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Evaluating the Contribution of an Innovation Network to Resilient Agri-Food Systems

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‚HealthyGrowth – from niche to volume with integrity and trust'

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Overview

I. Introduction

- Background, hypothesis, objective

II. Approach and analysis

- Operationalization of the resilience concept
- Application to the innovation network

III. Conclusions

I) Introduction

- Food and farming sector: Overall need to produce more food and improve food and resource distribution - “Producing more with less”
- Agricultural innovations are urgently needed due to significant challenges facing the agri-food sector such as protection of water and soil,
  climate change mitigation and
  adaptation, ecosystem services …

➡ New EU strategies, concepts and policy measures are put in place

European Innovation Partnership (EIP-Agri)

- European Innovation Partnership for Agricultural Productivity and Sustainability implements over-arching EU strategies “Horizon 2020 ” and “Innovation Union 2020”
- Objective: Closing the innovation divide as fast as possible!
- Key words: Communication and networking, partnership and cooperation, enhancing resilience, social innovation

Our hypothesis

Close cooperation of all actors in value-based food chains

- Improved efficiency and competitiveness
- Reduced negative environ-mental impacts of farming
- Fostering positive social and environmental effects
- Higher number of innovations, quicker disseminated
- Improved resilience of farms, food businesses and rural economy at large

vs. limited cooperation

- Reduced efficiency
- Increasing inequalities within sector and between regions
- Unbalanced development of the three axes of sustainability
- Lower rates of innovation and development
- Reduced resilience

Objectives

- To learn more about the interrelation between network activities and the related contributions to resilient farming and food chains.
- To develop and test a methodological framework for the assessment of the impacts of network activities.
- If possible, to measure/evaluate the impacts of the innovation network.

➡ All related to the agri-food innovation network of Eberswalde University in north-eastern Germany

II) Approach and analysis

1. Operationalization of the resilience concept and application to farming and food chains
2. Application to the agri-food innovation network of Eberswalde University

Relevant literature

Autor	Particular aspect elaborated
Folke (2003)	Measuring resilience is not only a status analysis, but resilience can be as well a process of learning and adaptation
Darnhofer & Milstad (2003)	The socio-economic dimension is highly relevant for measuring resilience in the agri-food sector (this is a difference to a merely ecosystem-based assessment)
Darnhofer (2010)	Particular relevance of social factors and impacts as well as the farmer's management of production systems and skills (the farmer as entrepreneur)
Milestad & Kummer (2012)	Resilience is nurturing diversity for re-organisation and renewal

Resilience in the agri-food sector

(based on Darnhofer 2004)

1. Diversity as an asset in re-organisation and renewal (property/status)
2. Buffer capacity: Ability to buffer small disturbances (smaller adaptations, short term)
3. Adaptive capacity: Ability of system to adjust and ‘develop’ (continuous change of system, ‘development’)
4. Transformative capacity: new basic operating assumptions for the long term (farmer as decision-maker; structural, longer-term adjustment)

Application of the concept to the agri-food innovation network

Several on-going cooperative study and research projects

Learning:

- Regular study projects as part of the bachelor and master curriculum

Research:

- Values-based food chains (HealthyGrowth)
- Climate change adapted arable farming (INKA BB)
- Direct marketing concepts (Lifelong Learning I)
- Strengthening competitiveness of typical farming systems (Lifelong Learning II)

Status-quo of the network

Establishment since 2004

80 cooperating farms and enterprises, thereof

30 contract partners and

50 associated enterprises

- Farmers
- Processors
- Merchants/wholesalers
- Stakeholders
- Researchers/teachers
- Students at HNEE

Types of contribution to the agri-food sector

HNE Eberswalde
Hochschule für nachhaltige Entwicklung (FH)

Economics	Knowledge Transfer	Science/Learning
		

InnoForum Ökolandbau Brandenburg
Innovationen der Land- und Lebensmittelwirtschaft auf dem Weg

III) Assessment

Component 1	Relevant aspects	Actual contribution
Diversity as an asset for reorganisation and renewal	• Diversity of farms and marketing channels • Diversity of networks (private and professional) and of the farming community • Diversity in production systems etc.	• Offers of the working group 'Alternative marketing concepts' for organic farms • 'Studying' alternative production systems on other partner farms or organic demonstration farms • Cooperation with organic associations or farm international farm comparative network – learning about other systems *Yes!*

contd.

Component 2	Relevant aspects	Actual contribution
Buffer capacity	• Ability to buffer small disturbance • Short-term perspective • Assimilation without change in structure/temporary reallocation of resources • Relevant preconditions: Flexibility, curiosity, able to handle small risks, open-minded, participation	• Variety of information sources (national, local, international, practical, theoretical, informal) • Variety of learning approaches: workshops, open farm days, on-farm trials • Continuous or new research & working group project and other HNEE activities Yes!

contd.

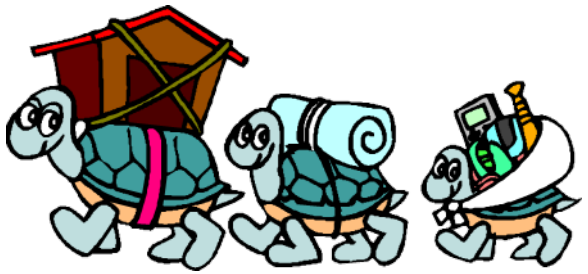
Component 3	Relevant aspects	Actual contribution
Adaptive capacity	• Ability of a system to adjust and 'develop' • Realising continuous changes as a response to external drivers • Allowing development while staying within current system • Learning from success and failure	• Greater variety of information sources and learning approaches • Improved knowledge management • Enhanced trust in information provided • Increased trust in continuity of network relationships and support • Improved methods of reflexion (successes/ failures) • Improved exchanges among farmers and with other actors in food chains *Yes!*

contd.

Component 4	Relevant aspects	Actual contribution
Transformative capacity	• New basic operating assumptions for the long term • Ability to implement radical changes (farmer as decision-maker) • Shifts in perception, new pattern of interaction • Structural changes • Transformation may be gradual or abrupt/surprising	• Direct and indirect contributions of the network to transformative capability • Multi-level nature of the network's contributions and impacts *Difficult to measure!*

Open questions

- How to assess the impact of network activities on farmers‘ risk management and on risk aversity?
- How to address the farmers’ apparent inertia - which can be positive (reducing risks) as well as negative (hampering change, reducing adaptive and transformative capacity)?
- How to assess multi-level and inter-scale effects, and specifically the impact of network activities on individual farm or food enterprises?



III) Conclusions

1. Assessment of impacts on resilience remains a challenge.
2. Application of resilience concept to the agri-food sector is important and needs further development.
3. The application of the resilience concept to an innovation network helps to highlight a variety of issues related with learning and change processes.
4. The analysis indicates that an innovation network can contribute to resilience – but, verification is difficult.

Thank you!

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www.coreorganic2.org oder www.hnee.de/HealthyGrowth

www.innoforum-brandenburg.de

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