



## Final Report

For DARCOF II research projects financed by grants from  
The Directorate for Food, Fisheries and Agro Business  
under the Danish Ministry of Food, Agriculture and Fisheries

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### 1. Research program

Research in organic farming 2000-2005 (DARCOF II)

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### 2. Project title and number

III. 7. Future supply and marketing strategies in the Danish organic food sector

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### 3. Head of project

Research director Mogens Lund, Ph.D., Institute of Food and Resource Economics, Royal  
Veterinary and Agricultural University (KVL)

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### 4. Participating institutes

Institute of Food and Resource Economics (FOI), Royal Veterinary and Agricultural  
University (KVL)

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### 5. Other project staff

Professor Kostas Karantininis, Ph.D.  
Institute of Food and Resource Economics (FOI), Royal Veterinary and Agricultural Uni-  
versity (KVL), Ph.D. adviser

Research assistant Paul Rye Kledal, Ph.D. student  
Institute of Food and Resource Economics (FOI), Royal Veterinary and Agricultural  
University (KVL)

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Slutrapporten sendes elektronisk til Forskningscenter for Økologisk Jordbrug  
[foejo@agrsci.dk](mailto:foejo@agrsci.dk) senest 3 måneder efter projektets afslutning.

Slutrapporten vedlægges et dansk resumé.

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6. Project period (month, year)

Start of project: 01.06.02

End of project: 01.03.06

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## 7. Final report

### A. Project summary

#### *Objective*

The objective of this research project is to analyse the future development of the Danish organic food sector with two commodities as case studies: organic vegetables and organic pork.

Emphasis has been placed on identifying the economic forces and changes within the investigated chains in combination with the macro-social foundations, which sets the regulatory framework for the economic behaviour among individuals, firms and consumers along the network of the chosen chains.

By linking the research results of the economic and production dynamics within the organic food chains together with the various social movements that are at stake in the consumption of organic food, the aim has been to identify and explain the diversification of the organic chain and provide useful supply strategies for further growth in a ten-year perspective.

The expected achievements from the project:

- A new methodological approach towards chain management analysis in organic foods and production
- Scientific contributions to new institutional economic chain management analysis in agribusiness and the food industry
- Development of organic supply and market strategies in Denmark in a ten year perspective

The achievements obtained:

- A new theoretical framework explaining how and why the connection between economic forces in a dynamic market economy advocating for growth has inherent potentially social and environmental conflicts with agriculture and the surrounding society over time
- Empirical studies showing how the organic pioneers understood organic farming as a social counter reaction to these social and environmental conflicts as well as a potential solution for a new procurement system. At the same time a new generation of more 'professional' and market oriented producers are entering the organic market accepting the conditions of supplying through the main stream procurement system
- The theoretical question of power in economics has been used in the supply chain analysis to describe how supermarkets have been increasing their bargain power towards the organic vegetable producers as well as the mechanisms that they use
- The monopoly position of the organic pork producers in terms of controlling processing have so far left them in a fairly good bargain position delivering products highly valued in utility terms and in the same time relatively scarce or unique in ownership. The 'first mover' position, in terms of obeying EU rules before other countries concerning restrictions on using conventional inputs, have today given the Danish organic pork producers competitive advantages on the export markets where demand is growing. Diffusion in European networking between the Danish pork processors and European wholesalers has increased the economic value in utilizing the different parts of the organic pork. This could, together with a growing export market, become an economic 'buffer' spurring growth in the home market.

- The concept of the ‘Organic basket’ as a future marketing strategy or concept supplying through supermarkets or food service has been put forward using the case story from the National organic association’s cooperation with the discount chain ‘Netto’ during 2005. Also the future perspective of organic producers/packagegers going trans-national with other packagegers to countervail the bargain power of the Pan-European supermarket chains, have been researched.

Because of the fulfilment of specific Ph.D. requirements the completion of the final Ph.D. thesis will be delayed 2 months.

**Table A.1: Work package list (from application)**

| No. | Work package title  | Participants*          | Budget<br>(1.000 DKK) | Start        | End          | Deliverable<br>no(s): |
|-----|---|------------------------|-----------------------|--------------|--------------|-----------------------|
| 1   | Information and data collection on the two commodity chains   | <u>Paul Rye Kledal</u> |                       | 01.06.<br>02 | 01.03.<br>03 | D1.<br>D2.            |
| 2   | Preparation and carrying out the interviews   | <u>Paul Rye Kledal</u> |                       | 01.03.<br>03 | 01.12.<br>03 | D3.<br>D4             |
| 3   | Analyse the collected interview and economical data   | <u>Paul Rye Kledal</u> |                       | 01.12.<br>03 | 01.09.<br>04 | D5.<br>D6.            |
| 4   | Overall socio-economic evaluation and outline of the perspectives for the future development of the organic food system | <u>Paul Rye Kledal</u> |                       | 01.09.<br>04 | 01.06.<br>05 | D7.<br>D8             |

\* Responsible participants are underlined

## B. Objectives and expected achievements

In the following section the original deliverables are stated. However, during the research process there has been some minor revision (referring to the letter of 29<sup>th</sup> of September 2005 to DARCOF). The changes in deliverables are related to WP 3 and WP4, but are described under C.2: “Fulfilment of deliverables and milestones”.

WP. 1.:

### Objectives

Draw the outline of the network and the nodes of the two organic food chains  
Commodity system analysis  
Identification of the key players within each node

### Achievements:

D1. Working paper describing the theoretical framework  
D2. Paper describing the results of the commodity system analyses and the data collection

WP. 2:

### Objectives

Selection of interview methods  
Preparation and testing of interview guidelines  
Carrying out the interviews of the key players in each node of the chosen commodity chains

### Achievements:

D3: Paper describing the chosen interview methods  
D4: Documentation of the interview data

WP. 3.:

**Objectives**

Systematic ordering and classification of the obtained data

Theoretical explanations of the classified data

Comparison of the theoretical explanations with the formulated hypothesis

Development of supply and marketing strategies for the organic food chain

**Achievements:**

D5: Working paper describing the obtained theoretical results

D6: Workshop where the developed supply and marketing strategies will be presented and discussed

WP. 4.:

**Objectives**

Description of the socio-economic consequences in relation to the formulated supply and marketing strategies.

Analysis of the impact of the developed organic food strategies in relation to the global tendencies of accumulation of capital and food production, with perspectives on the national/ supra national regulation policies towards these tendencies.

Outline the future development of the organic food sector in a ten years perspective.

**Achievements:**

D7: An FOI-report with a complete description of methods, obtained results and an outline of future perspectives for the organic food chain.

D8: An international article on socio-economic perspectives of organic food production.

## **C. Progress and results**

### **C.1 Description (summary) of main results and conclusions**

The main results from the project are:

- a new theoretical framework showing that the need for growth inherent in a market economy system, affects time and space in the environmental system and has a constant relationship of antagonism and potential conflicts between agriculture and the surrounding society
- empirical findings explaining and documenting organic farming as social countermovement to various societal and environmental conflicts connected to agriculture, and showing that its rules and regulations are designed to solve these conflicts
- empirical findings implying that organic farming itself is part of the same economic market system, and therefore will encounter the same pressures as the conventional farm system on prices, production and distribution systems as well as a need for growth in scale and scope
- The pressure for “conventionalization” in organic farming is stated by the organic pro-

ducers in this research as coming more and more from the end of the food supply chain, i.e. the retailers/supermarkets, through their increasing bargain power. The mechanisms and the various tools the retailers/supermarkets employ to achieve this bargain power have been documented

- Since the majority of all organic food is sold through retailers/supermarket chains the concept of the 'Organic basket', as a countermove and marketing strategy for the organic producers have been developed. To illustrate the meaning of the organic basket, the case story from the National Organic Association and its collaboration with the discount chain 'Netto' during 2005 promoting organic products and companies have been put forward. Suggestions of a similar approach towards the food service sector, both the public and private market, has also been put forward
- The 'Organic basket' as a future perspective where organic producers/packagegers collaborating trans-national to countervail the bargain power of Pan-European supermarket chains have been proposed as well.

The results and conclusions from the research have so far generated publication of articles, lecturing and teaching. Equally the research has built up competences on producer - retailer relations and governance structures concerning types of transactions and modes of procurement. These competences are some of the major back bones in the new DARCOF III project: Organic farming in a global perspective, where they will be used and elaborated.

## C.2 Fulfilment of deliverables and milestones

*(To be completed for each work package)*

| WP number and title  | Time schedule according to application | Deviations, if any* | Full filled   |
|--|--|---------------------|---------------|
| <b>Deliverables</b>  |  |                     |               |
| <i>WP 1: Information and data collection on the two commodity chains</i>                 |  |                     |               |
| 1. Working Paper describing the theoretical framework                                    | 01.03.03                               |                     | Full filled   |
| 2. Paper describing the results of the commodity system analyses and the data collection | 01.03.03                               |                     | Full filled   |
| <i>WP 2: Preparation and carrying out the interviews</i>                                 |  |                     |               |
| 3 Paper describing the chosen interview methods  | 01.12.03                               |                     | Full filled   |
| 4. Documentation of the interview data.  | 01.12.03                               |                     | Full filled   |
| <i>WP 3: Analyse the collected interview and economical data</i>                         |  |                     |               |
| 5. An international article on socio-economic perspectives of organic food production    | 01.06.05                               |                     | Full filled   |
| 6. FOI- report on the organic vegetable chain  | 01.11.04                               | 01.09.05            | Full filled   |
| 7. An international article on the organic Vegetable chain                               | 01.11.05<br>(1.draft submitted)        | 2. draft submitted  | (full filled) |

|  |          |          |  |
|--|----------|----------|--|
| <i>WP 4: Overall socio-economic evaluation and outline of the perspectives for the future development of the organic food system</i> |          |          |  |
| 8. A FOI- report on the organic pork chain   | 01.12.05 | 15.04.06 |  |
| 9. Workshop where the developed supply and marketing strategies will be presented and discussed                                      | 01.02.06 | 01.05.06 |  |
| Milestones (same as deliverables)  |          |          |  |

\* *Deviations are to be further discussed in D*

## D. Description of deviations and subsequent adjustments of plans

In our letter to DARCOF (of 29<sup>th</sup> of September 2005) we expected to finish the SAMSON project by 01.03.06. However, this has not been possible, and therefore the project needs to be extended for another two month, i.e. 1. of May 2006.

This is mainly due to required changes in the theoretical framework of the Ph.D. project built in the SAMSON research. These changes have been recommended by the Ph.D. advisor and the Ph.D. coordinator at the Ph.D. seminar held at the 13<sup>th</sup> of January 2006. This have delayed the final editing of the FOI report on the organic pork chain, the final completion of the Ph.D. thesis as well as having a workshop presenting the overall results of the two supply chains. However, all the theoretical and empirical analyses have been completed.

## E. Project publications and other products

### 1. Products from Organic Eprints archive

#### Peer-reviewed

##### English

#### Not peer-reviewed

##### English

Kledal, Paul Rye (2004) [Resistance, globalization and "conventionalization"](#). Paper presented at XI World Congress of Rural Sociology ay, Trondheim, Norway, july 25-30, 2004; Published in *Book of abstracts*.

Kledal, Paul Rye (2003) [Organic production in the Third Food regime](#). Paper presented at Northern consumption/ Southern production. A mini-conference on cross-continental food commodity chain systems, Institute of Geography, University of Copenhagen, Denmark, 10-11 October, 2003.

Kledal, Paul Rye (2003) [The Political Economy of Organic Foods](#). Paper presented at SAFO: Sustaining Animal Health and Food Safety in Organing Farming. "Socio Economic Aspects of Health and Food Safety in Organic Livestock", Florence, Italy, 5-7th of September 2003.

Paul Rye, Researcher Kledal (2003) [Analysis of Organic Supply Chains - A theoretical framework](#). FØI Working Papers no. 15/2003, Farm Management and Production System Division, Danish Research Institute of Food Economics, KVL.

## Dansk – Danish

Kledal, Paul Rye (2003) [Nye forskningsmodeller og et anderledes helhedssyn](#) [New research models and a different holistic approach]. *Forskningsnytt nr. 1/2003*. Online at <http://www.cul.slu.se/information/publik/index.html#fnytt>

Kledal, Paul Rye (2004) [Naturens tid, landmandens tid og agrokapitalens cyklus](#) [Nature's time, the farmer's time and the time circuit of the agri-capital]. In *Økologisk Jordbrug*, 9. January, page 8. Økologisk Landsforening, Frederiksgade 72, 8000 Århus.

Mogens, Lund and Jesper, Graversen and Janus, Søndergaard and Paul, Kledal (2003) [Analyse af fødevarekæder](#) [Analysis of food chains]. FØI working papers no. 16/2003, Farm Management and Production System Division, Danish Research Institute of Food economics.

## 2. Other products (oral presentations, public meetings, field days, etc.)

Kledal, Paul Rye (2005): Præsentation af markeds- og udviklingstendenser i den økologiske gulerodsproduktion for danske gulerodsproducenter (i samarbejde med Frugt og Grønt Rådgivningen, Skejby)

Kledal, Paul Rye (2004): Presenting concepts from Political Economy and the historical changes connected to industrial food manufacturing and processing relating it to the development of Organic foods, at a DTU Ph.D. course September 2004

Kledal, Paul Rye (2004): "Fortid og fremtid for EU's landbrugspolitik", *Tidskriftet SALT* nr. 4 aug/sept. 2004 årgang 13, tema nr. "Bønder i bevægelse".

Kledal, Paul Rye (2004): Presenting concepts from Political Economy in relation to Organic farming at the SOAR Ph.D. course: "Modernisation processes in organic food networks" January 19-22 2004

Kledal, Paul Rye (2004): "Rekordfald i økologiske mælkeproducenter", *Børsen* 12 januar 2004, interview for kommentarer vedr. frafaldet i økologiske mælkeproducenter

Kledal, Paul Rye (2003): "Mælk på den opfindsomme måde", *Samvirke* dec. 2003

## F. Scientific education

Ph.D. education:

- 2002: "Economics of the Food System", Ph.D. course at KVL  
 2003: Spring semester, Cornell University USA, Department of Development Sociology following four graduate courses:
- International Development
  - Sociology of Food Systems
  - Sociological Theories of Development
  - State, Economy & Society
- 2004: "Modernisation processes in organic food networks", Ph.D. course under SOAR  
 2004: "Det bevidste metodevalg", Ph.D. course at RUC  
 2004: "Is organic farming the key to sustainability", Ph.D. course under SOAR summer school

### Teaching:

- 2005 KVL course: "Hortonomy supply chains": The political economy of Rose production"
- 2005 KVL course: "Agribusiness and organizational Economics". The contracting and organization of the E-trading company 'Aarstiderne'.

## G. National and international cooperation

During this research project international cooperation has been built up with the Department of International Development studies, Cornell University, USA. Also cooperation with the Norwegian Agricultural Economics Research Institute (NILF) has been developed with the outcome of an international article on Ecological economics supported by DARCOF and their forthcoming book publishing together with Cabi-publishing. This book is a result of DARCOF's international workshop the 22/23 of April 2004: Organic farming in a global perspective.

Through presentations at conferences and scientific visits international cooperation has been established with ENSA in France (National Institute of higher education in agriculture and natural resources) and EMBRAPA in Brazil (Brazilian Agricultural research cooperation). Both institutes have become contributors to the DARCOF III project, Organic farming in a global perspective, together with FOI in a joint responsibility of work package 1.

## H. Critical reflection on the project

On the strong side the project has generated new theoretical and empirical insight towards the growing bargain power of the retailers/supermarkets, and documenting how this power is being leveraged out and becoming a major driver concerning the "conventionalization" of the organic food supply. This concerns accumulation of capital and land as well as a downward pressure on the organic price premiums.

One of the main tasks of the research project was to come up with marketing strategies securing further growth in the sector. Since a majority of the organic food is sold through the supermarket chains, the research project has – guided by the information obtained from the qualitative interviews of the organic producers - focused on various possibilities for countervailing the bargain power of these supply channels.

On the more weak side there have been some problems of keeping the timetables concerning deliverables. Some of it can be explained by the fact that Paul Rye Kledal parallel with the DARCOF II research has used time for writing a new research application for DARCOF III. Secondly, he had a minor operation for hernia and, thirdly, at the Ph.D. status seminar in mid January (2006) he was asked to clarify the theoretical framework in his Ph.D. before completing the full thesis. One major problem in terms of keeping the timetable though has been the overlap between milestones and deliverables. The project should have been broken into more measurable milestones. This would have given a better project management, an experience that has been taken into account in FOI's work package in the new DARCOF III project.

## 8. Budget

### A. Account for any change in budgets

### B. Budget for the whole project (1.000 DKK)

| Year:                | Original budget | Consumption before 2004 | Consumption 2004 | Consumption 2005 | Total |
|----------------------|-----------------|-------------------------|------------------|------------------|-------|
| Man-months           | 39              | 18,5                    | 13               | 6,5              | 39    |
| Scientific personnel | 2               | 2                       | 2                | 1                | 2     |
| Technical personnel  |                 |                         |                  |                  |       |

| Year:                                   | Original budget | Consumption before 2004 | Consumption 2004 | Consumption 2005 | Total            |
|---|-----------------|-------------------------|------------------|------------------|------------------|
| Salaries                                | 1.248           | 624<br>(570)            | 425<br>(380)     | 199<br>(190)     | 1.248<br>(1.140) |
| Scientific personnel                    | 1.275           | 624                     | 452              | 199              | 1.275            |
| Technical personnel                     |                 |                         |                  |                  |                  |
| Other operational costs                 |                 |                         |                  |                  |                  |
| Equipment                               |                 |                         |                  |                  |                  |
| Others (please specify)                 | 180             | 97,5                    | 55               | 27,5             | 180              |
| Direct costs                            | 1.455           | 721,5                   | 507              | 226,5            | 1.455            |
| Indirect costs<br>(20% of direct costs) | 285<br>(60)     | 141<br>(30)             | 98<br>(20)       | 46<br>(10)       | 285<br>(60)      |
| Total                                   | 1.740           | 862,5<br>(600)          | 605<br>(400)     | 272,5<br>(200)   | 1.740<br>(1.200) |

**Comments:** NB: Number in brackets are funding from DARCOF

| Financing: | 2002         | 2003       | 2004       | 2005         | Total        |
|------------|--------------|------------|------------|--------------|--------------|
| DARCOF     | 200          | 400        | 400        | 200          | 1.200        |
| FOI        | 72,5         | 190        | 205        | 72,5         | 540          |
| <b>Sum</b> | <b>272,5</b> | <b>590</b> | <b>605</b> | <b>272,5</b> | <b>1.740</b> |

## 9. Signatures and stamps

| Name            | Institute                                     | Date     | Signature |
|-----------------|---|----------|-----------|
| Head of project |   |          |           |
| Mogens Lund     | Institute of Food and Resource Economics, KVL | 28.02.06 |           |

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