Knowledge governance: design and management of knowledge networks for sustainable economic development

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Knowledge, learning and governance

- Knowledge and learning are key components for the effective governance of complex and wicked issues

  - Hisschemöller & Hoppe (1996), Stehr (2005), Michailova & Foss (2010), Pahl-Wostl (2006); Christchurch (1963)

  - Lack of consensus on problem definition and solutions

  - Lack of sufficient knowledge

  - Contestation of the validity of the respective knowledge claims

- Emergence of knowledge networks

Research questions & approach

1. *How do knowledge networks function*

2. *Which models for the design and management of knowledge networks can be distinguished?*

Approach:

- Principles of knowledge *governance* to learn for knowledge *networks*

- Three cases from sustainable economic development: agriculture / agribusiness

  - Qualitative

- Types of knowledge networks

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Knowledge governance

- Organising or enabling knowledge networks in which knowledge is produced and disseminated, with the purpose of contributing to innovation, to problem definition, and to policy alteration (measures)

  - Other modes of governance fail to produce sufficient results

- Opening up new pathways for collective action

  - A distinct type of governance

  - Other modes of governance are needed to implement them (hierarchy, market, network)

Knowledge governance in detail

(Van Buuren and Eshuis 2010: 284)

- 'Is about purposefully organizing the development of knowledge in order to deal with societal problems.

- Knowledge governance is aimed at creating new insights, and innovative solutions which tempt actors to leave traditional insights and practices and get away from inert interaction patterns, stalemate negotiations, and interest conflicts.

- Knowledge governance is also used to raise awareness and deliver suggestions that give actors a perspective on purposeful action.'

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Knowledge governance and network governance

- Knowledge development and learning are
  - More important than whether this happens in a network or not
  - More important than reciprocity and maintaining good relations

- Operationalization of 'Reflexive governance' (Voss et al 2009; Bauknecht et al 2006)

- Knowledge governance as input for network governance
  - Or market governance, or hierarchic governance

Different networks

Decision making network

Knowledge development, dissemination, and learning network

Decision making network

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# Principles of knowledge governance

(Gerritsen, Stuiver and Termeer, 2013)

- *Transdisciplinarity* - real life problems, in collaboration with practitioners – tacit knowledge

- *Social learning* – in learning communities (varied, mobile and open; Gandori 2010)

- *Self-organization* - not planned, but facilitated

- *Reflexivity* – second and third loop learning (Argyris and schön (1978)

- *Boundary arrangements* – boundary work (Jasanoff 1990; Keulartz 2009)

Sea weed farms on the North Sea

- Multifunctional use of the marine environment: implementing innovative concepts

- Agenda to set up projects to realize ideas about seaweed farming, in combination with other functions (fisheries, water purification, wind mills, etc.)

- Pilot projects, funded by governments: testing out in a real life setting how best to grow seaweed

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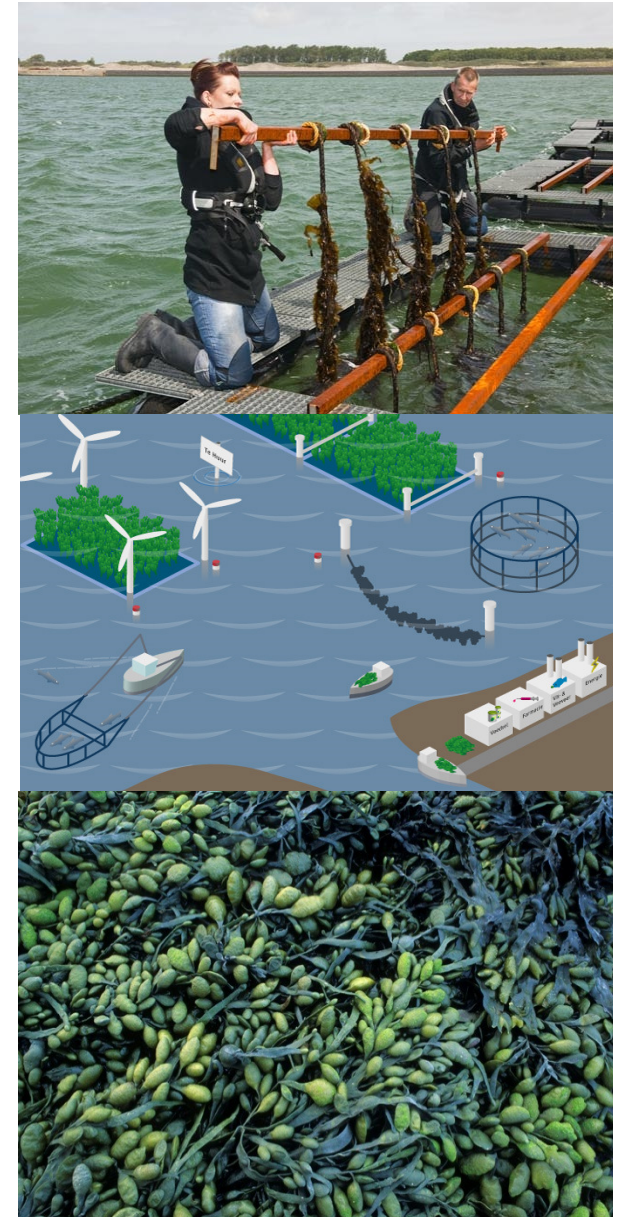
Self-governance & profit in the Northern Frisian Woodlands (2007-2010)

- Operationalization and implementation of innovative propositions for sustainable rural development

- Rural region in the northeast of The Netherlands

  - National Landscape: hedgerows, alder trees, pingo ponds

  - Field laboratory sustainable agriculture

  - Knowledge production and dissemination

  - Governance on the lowest scale: self governance

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MFC Agrosfera – Aguascalientes, Mexico

- Transforming the agribusiness sector into a Metropolitan Food Cluster

  - Industrial agriculture, with integrated food parks, collection centers, consolidation centers

  - Hardware, orgware, software, process

  - Examples from NL, China, India

- Operationalization and implementation of MFC concept

- Co-design by KENGi network

- Commercial project: scholars obtain assignment, than involving KENGi partners

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Two types of knowledge networks

1. Scholars and entrepreneurs obtain assignments of government or businesses

   - Then transdisciplinary knowledge production

   - Power players are part of knowledge network

   - Boundary arrangement is a constant process of engagement

2. Learning community with scholars and entrepreneurs.

   - Gradually developing proposition with pilots projects and obtaining support of power players.

   - Boundary arrangements crucial and planned or improvised

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Discussion and conclusions

- Differences in the boundary arrangements and on how self organization is established

- Testing of models: other cases, quantitative results

- Are they really so different? Are there other models? Do we need more operational principles?

- Incorporating insights from business to business knowledge networks

Thank you for your attention

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