

Sustainable Development or Excessive Exploitation? A Transition Management Perspective on Areas of Intensive Agriculture

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Intensive agriculture resides in an area of conflict between economic competitiveness in globalizing markets and growing societal requirements with respect to sustainability, in particular relating to environmental issues and animal welfare in livestock production. It is often argued that the future of livestock production highly depends on fundamental changes defined as transformative processes towards sustainable development. However, the general principle of sustainability includes a high degree of conceptual fuzziness and even in science definitions are open to varying interpretations. The implementation of sustainability as political principle has, at the same time, most concrete outcomes for livestock production and areas of intensive agriculture. As a start, the paper focuses on structural dynamics in livestock production in Germany and discusses in a spatial perspective challenges in areas of intensive agriculture as so called “sustainability hot spots” with high resource intensity. Subsequently, the transition management approach will be introduced which aims for successful configurations of processes of fundamental change in socio-technical systems.

Life Cycle Assessment (LCA) in combination with input-output analyses allows the quantitative measurement of regional sustainability. It systematically considers available resources in a region and resource transfer flows with respect to economic, ecological and societal aspects. The Oldenburger Münsterland (districts of Vechta and Cloppenburg) can be distinguished by a high degree of resource flows (external resource transformers) while a high proportion of value added remains in the region. The high dependency on external resources induces, however, a significantly lower level of relative sustainability. Therefore, a more efficient use of resources is needed as well as the closing of resource cycles (circular flow economy). One starting point might be an improved slurry management in areas of intensive livestock production.

A fundamental change in livestock production requires new ways of systematic governance which follow the general principle of sustainability (transition management). Most notably, pioneers of change operating in niches realize innovations with the potential to modify the mainstream regime. An integrated sustainability assessment (static, dynamic) allows a holistic analysis of achievements at the regional level.