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Organic Agriculture in a Global Perspective

Hugo Fjelsted Alrøe and Erik Steen Kristensen

Abstract:
Organic agriculture is a tangible effort toward a more sustainable food production. However, modern European organic agriculture is faced with growing globalisation and it is undergoing a continuous technological and structural modernisation. And, even though there are large differences, the same is to some degree true for agriculture in developing countries. This chapter is the first step in an investigation of the role that organic agriculture may play in relation to sustainable development and global food security. We outline a global perspective on the development of organic food systems in consideration of different understandings of globalisation and sustainable development, as found in market liberalism, ecological economy and political ecology. This involves issues such as the place of non-certified organic agriculture, pros and cons of free trade, the possibilities for fair global trade with organic products, commons and ecological justice, and the need for a cooperative dialogue between North and South.

1. Introduction

Until today, the research on organic agriculture in Europe has primarily had a national or European focus and this research effort has contributed to the growth of organic farming and organic food consumption in Europe. Organic farming and the processing, distribution and sale of organic products have grown immensely in size and efficiency in the past two decades. Success of the industry in these respects has expanded the organic agenda perspectives in relation to social and cultural considerations, impacts on the global environment and global developmental issues.[1] Ironically, at the same time, organic agriculture is faced with the all-pervading trends of globalisation: global trade in food and feed, involvement of multinational companies, transnational technological developments, etc.

In this setting, the Danish Research Centre for Organic Farming (DARCOF) has described organic agriculture in a global perspective as a potential new research area in their strategy for 2005-2010.[2] Since this is a new, cross-disciplinary research area, DARCOF's Board of Directors decided to initiate a knowledge synthesis in preparation for the new

research effort.[3] The present paper describes this investigation, the goal of which is to provide an overview of the role of organic agriculture in a global perspective, and to form a basis for initiating new research in this area.

A key objective of the knowledge synthesis is to observe organic agriculture from different global perspectives and discuss and synthesise the available knowledge. The work will not be sharply delimited with regard to the present standards for organic farming, but take guidance from the basic organic ideas and principles as well as related ideas.[4] Within this broad agenda, food production is the point of departure and the growing globalisation is a necessary context for the discussion. The work will include sustainability and fair trade as important considerations and discuss major aspects such as 1) organic values and principles as guides for development; 2) communication and networks between producers and users; and 3) power relations and barriers to sustainable development in the form of economic, political and social structures.

A diverse group of Danish and international experts has been invited to carry out the knowledge synthesis.. The work was kicked off successfully with the international workshop 'Organic farming in a global perspective – globalisation, sustainable development and ecological justice' that was held on April 22-23, 2004 in Copenhagen. An interactive website[5] has been established in order to communicate background material and working papers; to assist the cooperative work in the knowledge synthesis; and, to enable open discussions and suggestions from others. The results of the work will be communicated in an English language report as well as at relevant workshops and conferences.

Our chapter discusses different understandings of globalisation and sustainable development. It looks at the role of organic agriculture in relation to sustainable development and global food security, and outlines a global perspective on the development of organic food systems. This involves the role of non-certified organic agriculture, pros and cons of free trade, the possibilities for fair global trade with organic products, commons and ecological justice, and the need for a cooperative dialogue between North and South.

2. Background

In a global perspective, globalisation and sustainable development have become two primary discourses in the recent decades. The knowledge synthesis on organic agriculture must situate itself in this context. It is crucial to consider the many different perspectives characterised within these two broad concepts. As such, we outline an

initial conceptual analysis below.

As a descriptive term, 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."[6] But globalisation is also a normative promotion of certain technological, institutional and social changes. Sustainable development is often seen as normative reaction to the growing environmental and human welfare consequences of the dominant patterns of development now found around many parts of the globe.

Sustainability was placed on the global agenda in a large consensus-building work under the World Commission on Environment and Development, which gave an often quoted description of sustainable development: "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."[7] The Commission pointed out that sustainable development implies limits – limitations imposed by the existing technological and social development – in the form of environmental resources and the abilities of the biosphere to absorb the effects of human activities.[8] But the Commission also stated that humanity has the ability to create a sustainable development through a marriage of economy and ecology which is today known as 'ecological modernisation' – a reform of economics, technologies and social institutions.

The organic agricultural movements provide evidence of tangible efforts to create a sustainable development of one of the vital areas for humanity: food production. In Denmark, organic farming has so far remained a mainly local and national perspective. However, the present work takes 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 or roles that organic agriculture may play in helping to build sustainable food systems. Therefore, the organic ideas and principles form a background for the work. This combination of concepts 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.

In a global perspective, one has to take into consideration the large differences between modern European farming and consumption and small-scale landholders and people who may lack the means to be consumers in low-income countries. One also has to consider the recent modernisation of organic farming in terms of efficiency and technological development, activities which, to some, run counter to the original organic values and localized practices, and the implications of this for the

prospects that organic agriculture may hold for the poor. Such considerations must utilize a systemic perspective, which looks at entire food networks and food systems.[9]

Sustainability is a very broad concept including ecological, social, institutional and economic aspects.[10] In connection with organic farming, sustainability must be understood as 'functional integrity', or the ability of a system to reproduce itself and thereby survive on a long-term scale. 'Resource sufficiency', in contrast, looks only at food supply, resource use, etc. based on the relation between input and output from the system.[11] 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 processes in the system, such as ecosystem services, soil fertility, crops and breeds, and principal social institutions.[12]

DARCOF's strategy states that the coming research efforts should have a background in the organic principles and refers to three basic normative principles of organic agriculture.[13] These principles specify the ideal components of functional integrity in 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.[14] But the complex and interdependent relationships between globalisation, economic growth, sustainability, and ecological limits are disputed and contested questions. These relationships lie at the core for the discussion of the role of organic agriculture in a global perspective.

Byrne and Glover identify different positions with regard to globalisation and sustainable development:[15]

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

A. Growth without Borders

From a neoliberal economic perspective, globalisation does not present 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 to 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 as well as well-distributed benefits from the system. So called 'environmental economics'[16] 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. From the neoliberal perspective, sustainable development is measured by a 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.

B. Growth within Limits

Market liberalism can be characterised as having a 'weak' perception of sustainability.[17] Other economic perspectives endorse stronger perceptions of sustainability. They believe 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.

'Ecological economics' is a pluralistic, transdisciplinary alternative to market liberalism that differs from neo-liberal economics especially by considering ecological limits and the scale of the material and energy flows to which the economical processes connect.[18] A key argument from the ecological economics perspective is that sustainable scale, just distribution, and efficient allocation are three distinct, but interdependent, problems requiring different policy instruments.[19] 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.

C. Growth and Ecological Injustice

As a third position, Byrne and Glover argue for a perspective of 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 trade as essentially limited to an economic issue. Political ecology, on the other hand, situates trade within a political frame as a contest between resources taken as 'commodities' and taken as 'commons', a contest, in essence, of ecological justice. From this perspective, sustainable development in the form of ecological modernisation has primarily been the agenda of the wealthy. From this perspective, sustainable development is not at odds with globalisation, it is a part of it. Globalisation and sustainable development both imply a replacement of commons valuation with commodity valuation that work to the benefit of multinational corporations and exploitative commodity interests, while simultaneously undermining sustainable commons systems and community governance.

3. Key questions

Given the context of these theoretical positions of development several key questions treated in the knowledge synthesis on the role of organic agriculture in a global perspective, are:

- Can organic production contribute to global food security? If so, how?
- Can organic production in developing countries contribute to a sustainable development? If so, how?
- Can organic certification protect natural resources, improve work conditions, etc.? If so, how?
- Can a fair global trade with organic products be realized? If so, how?
- Can organic research in high-income countries benefit organic agriculture in low-income countries? If so, how?

The answers to these questions should not be limited to a descriptive analysis of the present organic food systems, but should also outline a development perspective for these systems. Answers should include a breadth of concepts and positions outlined in the background

above. The idea is not to choose one of the three positions on globalisation and sustainability and answer the questions on this basis; each perspective can illuminate issues on which the other perspectives do not focus. The work should refer to all the positions mentioned as well as other relevant positions, and the perspectives should be applied 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, modernisation and functional integrity must be taken into consideration. Below, the individual questions are discussed in more detail.

A. Can Organic Production Contribute to Global Food Security?

Will there be enough food if more conventional agricultural crops are converted to organic production? Can the production of food in low-input systems meet future needs in the developing countries? And, can organic agriculture lead to improved food security (e.g. by remedying problems with pesticide resistance and erosion) and food safety? These questions imply more fundamental questions about which foods are produced, where, and who has access to them, all of which link 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 productive output and volume.

In modern food systems, rich and poor countries compete economically for crop production and meat production, which may in turn compete with the food supply of poorer people. This issue should also be included when the consequences of global trade with agricultural products are discussed. The question arises: can these consequences be avoided through the development of local self-sustaining food systems and new market structures?

B. Can Organic Production in Developing Countries Contribute to a Sustainable Development?

What role can organic agriculture and other low-input forms of production play in the solution to the challenges that developing 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 provide solutions to these problems in some cases, 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: smallscale landholders or larger market-oriented producers?

C. 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 given priority in countries where such issues are often 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?

D. Can a Fair Global Trade with Organic Products Emerge?

In connection with the two first questions there is a need to investigate how a fair trade with organic products can emerge. 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.

E. Can Organic Research in Wealthy 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 developing countries? How can this knowledge transferral be implemented? What can be done to develop organic research in wealthy countries so that it is more beneficial to developing countries and, at least, does not work to their disadvantage?

4. Preliminary Conclusions and Perspectives

The knowledge synthesis described in this paper is in its first stages and the final conclusions have yet to be determined. However some preliminary conclusions can be drawn on the basis of the first workshop,[20] which will guide much of the future activities.

When assessing the potential of organic agriculture in a global perspective, there is a need to distinguish between certified and non-certified organic farming. 'Non-certified organic farming' is a term for farming systems that are based on principles and practices that are similar to 'branded' organic agriculture, but which are not certified through an official and regulated process. In wealthier countries, the economic sustainability of organic production is often based largely on the sale of certified products at (mostly) premium prices. The certified organic products compete with conventional products in local, regional and global markets, even though the organic production levels are usually lower than in the more efficient, high-yielding, conventional production. In low-income countries some similar settings of certified organic production exist, though these typically remain more oriented toward the global market. Apart from this pattern, non-certified organic farming has a potential critical role to play here that is rarely present in high-income countries.

In large parts of the low-income countries food production is based on low-yielding agriculture, subsistence farming, and local food markets. In such areas organic production methods have the potential to give higher and more stable yields than the existing agriculture, based only on local natural resources and the necessary inputs of knowledge and extension services to assist the establishing of self-reliable organic food systems. We can therefore imagine a scenario where non-certified organic farming is promoted as an alternative solution to problems with food security in such areas. An alternative that can avoid the problematic effects on soil fertility, livelihood, biodiversity and environment that solutions based on high external inputs may suffer. The question of how this might be done seems to be an important issue for organic agriculture in a global perspective.

In relation to the distinction above, we emphasise that not all traditional farming systems that do not use artificial pesticides and fertilisers are 'non-certified organic' by default, because they may very well be unsustainable due to soil degradation, etc. On the other hand, non-certified organic food systems may be more in line with the organic values and principles than certified systems, because the latter also face pressures of market competition and globalisation. Due to these pressures, concern continues to mount that the organic food systems will evolve towards conventional systems, or in ways that are similar to conventional systems, and that this conventionalisation will move organic agriculture away from its original values and principles.

With respect to the role of certified organic agriculture, there are two, quite different, problematic issues related to trade with organic

products. One issue is how to remove obstacles to free trade with organic products in order to allow organic production to grow in a fair competition with similar conventional and organic products. Heavy (nation-)state subsidies for (conventional) agricultural production remain one major barrier. The organic standards and control systems themselves are another barrier that may hinder the growth and spread of organic farming. The other issue is how to avoid negative effects from free, global trade. In a situation where the market does not include all the societal and environmental costs that are connected to food production and transportation, distant trading becomes problematic. In democratic countries with well-developed institutions, there is a good chance that the consequences connected to home production will come to the attention of consumers, citizens and authorities, so that they can take action in terms of market choices or societal regulations. But the consequences connected to distant production processes and transportation of imported products are much more likely to be hidden and unnoticed.

Organic certification is a means to prevent ill effects and promote beneficial ones, especially in connection with soil fertility and some of the environmental consequences. But distant trade may still conceal other complex systemic costs connected to organic production processes and transportation. In particular, the present organic certification schemes do not include issues such as commodification of hitherto commons like soil, water and land and competition for those resources, possible consequences for agricultural and natural biodiversity when large organic operations become established in low-income areas, fair prices, etc. (some of these are in focus in fair trade certification). Furthermore, the environmental costs connected to transportation are rarely included in the price calculations. Similarly, international transportation remains under-regulated with respect to environmental consequences (this goes for all traded products, organic or not). If organic agriculture is to move forward on these issues, the need is urgent to investigate concepts such as ecological justice, fair trade and substitutability (whether a similar product can be produced and traded more locally).

Finally, embracing the previous issues, there is also a need to involve local participants when discussing the role of organic agriculture in a global perspective. In particular, with respect to the research described here, there is a need to develop a cooperative dialogue between North and South that involves researchers, development workers, farmers, consumers and other relevant actors.

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Notes

(The endnotes in this Word file will be transformed to end notes according to the style sheet by the editors after the final revision of the chapter.)

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Author addresses:

Hugo Fjelsted Alrøe
Postdoctoral Scientist
Danish Research Centre for Organic Farming
P.O.Box 50, DK-8830 Tjele, Denmark.
Internet: http://www.darcof.dkT,
phone: +45 8999 1679,
fax: +45 8999 1673,
E-mail: hugo.alroe (at) agrsci.dk

Erik Steen Kristensen
Chief Scientist
Danish Research Centre for Organic Farming
P.O.Box 50, DK-8830 Tjele, Denmark.
E-mail: eriksteen.kristensen (at) agrsci.dk

Notes on contributors:

Hugo Fjelsted Alrøe is a Postdoctoral Scientist at the Danish Research Centre for Organic Farming (DARCOF). His research interests are in philosophy of research and science - with a focus on systemic and transdisciplinary research, systems theory and the role of values in science - and in ethics and value inquiry, especially in relation to sustainability, precaution, sustainable agriculture and organic farming. He also works with communication technologies as tools for research.

Erik Steen Kristensen is Chief Scientist and manager of DARCOF. He has since 1988 carried out research in organic farming systems, and he is a permanent visiting lecturer at the Royal Veterinary and Agricultural University, Copenhagen. DARCOF is a "centre without walls" that coordinates a joint Danish research effort based on collaboration between many different research institutes and stakeholder organisations, which supports the development of organic farming and the general promotion of sustainable agriculture. The centre also plays a decisive role in the development of international cooperation in organic agriculture research.

Notes

[1] The global perspective is not new to organic agriculture. A key organization such as the International Federation for Organic Agriculture Movements states that its goal is the worldwide adoption of ecologically, socially and economically sound systems that are based on the principles of organic agriculture (IFOAM, 2004).

[2] DARCOF, 2003.

[3] 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.

[4] Such as 'Low External Input Sustainable Agriculture', LEISA, see e.g. <http://www.leisa.info>.

[5] The website for the knowledge synthesis can be found at <http://ecowiki.org/GlobalPerspective>.

[6] Byrne & Glover, 2002.

[7] WCED, 1987, 8.

[8] 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).

[9] A reflexive, systemic perspective on research has been described in Alrøe and Kristensen, 2002. A combined network/systems perspective on farm enterprises, which focuses on the self-organization of such systems around meaning and values, is described in Noe and Alrøe, 2004.

[10] E.g. Valentin and Spangenberg, 1999.

[11] Thompson, 1996 and Danish EPA, 1999. Paul B. Thompson formulated functional integrity and resource sufficiency as two different understandings of what sustainable development means in an agricultural setting. Alrøe and Kristensen (2003) analysed sustainability and precaution on the basis of a systemic conception of nature, in line

with functional integrity. 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 and Lemons, 1995; Pimentel et al. 2001), 'ecosystem health' (e.g. Constanza, 1992) and 'ecosystem integrity' (e.g De Leo and Levin, 1997).

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

[13] DARCOF, 2003, 11.

[14] WCED, 1987.

[15] Byrne and Glover, 2002.

[16] Environmental economics is a relatively new extension of neo-classical economics that applies neoclassical economics to environmental problems. Ecological economics is a broader, transdisciplinary field of study that includes contributions from neo-classical and institutional economics and ecology, as well as from social sciences, the humanities, and the natural and engineering sciences. See e.g. Söderbaum, 2000, 9, 19.

[17] E.g. Neumeyer, 1999 and Ayres et al., 1998.

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

[19] Daly and Farley, 2003, Summary and conclusions.

[20] The programme, presentations and minutes from the workshop can be found at <http://ecowiki.org/GlobalPerspective/FirstWorkshop>.