Proposal for the knowledge synthesis "Organic agriculture in a global perspective"

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In September 2003, the Danish Research Centre for Organic Farming (DARCOF) presented a strategy proposal for 2005-2010 entitled "International research cooperation and organic integrity" (DARCOF 2003). In the strategy, organic agriculture in a global perspective is described as a new research area. Now, DARCOF's Board of Directors has decided to initiate a so-called knowledge synthesis[1] and the present paper is a proposal for this work.

Objective

This knowledge synthesis shall provide an overview of the role of organic agriculture in a global perspective, and a basis for initiating new research in this area.

With food production as the point of departure and the growing globalisation as a necessary context, the work must include sustainability and fair trade as important considerations and discuss major aspects such as

- organic values and principles as guides for development
- communication and networks between producers and users
- power relations and barriers in form of economic, political and social structures

Key questions in the work can be:

a) Can organic production in development countries contribute to a sustainable development? How?
b) Can organic certification protect natural resources, improve work conditions, etc.? How?
c) Can a fair global trade with organic products be realized? How?
d) Can the world be fed with organic production? How?
e) Can organic research in high-income countries benefit organic agriculture in low-income countries? How?

The answers to these questions should not just be descriptive on the basis of the present organic food systems, but also outline a development perspective for these systems. The work should not be sharply delimited with regard to the present standards for organic farming, but take guidance from the basic organic ideas and principles and related ideas[2].

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[1] In DARCOF, a knowledge synthesis analyses, discusses and synthesises the existing knowledge on an unclarified, and often disputed, subject in relation to the main points of view. This work takes place in a group of experts from different fields, who represent the different points of view on the subject. It is therefore important to include experts with different backgrounds and different perceptions of the subject. In such transdisciplinary work, the discussion and clarification of implicit perceptions and underlying values forms an important precondition for the more technical discussions. An important aim of the knowledge synthesis is to create mutual understanding among the experts with a view to future research and the development of organic farming. But the process and the results are also communicated widely, for example in workshops and lastly in the form of a report.

[2] Such as "Low External Input Sustainable Agriculture", LEISA (e.g. http://www.ileia.org).

Furthermore, the work should suggest areas where it is appropriate to initiate new research within DARCOF, how large an effort is needed and what expertises are available or needed.

Background

In a global perspective, globalisation and sustainable development has been two main discourses in the latest decades. This knowledge synthesis must situate itself in this context. It is crucial to consider the many different understandings of these two concepts and therefore an initial conceptual analysis is outlined below.

Globalisation is here understood as "the erosion of the barriers of time and space that constrain human activity across the earth *and* the increasing social awareness of these changes" (Byrne and Glover 2002). While globalisation is a consequence of the dominating technological and social development, sustainable development is a normative reaction to the growing environmental and human welfare consequences of the dominating development. Sustainability was placed on the global agenda in a large consensus-building work under the World Commission on Environment and Development (WCED), which gave an often quoted definition: "Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987: p. 8). The Commission pointed out that sustainable development implies limits – limitations imposed by the existing technological and social development – in form of environmental resources and the abilities of the biosphere to absorb the effects of human activities[3]. But the Commission also stated that humanity has the ability to create a sustainable development through "ecological modernisation" – a reform of economics, technologies and social institutions.

The organic agricultural movements can be seen as tangible efforts to create a sustainable development of one of the vital areas, food production. In Denmark, organic farming has so far had a mainly local and national perspective. This knowledge synthesis must take a global perspective in the spirit of the World Commission. But, contrary to many other efforts of sustainable development, the focus in this work is the role that organic agriculture may play. Therefore, the organic ideas and principles form a background for the work, and this leads, as well, to the question of how organic agriculture can carry a responsibility for sustainable development of the global food system without letting go of the basic organic ideas.

Sustainability is a very broad concept including ecological, social, institutional and economic aspects (e.g. Valentin and Spangenberg 1999, see also Kjeldsen 2003). In connection with organic farming, sustainability must be understood as "functional integrity", the ability of a system to reproduce itself and thereby survive in the long run. "Resource sufficiency", in contrast, looks only at food supply, etc. based on the relation between input and output from the system (Thompson 1996, Danish EPA 1999)[4]. In order for a complex agro-ecological system to be sustainable in the sense of functional integrity, it must reproduce and regenerate the fundamental elements and

[3] The need to consider limits of growth with respect to the ecological life support systems corresponds with the use of the concept "critical natural capital" in economics (e.g. Perk et al. 2000).

[4] Functional integrity and resource sufficiency were formulated by Paul B. Thompson (1996) as two different understandings of what sustainable development means in an agricultural setting. There are several other concepts in the international discussion of sustainability and nature conservation that are more or less related to functional integrity. Three of the most widely used are "ecological integrity" (e.g. Westra & Lemons 1995, Pimentel et al. 2001), "ecosystem health" (e.g. Constanza 1992) og "ecosystem integrity" (e.g Leo & Levin 1997).

processes in the system, such as ecosystem services, soil fertility, crops and breeds, and principal social institutions[5].

The strategy of the Danish Research Centre for Organic Farming (DARCOF) states that the coming research efforts should have a background in the organic principles and refers to three basic normative principles of organic agriculture (DARCOF 2003: p. 11). These principles specify the ideal of functional integrity on three areas:

- the cyclical, or ecological, principle concerns the relation to the natural life-support systems
- the precautionary principle concerns the relation to new technologies
- the nearness principle concerns the social relations between producers and users.

Sustainable development as described by the World Commission emphasises the possibility for a new era of economic growth through better technologies and social organizations (WCED 1987). But the relation between, on one side, globalisation and economic growth and, on the other, sustainability and ecological limits is a disputed question, which is of key importance for the discussion of the role of organic agriculture in a global perspective.

Byrne and Glover (2002) identify different positions with regard to globalisation and sustainable development:

1. Growth and free trade without ecological borders (market liberalism)
2. Growth and free trade within certain limits (ecological economy)
3. Growth and free trade as a recipe for ecological injustice (political ecology)

Growth without borders

From a neoliberal economic perspective globalisation is not a problem. On the contrary, globalisation is seen as an improvement of the possibilities for free market forces to function and create an effective allocation of resources. The solution of world poverty problems lies in growth and open markets, because the growing wealth will furnish more than enough capital to repair whatever damage the growth may have caused.

This position presupposes an independent, always growing economic system. Environmental economics recognizes that there are market failures with respect to the environment and advocates institutions to internalise external costs, so that markets can settle on "optimal" levels of pollution and ecological losses. Sustainable development can be measured by one single economic indicator: growth in the value of society's collected capital. The price for this simplicity is an assumption of substitutability: that all natural resources and environmental goods can be replaced with produced goods or, in other words, that there is no critical natural capital.

Growth within limits

Market liberalism can be characterised as having a "weak" perception of sustainability (e.g. Neumeyer 1999, Ayres et al. 1998). There are other economic perspectives that endorse "stronger" perceptions of sustainability. They think that the economic system is dependent on a finite, vulnerable, ecological system and that there are only limited possibilities of substituting natural capital with manufactured capital.

[5] This does not mean that functional integrity determines the social institutions, only that they need to perform certain functions for the system to survive.

Ecological economics is a pluralistic, transdisciplinary alternative to market liberalism that differs from neo-liberal economy especially by considering ecological limits and the scale[6] of the material and energy flows that the economical processes are connected to. A key argument is that sustainable scale, just distribution, and efficient allocation are three distinct (though not independent) problems that require different policy instruments (Daly and Farley 2003: Summary and conclusions). Sustainable scale here implies that the throughput connected to the economic activities remains within the natural capacity of the ecosystem to absorb wastes and regenerate resources.

Growth and ecological injustice
As a third position, Byrne and Glover pose political ecology, which does not see development and efficiency as solutions, but as the primary sources of social and ecological problems. Political ecology opposes both globalisation and ecological modernisation, because they both presume that trade is essentially an economic issue. Political ecology, on the other hand, situates trade within a political frame as a contest between what is taken as "commodities" and what is taken as "commons", a contest of ecological justice. From this perspective, sustainable development in form of ecological modernisation has primarily been the agenda of the rich world. Sustainable development is not at odds with globalisation, but part of it. They both imply a replacement of commons valuation with commodity valuation that work to the benefit of multinational corporations and exploitative commodity interests, and undermine sustainable commons systems and community governance.

Content
Above, in the objective, a number of questions are stated that should shape the content of this knowledge synthesis, based on the conceptual space that is outlined in the background. The idea is not that the expert group should choose one of the positions above; each perspective can illuminate issues that the other perspectives have no eye for. The work should refer to all the positions mentioned as well as other relevant positions, and the perspectives should not be applied in an unreflexive way, but contextually within the holistic understanding that marks the organic movements. This understanding can, at least in part, be characterised by the ideal of functional integrity, and therefore the possible conflicts between economic growth / economic modernisation and functional integrity must be taken into consideration. Below, the individual questions are discussed in more detail.

Can organic production in development countries contribute to a sustainable development?
What role can organic agriculture and other low-input forms of production play in the solution of the challenges that development countries are faced with in their work towards sustainable development? Many tropical soils suffer from low soil fertility and in many low-income areas the use of external inputs such as pesticides, artificial fertilisers and antibiotics can be problematic – not only for economical reasons, but also due to a concern for the environment, working conditions, food security, etc. Organic production may be a solution to these problems, if this form of production can secure a sustainable economy for farmers. Moreover, organic farming offers possibilities for the generation of income by sale of high value certified products. The question remains, however, who will benefit most from certification: smallholders or big market oriented producers.

[6] On the concept of scale in ecological economics, see e.g. Gibson et al. 2000, and Jordan & Fortin 2002.

Can organic certification protect natural resources, improve work conditions, etc.?
Trade with certified organic products can be a way of ensuring that environmental and social considerations are taken in countries where such considerations are not secured by public legislation and regulations. Under which conditions (e.g. global trade conditions and development of rules for social responsibility) can this approach succeed?

Can a fair global trade with organic products be realized?
In connection with the two first questions there is a need to investigate how a fair trade with organic products can be realised. How can a global "organic market place" be construed where organic values, process qualities and environmental and social considerations are expressed in the market? Among other things there is a need for knowledge of regulation and certification that can ensure a fair competition and credibility of the organic products.

Can the world be fed with organic production?
Will there be enough food if more agriculture is converted to organic production? Can the production of food in low-input systems meet future needs in the development countries? And, on the other hand, can organic agriculture lead to better food security (e.g. by remedying problems with pesticide resistance and erosion) and food safety? These questions imply the questions of which foods are produced, where, and who have access to it, which again are linked to issues such as population growth, urbanisation, poverty, food prices, market issues and eating habits. The question whether the world can be fed with organic production is therefore not only a question of production sizes.

In modern food systems there is an economic competition for crop production between rich and poor countries, and meat production may compete with the food supply of poor people. This question should also be included when the consequences of global trade with agricultural products are discussed. Can these consequences be avoided through the development of local self-sustaining food systems and new market structures?

Can organic research in high-income countries benefit organic agriculture in low-income countries?
Which aspects of the results of Danish and European research in organic farming can be transferred to development countries? How can this knowledge transferral be implemented? What can be done to develop organic research in high-income countries so that it is more beneficial to development countries, and at least not works to their disadvantage?

Implementation
A key objective of this knowledge synthesis is to observe organic agriculture from different global perspectives and discuss and synthesise the available knowledge. A diverse group of Danish experts will therefore be invited to carry out the work. The group should not only include specialists in relevant disciplines, but also experts who can communicate the connection to the values and principles of organic agriculture and a transdisciplinary approach.

The whole group will meet approximately five times, including two open, international workshops, an introductory workshop in March/April 2004 and a concluding workshop in fall/winter 2004. International experts will be invited to make presentations at the workshops and to review chapters for the final report. A website will be established to communicate background material and working papers and to host open discussions.

The results of the work will be communicated in an English language report, on the website and on relevant conferences.

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