

Project title

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Timescale: May 15. 2002 – June 15. 2005
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Background

During the last decades a considerable conversion to organic farming took place in the Danish countryside. Currently organic farmed land makes up over 6% of all arable land in Denmark. In the political and societal sphere there exists a general expectation that this conversion to organic farming positively affects the quality and quantity of natural and semi-natural landscape elements. Further, a number of investigations at both Danish and European level support this expectation of a positive relation between organic farming and nature content in rural landscapes. Yet, methods and inadequate temporal and spatial study scales limit the validity of the findings from these investigations. A central issue that remains to be clarified is whether spatial and temporal variations in the rural landscape are related to differences in farm types, biophysical conditions and socio-economic structures, rather than to organic farming strategies alone.

Objective

Based on the above, the aim of this project is to investigate organic farming in Denmark as a driving force for pattern and structure of the rural landscape. Focus is directed towards natural and semi-natural landscape elements (e.g. hedges, field boundaries, remnant biotopes). The investigation is performed for 3 case areas (~30 km² each) representing typical Danish landscape types and being characterised by a relatively large density of organic farms. Within these case areas, landscape dynamics over the last app 50 years are registered on basis of aerial photos. With the use of a geographic information system (GIS) landscape dynamics are spatially related to farm specific information from agricultural statistics and spatial data on biophysical conditions in order to illuminate key factors and processes that determine content of natural and semi-natural landscape elements.

Progress – 2005

Due to longer illness in 2004 the work has been delayed. The project could not be finished the 15th of June 2005 as it was planned. Currently the student is trying to find extra financing and the project is planned to be finished ultimo 2005.

Project work has proceeded. Analyses of relations between organic farming and landscape structure have been partly finished and results have been presented at a landscape network meeting in Evora, Portugal in March 2005, at the IALE European IALE congress in Faro, Portugal in April 2005, the SOAR spring seminar in Roskilde in April 2005. The student spent five weeks from February to April 2005 for a study stay at the University of Evora in Portugal.

Project work

- Land use mapping has been finished for 2002, 1999, 1995, 1982 and 1954.
- A method for analysis of landscape dynamics has been developed and landscape dynamics have been analysed.
- Relationships between organic farming and landscape structure and dynamics have been analysed statistically.

- A paper draft on relations between organic farming and landscape structure has been delivered

Courses and conferences

- April 05: European IALE Congress. Faro, Portugal
- May 05: PhD course: Spatial statistics. University of Copenhagen, Institute of Geography.

Publications

- Levin, Gregor (2004) [Styding the effect of organic farming on rural landscapes: Issues of methodology and scale](#). Paper presented at Sixth International Farming Systems Association (IFSA) European Symposium., Villa Real, Portugal, April 4-7, 2004; Published in Cristov ao, Artur, Eds. *Proceedings of the Sixth European IFSA Symposium, European Farming and Society In Search of a New Social Contract - Learning to Manage Change 2*, page 325-334. UTAD, Portugal.*
- Levin, Gregor (2003) [A methodological framework for analysing landscape dynamics in relation to organic farming](#). [oral] Presentation at *Crossing the boundary between natural and social sciences.*, University of Copenhagen, Department of Geography, August 18-20, 2003.*
- Levin, M.Sc. Gregor and Frederiksen, Senior researcher Pia (2003) [Beschreibung und Differenzierung der d anischen Agrarlandschaft anhand von r aumlichen Strukturindexen](#). [Description and differentiation of the Danish rural landscape with the use of spatial indices.]. Poster presented at IALE Struktur Workshop Landschaftsstruktur Analysieren, Verstehen, Modellieren, Salzburg, Austria, 16-17 April 2003.