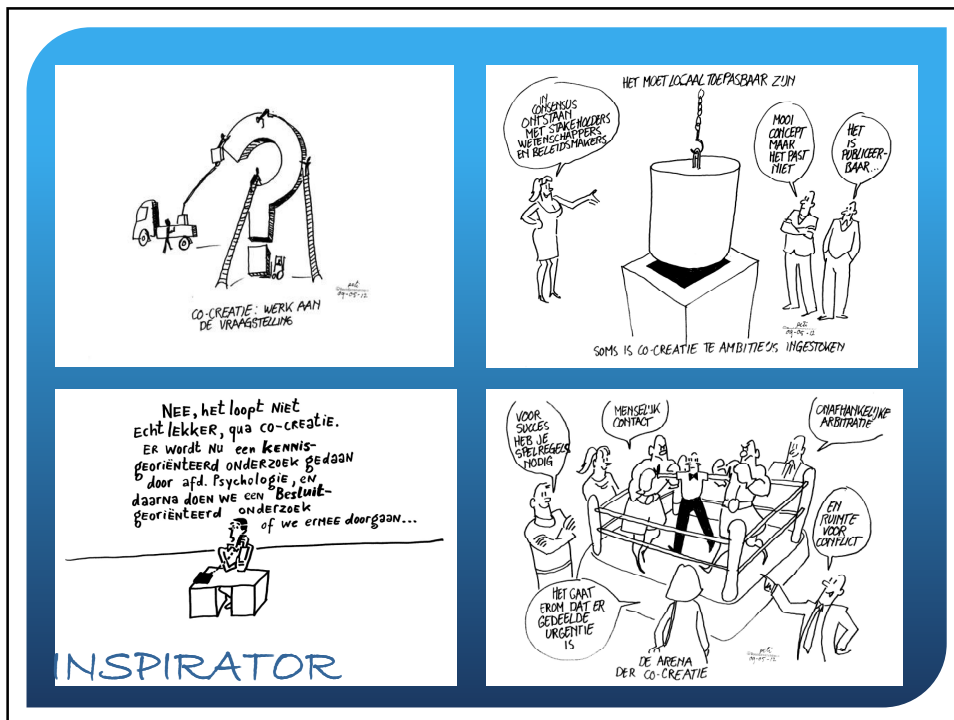
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Knowledge dissemination

- Academic **Master Class** '**knowledge production for sustainable development**' (held on 12/13 April 2012, Maastricht, The Netherlands) with international experts (Hoppe, Pielke)

- **Workshop** with joint knowledge production professionals (held on 9 May 2012)

- **Practical book** (In Dutch) – "**Kenniscocreatie – Naar productieve samenwerking tussen wetenschappers en beleidsmakers**" (full draft ready, now under revision)

- Academic PhD **workshop** on knowledge coproduction at ETH Zurich on October 13th 2012 and December 12th 2012

- A **course** (4 weeks) on Knowledge production for sustainable development in the ICIS Master "Sustainability Science and Policy "
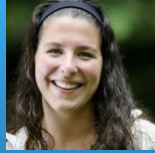
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Thank you for your attention!

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