



# Action plan II

## Development in organic farming

English summary  
January 1999

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Action plan II

**Developments  
in  
organic farming**

English summary

**Ministry of Food, Agriculture and Fisheries  
Danish Directorate for Development  
January 1999**

# Contents

<b>TERMS OF REFERENCE .....</b>	<b>1</b>
<b>THE ORGANIC FOODS COUNCIL .....</b>	<b>2</b>
<b>INTRODUCTION.....</b>	<b>5</b>
BACKGROUND.....	5
THE VISION OF ACTION PLAN II – DEVELOPMENTS IN ORGANIC FARMING .....	5
THE PRINCIPLES BEHIND INNOVATION AND CONVERSION IN ORGANIC PRODUCTION .....	10
BASIC PRINCIPLES OF ORGANIC FARMING .....	11
<i>Targets for organic farming</i> .....	11
<i>Organic farming and the precautionary principle</i> .....	12
<i>Sustainability</i> .....	14
<i>Developing aims</i> .....	14
DEVELOPMENTS SINCE 1995 .....	15
<i>The consumer</i> .....	15
<i>Primary production</i> .....	16
<i>Processing and retail</i> .....	17
<i>Status of exports</i> .....	19
<i>Organic farming and economics</i> .....	19
<i>Integration of organic farming into the conventional system</i> .....	20
CONCLUSION.....	22
<b>CONSUMPTION AND SALES .....</b>	<b>24</b>
<b>PRIMARY PRODUCTION .....</b>	<b>29</b>
OBSTACLES TO FURTHER CONVERSION AND INCREASED PRODUCTIVITY .....	30
PUBLICLY OWNED LAND .....	33
ORGANIC AREA PAYMENTS .....	34
EDUCATION AND TRAINING.....	35
CONSULTANCY SERVICES .....	36
ORGANIC STANDARDS.....	37
GENETICALLY MODIFIED ORGANISMS .....	40
WORKING ENVIRONMENT .....	41
EXCHANGE OF EXPERIENCE WITH THIRD WORLD COUNTRIES AND EASTERN EUROPE .....	41
<b>QUALITY AND HEALTH .....</b>	<b>42</b>
<b>EXPORT .....</b>	<b>46</b>
<b>INSTITUTIONS AND COMMERCIAL KITCHENS .....</b>	<b>49</b>
<b>THE ENVIRONMENT.....</b>	<b>52</b>
LEACHING OF NUTRIENTS .....	52
RECYCLING OF NUTRIENTS .....	53
NATURAL STATUS AND ENVIRONMENTAL PROTECTION .....	54
THE FERTILITY OF THE SOIL .....	55
ENERGY AND RESOURCES .....	56
WOODLAND STEWARDSHIP AND WETLANDS .....	58
<b>HEALTH AND WELFARE OF LIVESTOCK .....</b>	<b>59</b>
REVIEW OF PRACTICES AND STANDARDS .....	59
HEALTH PROMOTION IN ORGANIC LIVESTOCK PRODUCTION .....	60
THE DEVELOPMENT OF PRODUCTION SYSTEMS EMPHASISING HEALTH AND WELFARE .....	61
DEVELOPING ALTERNATIVE TREATMENTS OF DISEASES .....	62

<b>RESEARCH AND DEVELOPMENT.....</b>	<b>63</b>
<b>ADMINISTRATIVE STREAMLINING .....</b>	<b>65</b>
<b>FUNDING ACTION PLAN II - DEVELOPMENTS INORGANIC FARMING.....</b>	<b>67</b>
ORGANIC AREA PAYMENTS.....	68
PARTNERSHIP WITH INSTITUTIONAL INVESTORS .....	69
PRODUCTION AND PRO MILLE LEVY FUNDS.....	70
AGENDA 2000 AND FUNDING FOR THE DEVELOPMENT OF ORGANIC FOOD PRODUCTION .....	70
<b>FOLLOWING UP ACTION PLAN II - DEVELOPMENT IN ORGANIC FARMING.....</b>	<b>74</b>
<b>ANNEX. LIST OF INSTITUTIONS AND ASSOCIATIONS MENTIONED IN THE ACTION PLAN .....</b>	<b>75</b>

## Terms of reference

The Danish Minister for Food, Agriculture and Fisheries asked the Organic Foods Council) on 18 June 1998 to draw up an Action Plan II for promoting organic food production in Denmark in accordance with the following terms of reference:

“The Action Plan shall identify and assess the need for initiatives and action for which it shall set priorities with the aim of securing continued growth within organic food production and the sale of organic foods. In this context, the opportunities and need for initiatives in respect of the export of organic foods must be assessed.

The Action Plan shall include assessments of advances in the quality of organic foods in relation to consumer demand, and of developments in the relationship between producers and consumer demand for organic products. The Action Plan shall identify initiatives which can encourage development of product quality by the processing companies.

The Action Plan shall include illustrations of how to encourage the use of organic foods in public and private institutions, and commercial kitchens and canteens.

The Action Plan shall set out proposals for strengthening the public/private partnership in the organic context. It shall identify opportunities for establishing new methods of financing the required development of organic food production.

The Action Plan shall help to increase the impact of organic farming<sup>1</sup> in terms of protecting the environment and encouraging sustainable development within agriculture.

The economic implications of implementation of the Action Plan shall be assessed.

Completion of the work is expected before the end of 1998”.

The Minister for Food, Agriculture and Fisheries subsequently gave his consent to completion of the work being postponed until the end of January 1999.

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<sup>1</sup> In *Action Plan II - Developments in organic farming* agriculture is presumed to include farming, horticulture, orchards and nurseries.

## **The Organic Foods Council**

The Organic Foods Council<sup>2</sup> was appointed in 1987 by the then Ministry of Agriculture. The aim of the Council is to encourage, monitor and assess the opportunities to develop Danish organic food production, to assess the current advisory and research work, to formulate proposals for additional activities and to comment on standards for the control of production, marketing, storage, transport, labelling, distribution and retailing of organic goods.

### **The members of the Organic Foods Council are:**

- Chairman, Fl. Duus Mathiesen, Director General, Research and Development, the Danish Ministry of Food, Agriculture and Fisheries, the Danish Directorate for Development
- Axel Ljungquist, Veterinary Surgeon/Consultant, the Danish Consumer Council
- Bruno Sander Nielsen, Consultant, the Agricultural Council of Denmark
- Günther Lorenzen, Farmer, Danish Farmers' Union
- Johannes Nebel, Organic Farmer, the Danish Family Farmers' Association
- Paul Holmbeck, Analyst, the Danish Association for Organic Farming
- Niels K. Stokholm, Biodynamic Farmer, the Biodynamic Association
- Henrik Sandbech, Director General, the Danish Ministry of Environment and Energy
- Jesper Lund-Larsen, Environmental Consultant, the Danish Economic Council of the Labour Movement
- Rikke Lundsgaard, Agronomist, the Joint Consultation Committee for Organic and Biodynamic Farmers

### **The following organisations are also affiliated to the Council, represented by appointed experts**

- The Danish Plant Directorate, Per Ahle, Assistant Scientific Officer
- The Danish Veterinary and Food Administration, Helle Emsholm, M.Sc. (Food Science)
- The Danish Agricultural Advisory Centre, Erik Fog, consultant
- The Danish Dairy Board, Preben Mikkelsen, Director

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<sup>2</sup> Until 1 May 1998 the Organic Foods Council was known as 'The Council on Organic Agriculture'. Following the creation of the Ministry of Food, Agriculture and Fisheries and in response to the increased focus on aspects of food-related policies, the Council's name was changed accordingly to Økologiske Fødevareråd.

- The Association of Organic and Biodynamic Milk Producers in Denmark, Poul Smith, Organic Farmer
- The Organic Service Centre, Torben Stjernholm, Organic Farmer
- The Danish Directorate for Development, 7<sup>th</sup> Division, Knud Aavang Jensen, Assistant Secretary, and Dorte Hauerslev, Principal

**The secretariat appointed to the Organic Foods Council for the preparation of *Action Plan II – Developments in organic farming* is as follows:**

- Gustav Wied, Assistant Secretary, the Danish Directorate for Development
- Anne-Grethe Lauridsen, Head of Section, the Danish Directorate for Development
- Sanne Witt, Principal, the Danish Directorate for Development
- Tom Damgaard Nielsen, Principal, the Danish Directorate for Development
- Anne-Mette Hansen, Principal, the Danish Directorate for Development
- Anders M. Klöcker, Senior Consultant, the Danish Directorate for Development/PLS Consult

The Secretariat gratefully acknowledges the expert assistance received in drawing up *Action Plan II – Development in organic farming* from:

- The Danish Embassy in Stockholm
- The Danish Institute of Agricultural Sciences
- The National Environmental Research Institute
- The Research Centre for Organic Farming
- The Foreign Service of Agricultural Counsellors
- Infood
- The Research Department of Human Nutrition, the Royal Veterinary and Agricultural University
- Institute of Product Development, Technical University of Denmark
- The National Association of Local Authorities in Denmark
- The Danish Agricultural Advisory Centre
- The Danish Association for Organic Farming
- The MAPP Centre – The Centre for Market Monitoring, Assessment and Processed Food Production
- The Danish Environmental Protection Agency
- The Danish Ministry of Food, Agriculture and Fisheries
- The Danish Plant Directorate
- The Danish Institute of Agricultural and Fisheries Economics
- The Danish Pest Infestation Laboratory

- The Danish Directorate for Development, 1<sup>st</sup> Division
- The Danish Directorate for Development, 2<sup>nd</sup> Division
- The Danish Directorate for Development, 7<sup>th</sup> Division
- The Danish Directorate for Development, the Fund Section
- The Danish Directorate for Development, the Research Secretariat
- The Danish Directorate for Development, the Non-food Secretariat
- The Danish Directorate for Development, the Division for Development
- The Danish Ministry of Foreign Affairs
- The Danish Veterinary and Food Administration
- The Ø-group, the Association of Organic Processors and Suppliers
- Øko-Invest

Agreement has also been reached on shared access to the relevant supporting documents of the Bichel Committee and the Organic Foods Council.

## **Introduction**

### **Background**

The Minister for Food, Agriculture and Fisheries, Henrik Dam Kristensen, asked the Organic Foods Council to draw up a fresh Action Plan: *Action Plan II – Developments in organic farming* to promote organic food production in Denmark.

Since the first organic legislation was introduced in Denmark in 1987, the Organic Foods Council has provided a monitoring and advisory function for the Minister in matters pertaining to organic food production.

From the beginning of its work in 1987, the Organic Foods Council has attached great importance to an integrated approach ranging from the individual holding, through processing and marketing, to a focus on consumers' needs.

With the creation of the Ministry of Food, Agriculture and Fisheries, the Organic Foods Council was placed in a stronger position to advise the Minister for Food, Agriculture and Fisheries on an integrated approach in matters relating to foods and the consumer, the environment, nature, ethics and animal welfare.

In parallel with the increased interest in the organic movement, a trend which must be seen in the context of the general demand of society for sustainable development, the need has grown for coordination of initiatives connected with the Organic Foods Council's overall work on developing organic food production.

Through a process of openness and dialogue, the Organic Foods Council is endeavouring to ensure the greatest possible coordination as a basis for the advisory function which it performs.

### **The Vision of Action Plan II – Developments in organic farming**

The aim of Action Plan II is to put Denmark in the forefront of the development, production and sales of organic foods.

Action Plan II is entitled "Developments in organic farming". This title reflects a commitment to significant *expansion* of organic food production and sales in Denmark, based amongst other things on the expectations and

needs of the consumer; and to safeguarding *confidence* in organic products, a vital factor in the continued growth of this sector. But the Action Plan also incorporates the aim of *further development* of the organic form of production in order to meet the targets of environmental and social sustainability, healthy, high-quality foods and optimum animal welfare.

In brief, the organic sector aims to expand, to adhere to its principles in organic production and to develop the organic system of production further.

Under *Action Plan II – Developments in organic farming*, the Ministry of Food, Agriculture and Fisheries will strengthen and coordinate this development in partnership with all the relevant players.

In the early stages of organic farming, considerable groundwork was required at official levels to establish a series of fundamental parameters. These parameters comprised a state-accredited model for certification and labelling, aid schemes to encourage conversion, research into and development of the organic production system and educational and information activities.

The majority of these basic parameters were established in the course of the first 10 years in Denmark by its legislation on organic farming, not least in the context of the first Action Plan for the promotion of organic food production in Denmark (1995).

The aim of *Action Plan II – Developments in organic farming* is to act as an extension of the first Action Plan, giving a significant thrust to the expansion, consumer confidence in and general development of the sector.

Today, organic food production as a whole is characterised by considerably more than marginal volumes of production. At the same time, there are increasing differences between the market share of the different sectors of organic production, giving rise to the need for a more tailored range of support for tackling the obstacles to conversion to organic production.

The potential scale of organic farming is highly contingent upon the provisions of Agenda 2000, the reformed EU agricultural policies and their implementation in Denmark. The government's aim, encapsulated in its food policies, of encouraging organic food production as far as possible, can to a significant extent be met by promoting conversion to organic farming against the background of the formulation of the EU's new agricultural schemes and the implementation of these schemes in Denmark.

The future scale of organic farming in Denmark is inextricably linked with the perceptions and interests of the consumer. Stable sales at a premium of organic products is an essential prerequisite.

The demand for organic foods on the domestic market in Denmark is expected to continue to outstrip supply for some years. The retail sector plays an important role in this context: it will require new ways of presenting the products, such as giving details of the country of origin and the producer's name. At the same time, developing alternative sales channels such as farm sales and direct delivery systems can boost both sales and transparency/credibility because of the value of direct dialogue between producer and consumer. In addition, purchasing by the public sector is in the process of developing into a strong impetus to the promotion of organic production.

Danish organic food production can in time develop a significant export potential, a potential which can only be realised with support from both the public and the private sector. The interest is first and foremost from neighbouring markets. A number of Denmark's traditional export markets are experiencing marked growth in the demand for organic goods, but exports have hitherto been considerably restricted by the fact that the level of demand from the domestic market has meant there is no surplus available for export. However, in the course of 1999, production in the milk sector will increase sufficiently to permit export. In order for Denmark to be able to exploit this opportunity for exporting organic products, support must be given through public/private collaboration in respect of the fundamental parameters.

Today, organic food production enjoys not only the reputation of a means of production which is well-known and recognised amongst the general population but also considerable confidence as far as supervision of compliance with production standards is concerned. This high level of confidence in the 'Ø-mark', the Danish Government's equivalent of the British Soil Association symbol, and in state standard are significant reasons for the increase in organic purchases in recent years.

Maintaining confidence in organic food production is dependent on adherence to and strengthening of the Ø-mark. The production standards on which the symbol is based must satisfy the expectations of both consumers and organic producers as to respect for the environment, health, livestock welfare etc. This requires ongoing monitoring of and influence on the process of drawing up standards both at EU and at national levels.

In practice, developments in organic food production are a response to dialogue with the consumer. Moreover, in recent years, significant research, development and advisory support have been provided to underpin and supplement experience gained in practice.

Future development of organic practice at farm level and in the processing sector must build not only on practical experience/dialogue but also on improved research and advice. Together, these catalysts for development ensure that the organic food producers can give improved consideration of the environment, health, animal welfare, working conditions, education and training and traditional product qualities such as taste and appearance. There is an acute need within Europe for better breeding and growing of organic seed grain and seeds in order to satisfy the requirements of cultivation and quality. Denmark has the opportunity to take the lead in the further development of organic farming in these areas.

Organic food production today is also characterised by growing political interest in its function as an instrument of environment policy in the drive towards environmental improvement. The promotion of organic farming is therefore included as an element in both the 10-point plan for improving the aquatic environment and in Action Plan II of the Aquatic Environment. In addition, organic farming is an element of Denmark's efforts to improve biodiversity. Similarly, in the context of the pesticide management plan, investigations have been set in train into the possibility of phasing out pesticides in farming and into the consequences of a 100 per cent conversion to organic farming.

The environmental advantages of organic farming are part of the reason for the public subsidy for conversion to organic production and for sustaining organic cultivation on Danish farms. By this means, society pays for an environmental service which takes the form of a reduced burden on the environment. A corollary of the growing interest in the environmental aspects of organic food production is the need for greater investment in research and the formulation of rules which can identify and improve the environmental impact of organic food production.

Seen as a whole, the starting point for *Action Plan II – Developments in organic farming*, is the need to develop further, target and tailor the joint public/private support for organic food production, in terms not only of the laying down of standards, research and development but also of information. This requires tighter across-the-board coordination and improved advice to the Minister for Food, Agriculture and Fisheries. Under current legislation, the Council on Organic Food performs an advisory function

and will on this basis monitor and provide feedback on the implementation of *Action Plan II - Developments in organic farming*.

The initiatives embodied in the Action Plan apply to the following areas for action:

- Encouraging conversion in primary production, thus increasing the products available to the market.
- Stimulating product development and quality development in the broadest sense.
- Boosting sales on the domestic market through retail sales, alternative retailing channels and greater public demand for organic foods.
- Development of sales in neighbouring export markets.
- Amending official development instruments/subsidy schemes for the current and future needs of organic production.
- Securing continued research into organic food production.
- Adherence to and extension of the credibility of the Ø-mark.
- Promoting organic farming as an instrument of environmental policy
- Promoting organic farming in the reforms of the EU agricultural policy (Agenda 2000).

The timescale set for *Action Plan II – Developments in organic farming* is medium term.

The starting point for the analyses and recommendations presented in the Action Plan is the current situation and a resultant projection covering a period of 5 years.

The expectations of the Organic Foods Council are that *Action Plan II – Developments in organic farming* will be a useful tool for setting up the framework for the development of organic food production in the period 1999-2003.

However, all aspects of the Action Plan include elements which extend beyond the forthcoming 5-yr. period. It will therefore be necessary to ensure cohesion and continuity in the development by means of an ongoing assessment and follow-up of the recommendations in *Action Plan II – Developments in organic farming*.

## **The principles behind innovation and conversion in organic production**

Efforts to promote organic production on the basis of underlying philosophies can take two apparently divergent routes:

The *regulatory route*, whereby regulations, including prohibitions and licenses in respect of specific substances, steer production towards organic production methods.

However, such regulation-driven conversion does involve the risk of generating resistance amongst players and interested parties. It has proved to be the case that, in general, a prerequisite of financially successful conversion to organic food production is that the farmer and other players understand and share the organic ethos and are motivated to put the theory into practice.

Thus, there is the risk that farmers who feel pressurised to convert to organic farming will be less well motivated and will therefore both achieve poorer financial results and be less scrupulous in complying with organic principles, thus jeopardising confidence in the sector. The end result will inevitably be problems in terms of quality.

The second route is *development-oriented*. Tackling the various economic, production-related and procedural obstacles can facilitate conversion to the organic system. The underlying logic is that the best way of developing organic farming is in response to the market which is generated by demand for organic foods. Conversion is therefore motivated by a voluntary and positive principle. This involves a lower level of intervention of an official nature than is the case with the regulatory route. It can be seen as appropriate for conversion to take place at a natural pace which permits trouble-free adjustment of the biological production systems, and that farmers' attitudes to organic production will follow. Thus the farmer can contribute to the development of practice for which there is a continuous need within organic farming. The strengths of this developmental route have already been demonstrated by its contribution to the dynamic development of organic food production.

A basic requirement of the development-oriented model is a well-structured research and development apparatus which can supply expertise for the innovation process.

The work of the Organic Foods Council has included establishing a development-oriented model for ongoing advice regarding the encouragement of organic food production in Denmark, and this guiding principle has also

provided the basis for the present *Action Plan II - Developments in organic farming*.

### **Basic principles of organic farming**

Only a few decades ago, agriculture was evaluated exclusively on its capacity to produce plentiful, cheap food. The main aim of both farming and society was to achieve efficiency of production, resulting in lower prices. The increasingly intensive methods of agricultural production, however, were employed at the particular expense of environmental and natural resources. In more recent years, discussions on farming have revealed that the function as efficient food producer is no longer sufficient. The use of resources, the environmental impact, landscape aesthetics, bio-ethics and food safety play a vital role in the expectations and standards which now apply in agriculture.

Against this background, a strong, sustained interest has arisen, amongst consumers and farmers, in organic methods of food production and in organic foods. This interest demands a market and consumer-oriented, public/private partnership on the development of organic food production in Denmark.

### **Targets for organic farming**

Organic farming differentiates itself from conventional farming by the targets which it sets itself to meet in terms of greater respect for the environment, nature and livestock welfare. For example, the organic associations in Scandinavia have agreed on the following definition of organic farming:

*“Organic farming means a self-sufficient and sustainable agricultural system in equilibrium. The system is based as far as possible on local, renewable resources. Organic farming builds on an integrated ethos which encompasses the environmental, economic and social aspects in agricultural production both from a local and from a global perspective. Thus, organic farming perceives nature as an entity which has value in its own right; human beings have a moral responsibility to steer the course of agriculture so that the cultivated landscape makes a positive contribution to the countryside.”*

This very widely stated definition is amplified *inter alia* in the standards for farming laid down by the Danish Association for Organic Farming (LØJ), the Danish equivalent of the British Soil Association. These standards specify the following considerations in relation to the environment, animal welfare and food quality:

- To work as far as possible in closed crop rotations and to use local resources;
- To protect the natural fertility of the land;
- To avoid all forms of pollution which may arise from agricultural practice;
- To encourage a method of cultivation which takes the greatest possible account of the environment and the countryside;
- To produce foods of optimum nutritional quality;
- To reduce to a minimum the use in farming of non-renewable resources, including fossil fuels;
- To work towards upgrading the quality of urban and food industry waste products in order to be suitable for use as fertilisers in agriculture;
- To provide good conditions for all livestock, in keeping with their natural behaviour and needs;
- To do everything possible to ensure that all living organisms, from micro-organisms to plants and animals involved in farming, are treated sympathetically.

### **Organic farming and the precautionary principle**

The use of industrially manufactured pesticides and other environmentally harmful substances is not in general permitted in organic farming. In addition, feedstuffs fed to organic animals are not permitted to contain any genetically modified organisms - a prohibition which is expected to be extended in the near future to cover all organic foods. By virtue of these bans on pesticides and genetically modified organisms, for example, the risk of their presence in foods, drinking water and the environment may be prevented. This prevention can be seen as an alternative and more far-reaching precautionary principle than the risk assessment which underpins the use of pesticides in conventional farming.

The rationale behind the precautionary principle has its mainspring in the organic approach to the interplay between human beings and nature which is an important part of the ethos of organic farming. It is clear from the targets cited above that organic farming builds on a perception of nature as a totality which we are morally bound to respect, not only because it has its own intrinsic value but also because by using nature's own regulatory mechanisms we can achieve a more self-sustaining agri-environmental system. We perceive nature to be a hugely complex, cohesive system about which mankind does not always know enough to foresee the consequences of various discrete actions. Damage to nature and the environment may therefore in the final analysis also do damage to mankind.

Adopting the precautionary principle in organic farming is also justifiable as acknowledging our limited understanding of nature and the risk we run of damaging something of which we ourselves are a part. By way of clarification, given that nature constitutes an organic whole, mankind must beware of exercising too great an influence on any individual parts of the ecosystem because we cannot predict the consequences. We understand nature to have a far longer history than mankind, with its own regulatory mechanisms. Mankind/farmers must harness nature, rather than controlling and transforming it with the application of extraneous (industrially manufactured) materials. This interpretation is supported by phrases such as “protect the fertility of the soil” and “ensure that all living organisms are treated sympathetically.” This could be seen as a very utilitarian perception of mankind’s relationship with its natural habitat and foundations. According to this interpretation, it is distinguished from other methods of farming first and foremost by the conviction that a precautionary approach should apply and as little be changed as possible. The underlying reason is that we ourselves - or to be more exact, future generations - could suffer negative after-effects which we cannot now predict. Thus, this is a people-centred understanding of the ethical considerations which motivate our interaction with nature.

On the other hand, the dictum “nature has its own intrinsic value” may be understood to mean that we have an ethical duty to protect nature for its own sake. This point of view is based on the idea that nature’s abundant and various life forms and eco-systems have a value in their own right, independent of any value which mankind may or may not appreciate. The Norwegian, Arne Naess, designates this as “deep environmentalism” and contends that we have ethical obligations to these values irrespective of any significance they may have for people or other sentient beings. This division into people-centred and ecology-centred ethics easily leads to the view either that one attributes instrumental value to nature (to the practical or financial advantage of people) or that one accepts that there are innate values (intrinsic values) in nature which should be respected quite independently of the human agenda.

However, this division is too restrictive. Even if one takes the people-centred view, one can still perfectly easily believe that there are independent values in nature which we humans appreciate and therefore want others to consider. An example of this is wild herbs in ditches and hedges. There are many who want this habitat to be preserved in order to maintain natural resources simply because they attribute value to these resources and perhaps believe that the variety of nature in itself contributes to their enjoyment of a quality of life.

It is not clear which of the two views of natural ethics and the balance of nature is the more prevalent within the organic movement and unanimity on this point may not be necessary. However by virtue of its precautionary principle, organic farming is a means of satisfying to a greater extent the desire of diverse groups of the population for an improved environment and protection of natural resources.

### **Sustainability**

The basic tenet behind the organic understanding of sustainability is that an agri-environmental system is vulnerable and its long-term existence is dependent upon the balance between many elements which permit the reproduction of vital resources. That is to say that there are some fundamental elements in the system which are reproduced over time in a manner or at a rate determined by the viability of that system at an earlier stage. For example, the genetic characteristics of livestock are crucial to the next generation of livestock and the fertility of the soil at any given time is crucial to crop production at a later stage. Conversely, our actions today can affect, for example, the fertility of the soil to the detriment of agricultural yield later on. Focusing on the vulnerability of the system and its inherent characteristics can lead us to acknowledge the limited nature of our knowledge. Accordingly, organic farming focuses on a preventive approach, in contrast to conventional farming where the focus is on cure.

### **Developing aims**

The aims of organic farming are not only an expression of the values which organic farmers would like to and indeed are bound to adopt in their production, but also a form of consumer information on organic foods. When purchasing organic food, the consumer expects a guarantee that its production took account of a number of fundamental factors including the environment and the balance of nature. Society and the consumer clearly also have expectations that organic farming will continue to develop its system and production in a manner which will see its aims achieved, if possible to an even greater degree. If organic farming in the future is to provide an alternative to conventional farming, its aims must be pursued even more avidly and its underlying values developed.

Until a few years ago, farming was judged chiefly on its capacity to produce plentiful and cheap food. Farming and society therefore shared the main aim of greater efficiency of production in order to achieve lower food prices. Agriculture fulfilled this remit. But discussions in succeeding years on the increasingly intensive means of production have shown that the role of efficient food producer is no longer adequate. Environmental

impact, animal welfare, exploitation of resources, landscape aesthetics, product quality, health and food safety play an essential role in the expectations and standards which now apply to agriculture and food production.

## **Developments since 1995**

In 1995, Agriculture and Fisheries Minister, Henrik Dam Kristensen, initiated an Action Plan to promote organic food production. The Action Plan achieved the desired effect. Implementation of the recommendations<sup>3</sup> of the Action Plan helped to encourage conversion to organic farming although ever-increasing demand still exceeds supply in the case of certain organic products.

The growth of the organic sector means that organic food production is about to emerge from the pioneering phase; the next phase is characterised by a need for more developed and more tailored support from the public sector. This in turn implies a greater need for coordination.

Taking as a starting point the aims set out in Action Plan I, this section will give a brief account of the most important trends in the development of the organic sector since the implementation of the plan.

### **The consumer**

Consumer interest in organic products remains strong and on the increase. Some 47 per cent of Danish households buy organic products frequently or occasionally; of these, 15 per cent consistently buy organic products when they are available. There is therefore great potential for increasing sales amongst the consumers who occasionally buy organic products.

With a view to exploiting this potential, efforts must continue to improve the quality of organic products in terms of the broad parameters for quality which play a part in the consumer's choice of products, including the natural quality, environmental friendliness, nutritional value and food safety.

The Organic Foods Council therefore considers that consumer trends in the foods area will increasingly be influenced by the consumer's focus on the quality of products in the broadest sense. Demand will therefore increase for foods to meet the consumer's expectations not only in terms of physical features (consistency, taste, shelf-life) but also in terms of 'soft',

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<sup>3</sup> For a detailed examination of the recommendations of the first Action Plan and their implementation, see Appendix I: Plan of Action for the advancement of organic food production in Denmark 1995".

attitudinal characteristics such as “naturalness”, animal welfare ethics and so on.

The use of organic foods in institutional kitchens is also on the increase. In the 1997 Budget, the public sector was given a greater incentive to purchase organic foods with the allocation of DKK 40 million to encourage the purchasing of organic foods by municipal and county councils.

In the retail sector, it is calculated that sales of organic products can achieve a market share of 15-20 per cent of domestic market consumption, with liquid milk expected to account for 40% of domestic market consumption in the year 2000.

There follows a brief account of developments in the organic sector since 1995, taking these expectations as a starting point. Account is also taken of the other factors which will be significant to future developments in the sector.

### **Primary production**

The 1995 Action Plan set up the following targets for the development of organic production leading up to the year 2000:

- The target for primary production is for 7 per cent of Danish agricultural land, corresponding to 200,000 hectares, to be converted to organic farming
- Organic production in food production is expected to achieve the following levels of market share on the domestic market:
  - Liquid milk: 15-20%
  - Meat and other animal products: 10-15%,
    - of which pigmeat less than 1%
  - Cereals: 10%
  - Vegetables (potatoes, carrots, onions): 50%
  - Fruit: 2%

There has been considerable growth since 1995 in the numbers converting to organic production. In 1997, the organic acreage amounted to some 65,000 hectares.

Action Plan II of the Aquatic Environment from the beginning of 1998 included a target for conversion of a further 170,000 hectares by the end of 2003.

By the end of 1998, there were approximately 2,200 organic holdings in Denmark, with a total organic production area of approximately 99,000 hectares. Thus, the organically farmed area accounted for 3.7% of total agricultural land.

The number of organic holdings is expected to rise in 1999 to at least 3,300, with a total production area of some 150,000 hectares.

The rise in the number of growers who began the conversion process in 1997 and 1998 has, however, not yet borne fruit in a greater supply of organic cereals etc., because these holdings, in contrast with the holdings which produce animal feed for their own use, have to undergo a 2-year conversion period. Despite the fact that these holdings can sell organic crops in 1999 and 2000, the shortfall on the market is expected to continue during these 2 years and possibly even beyond.

Since the 1995 Action Plan was drawn up, with the primary purpose of satisfying the demand identified at that stage, it must be acknowledged that the situation has deteriorated somewhat and that there is now a marked shortfall of organic crops. For example, there are producers today who cannot start organic broiler chicken production despite demand from the market, because of the lack of organic feed. Similarly, there are pig producers who have had to delay conversion of pigmeat production for the same reason.

This deficit, which has also led to over 200% rises in prices of organic cereals must therefore be singled out as the greatest obstacle to the overall growth in organic production.

The 1995 Action Plan set targets for a better balance in conversion between the different sectors of production. There is currently a preponderance of dairy cattle holdings amongst organic holdings. 1997 and 1998 saw great advances in the number of growers who were authorised for organic operation, and a number of egg producers have converted. There are still relatively few organic pig producers and fruit growers.

### **Processing and retail**

There has been marked progress in production and sales within nearly all areas of production. This improvement applies to both volume and product range.

Liquid milk continues to be the most heavyweight product area in terms of production and sales of organic goods but partially processed flour and

grain products have also gained a strong market position, just as there has been a relatively large growth in production and sales of organic eggs. Organic meat still only has a small market share but here again there are indications of upward trends.

The strong increase in the sale of organic milk and dairy products is due in large part to the dairies' large-scale launching of branded organic dairy products. It has however, been difficult for the dairy sector to increase sales of cheese in an already saturated market but conversion amongst major cheese producers is already under way.

Production and sales of organic vegetables are approaching the expected market share while the organic vegetable sector is still characterised by a low level of processing. Major producers of frozen goods have introduced a number of frozen vegetables onto the market.

Demand for organic flour and grain products has significantly exceeded domestic production with the result that over half the raw materials for the production of flour, grain and bread have to be imported.

The preparation and sale of organic meat has also been an area of considerable growth and the meat sector has developed the range of meat products. However, there is a need for further product development if sales of greater volumes of fresh organic meat are to be achieved at the necessary premium.

Set out below is an overview of the market share of the individual product areas.

- **Milk and cheese:** Liquid milk 20%, cultured milk products 7.5%, cheese 2-3%, butter 2%
- **Flour and grain:** Rye flour 22%, Oatmeal 17.5%, Wheat flour 11%
- **Vegetables:** Carrots 10-12% , potatoes 7% , onions 3%
- **Beef:** 2%
- **Pigmeat:** Less than 1%
- **Eggs:** 13%

Source: Infood 1998

However, the strong developments on the domestic market have meant that the shortage of raw materials has represented an obstacle to the implementation of new initiatives and product development in the processing sector. In spite of the considerable progress made in organic farming since 1995, sustained support is still needed to create incentives for conversion in order to achieve increased production of raw materials.

There is a similar need for further developments within the processing and marketing of organic products in order to secure the quality which consumers expect.

### **Status of exports**

There is currently limited export of Danish organic products.

It may be unnecessary, even inappropriate, to encourage the export of Danish products as long as organic production cannot meet demand on the domestic market.

However, given the potential of Danish agriculture in the organic sector, the view is that Danish organic foods are at a considerable advantage on the export market. This opportunity should be exploited in order to secure a strong position on the individual markets while obstacles to penetration are still relatively low.

It would be appropriate for export-promotion activity to focus on those areas where the supply of raw materials is abundant, such as milk products. This tailored approach can be used to gain experience for future efforts.

### **Organic farming and economics**

There are currently no precise figures for imports and exports of organic food products. However, it is known that exports of organic products, particularly cheese, butter and carrots are low. On the other hand, the last 5 years have seen a steady increase in the import of cereals, animal feed, dried goods and so on.

It would therefore be accurate to say that in response to the great demand on the domestic market for organic goods, Denmark is currently a net importer of organic goods.

The 1995 Action Plan embodied several recommendations to initiate analyses of the impact on society of conversion of agriculture to organic production.

Acting on the basis of these recommendations, several research projects were instigated and will be completed in the next few years.

In 1998 the Danish Board of Technology concluded a production-related analysis of the possibilities of full-scale conversion to organic farming. This analysis has been unable to throw light on the economic consequences of full conversion in Denmark to organic farming, but has nonetheless contributed useful results in its published report "Organic Farming: The Vision".

The report from "Udvalget til vurdering af de samlede konsekvenser af en udfasning af pesticidanvendelsen" (*The Committee for the assessment of the overall consequences of a phase-out of pesticides*), which is to be submitted on 1 March 1999, will include a sub-report on full or partial conversion to organic farming in terms of cultivation, the financial effects on businesses and society, and environmental and health-related aspects. The results before us from the work of the committee are included in *Action Plan II - Developments in organic farming*.

### **Integration of organic farming into the conventional system**

One of the aims of the 1995 Action Plan was the integration of organic farming into agricultural research, advisory agencies, the major traditional food companies and in agricultural education and training.

This integration is in progress, both in food production and sales and in agri-political and agricultural institutions.

Thus, the traditional processing companies have begun to develop an organic range alongside their production of conventionally processed foods. At present, this trend is strongest in the dairy sector.

The process of integration is also apparent in the retail sector. In the early years it was the small businesses and health food shops which took the initiative and launched organic products but now the major co-operatives and retailing chains have started their own production and marketing of organic products.

In the sphere of agricultural research, there has been a high level of integration of organic research at the Danish Institute of Agricultural Sciences. Coordination of organic research is undertaken by the Centre for Research into Organic Farming. At the same time, a user's committee was set up with the aim of focusing research into organic farming on the relevant problem areas, with methods suited to the organic ethos.

At the institutional level, the traditional agricultural organisations have also played their part in the development of organic farming. Initially, the

Danish Family Farmers' Association and later the Danish Farmers' Union appointed councils and committees to debate aspects of industrial policy related to organic production. According to the articles of the Danish Family Farmers' Association, the president of the Organic Council is entitled to a seat on the Board. Moreover, the Organic Service Centre, an umbrella organisation for the organic sector trade organisations, has joined the Agricultural Council of Denmark.

The organic advisory function has finally been integrated into the conventional advisory system. Thus, the organic farming advisory service under the auspices of the Danish Agricultural Advisory Centre has been transferred to the local or regional associations.

The process of integrating organic production into the established companies and institutions can provide a platform for rapid promotion of organic foods and for further expansion of the sector.

Indeed, it is considered necessary for the innovative companies and organisations within organic food production to continue to play a significant role in the development of the organic sector, such that organic production, advice and research are conducted in a manner which complies with the organic principle and therefore sustains its credibility in tandem with a dynamic process of development.

It is important that in parallel with the integration of organic farming into the conventional system, the organisations which represent organic farmers, consumers and businesses continue to play a leading role in the development of the organic sector. The organic associations work to ensure that organic production, advice, marketing and research are conducted in a manner which complies with the organic principle and therefore sustains its integrity. It is the innovative organisations which, through further development of organic food production, lead the way towards the goals of an improved environment, ethical animal husbandry and healthy foods.

We therefore face a challenge to achieve conversion to organic principles in the food sector where both traditional and organic players - large and small - each make their own contribution to a continued dynamic development. This is why the Ministry of Food, Agriculture and Fisheries strives to involve the organic organisations in all aspects of the development project.

Given the relatively weak economic position of the organic associations by comparison with the established institutions and associations, they have been given support since 1988 by the Ministry of Food, Agriculture and

Fisheries for activities such as specialist seminars, information dissemination, market analysis and grassroots research. In addition, the support of the Grønne Fond (*the Green Fund*) has been available for the associations' analytical work since 1995.

In 1998, the organic organisations joined forces at Økologiens Hus (*the Organic Centre*) in Århus; those involved are the Danish Association for Organic Farming, the Organic Service Centre, the Biodynamic Association and the Danish IFOAM group. Økologiens Hus is a working partnership and service arm of the organic farming organisations. In September 1998, enterprises involved in organic production also established their own association, the Ø-group, the Association of Danish Organic Processors and Suppliers.

## **Conclusion**

The short-term aim of the 1995 Action Plan was to increase organic food production to match consumer demand. While it is not necessarily the case that the quantitative aims set for the individual product groups will be met in the year 2000, it may reasonably be concluded that the overall aims have been or will be broadly met by the turn of the century. The 1995 Action Plan prompted a rise in conversion, better consumer information, improved advice on and research into organic farming and a series of other initiatives, all of which have helped to encourage expansion, development and consumers confidence in organic food production. Consumers have acknowledged this investment with increased demand for organic products.

It is therefore appropriate for *Action Plan II – Developments in organic farming* to turn its attention to the horizons which are indicated above for the period around the turn of the century and towards the steps which must be taken to ensure that the public and private support for organic food production is developed further, targeted and categorised in terms of regulation, research, development, information and market and consumer-orientation. This process means that the Action Plan can provide the framework for the necessary coordination and leadership for development within organic food production.

The resumé set out below summarises the areas of support identified in the terms of reference and the recommendations which the Organic Foods Council was subsequently prompted to make. The wording of the terms of reference with reference to the specified areas of support is given in italics.

It must be pointed out that the recommendations in this resumé are not in chronological order, as their numerical order follows that used in the original Danish Action Plan.

## Consumption and sales

*The Action Plan will identify and assess the need for initiatives and support and shall set priorities for these in order to ensure continued growth in sales of organic foods.*

Consumer interest in organic products remains strong and on the increase. Approximately 47 per cent of Danish households frequently or occasionally buy organic goods; of these, 15 per cent regularly buy the organic products which are available. There is therefore a great potential for increased sales amongst those consumers who occasionally buy organic products.

Consumers are motivated by a wide variety of factors. Some “buy organic” for idealistic reasons based on concern for animals and the environment, while others do so for more "egotistic" reasons – primarily because organic products are healthier or because in their experience organic products have a better taste and/or quality. A considerable majority of consumers buy organic for several reasons and individual motivations can vary from product category to product category.

Consumers have great faith in the Ø-mark, evidenced by the fact that 75 per cent of those who are familiar with the symbol are absolutely confident that the standards governing the awarding of the symbol are adhered to. It is vital to the continued development of organic food production that this high level of confidence be maintained.

There are two, not necessarily mutually exclusive ways to maintain this confidence. One is a process of developing organic products further in a way which ensures that consumers’ expectations cannot be disappointed. Once this process has led consumers to perceive ‘organic’ as generally synonymous with quality, the products must maintain the standard and be developed into quality products in the broadest sense. The other is to continue to inform consumers of what the Ø-mark represents.

<p>Recommendation no. 5: It is recommended that the Organic Foods Council initiate a long-term information campaign on the Ø-mark, to include improved work on information on sales of convenience goods.</p>
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Although there are many contributory factors and pre-conditions which combine to explain developments hitherto in organic food production in

Denmark and also provide a springboard for its further development, the most crucial factor is the consumers' interest in organic foods.

In recent years, organic staple foods have gained a foothold in consumer consciousness, whereas processed organic goods have only a limited footing in the market.

In fact, large numbers of processed products have been launched but there is no detailed analysis of the possible reasons for the success or failure of these products.

It is therefore vital to the further development of organic food production to offer a broader product range than at present, to include a variety of processed organic goods.

Recommendation no. 1: It is recommended that the reasons for the success or failure of previously introduced processed organic products be investigated.

Recommendation no. 2: It is recommended that development initiatives be launched to create new or improved "ready-to-use" products prepared using organic ingredients, embracing processing technology and catering for market and sales requirements.

To the extent that organic products are improved and processed, it will become increasingly necessary for market-oriented product development to be conducted, targeted at specific consumer groups and taking into account all the quality parameters which the consumers clearly expect of organic products. It is at the same time essential that processing and distribution of organic products adhere to the same organic principles. Additional guidelines may therefore need to be laid down to apply to technological processing of organic products.

Recommendation no. 3: It is recommended that the needs and opportunities for laying down standards or guidance for the technological processing of organic products be investigated and that proposals be drawn up for the necessary standards and guidance for this area.

There can be no doubt that the demand for organic foods, in the same way as the demand for most other foods, is sensitive to price. However, it cannot be concluded that expansion of market share of organic products is

contingent upon a drop in prices. Expansion of market share can be brought about by improving the quality of organic products, for example through improved eating quality or a higher level of convenience; or by tackling other obstacles to increased demand, such as the availability of some goods.

Recommendation no. 4: It is recommended that consumers' attitude towards purchasing organic foods be analysed including the rise and fall in demand for individual product groups.

By establishing 11 state-controlled regions across the country, an additional level of control of organic food production was provided, including improved opportunities for cross-checking, a better basis for building up expertise in larger or more effective units, and more uniform controls, including a better basis for consistent decisions. Nonetheless, the relationship between the industry and the Danish Veterinary and Food Administration needs to be strengthened.

Recommendation no. 45: It is recommended that a working group be set up in 1999 under the Danish Veterinary and Food Administration, to include representatives of consumers and the industry, for ongoing debate of current questions of inspection and standards within the organic sector.

A number of the organic enterprises and farms are newly established, in the sense that they are either literally new or have undergone conversion from conventional to organic production. In addition to having transformed their production and product lines in this manner, many of the newly-established enterprises have experienced considerable growth in turnover. It is also true in the case of some of the businesses that this growth in turnover is achieved on the export market, which necessitates the formulation of a long-term strategy and planning.

Significant changes of this nature combine to have the effect that one-person or family businesses prove to have their limitations in respect of setting up a decision-making forum of sufficient quality and breadth of view. In some respects, setting up a professional Board will therefore relieve some of the pressure on the one-person or family business.

Recommendation no. 54: It is recommended that the Travelling Unit set up a panel of experts comprising people with expertise in organic food production and interested in a commitment to the development of small and medium-sized organic food businesses, for example by allocating them positions on the board. It is also recommended that the Travelling Unit be called upon to supply details of this panel to interested small and medium-sized organic food businesses.

Management development programmes have been set up within many sectors with a view to improving management skills and competencies and are targeted at SME's in particular.

It is considered appropriate to set up a similar programme for organic businesses and farms.

It must of course be emphasised that such management development programmes must underpin the value systems and fundamental principles. Management, knowledge of basic administrative processes in the enterprises, and knowledge of export markets and sales on international markets must be combined, with a focus on organic values and sustainability.

Recommendation no. 55: It is recommended that the possibilities be investigated for developing a management development programme, dedicated to SME's within organic food production. It is understood that, with the exception of the development costs, such a programme could be financed by the users.

Analysis of purchasing patterns in the staple goods trade as far as organic products are concerned shows that supply problems represent a significant obstacle to increased sales. Analyses indicate that there is a shortfall in dairy products in particular and that there are quality-related problems in the fruit and vegetable areas. These problems are experienced by the large shops in particular.

To a certain extent, this situation may be explained by this underlying shortfall in organic foods by comparison with consumer demand; but the Organic Foods Council believes that a strengthened relationship in the chain from plough to plate can improve the reliability of supply and thereby the supply itself.

Recommendation no. 6: It is recommended that the Organic Foods Council take steps to consolidate the partnership between the producer and the retail trade in respect of distribution, product development and sales of organic products.

Farm sales and box schemes must be seen as a valuable alternative to retail trade because sales of this nature give the consumer the option of combining the purchase of organic foods with direct contact with the primary producer. This direct contact is likely to be a significant element of the explanation for the high level of confidence which Danish consumers have in organic foods. Given this, it is important to promote the sale of organic foods on the basis of a pluralist strategy which will allow for both the retail trade and alternative methods.

Recommendation no. 7: It is recommended that the opportunities be improved for developing farm sales and box schemes.

Interest in organic farming amongst pupils and students at the various general basic educational establishments has risen sharply in line with the development of organic farming. This applies particularly in Denmark's *folkeskole* (primary and lower secondary, Years 1 to 10) and *gymnasium* (upper secondary, Years 11 to 13), but also to many vocational colleges, teacher training colleges and universities and many papers are now written on organic farming.

This pronounced interest in organic farming amongst students is a powerful resource in respect of maintaining and developing the positive interest in organic production and organic goods amongst the population as a whole.

It is therefore important to earmark resources for providing students with suitable and up-to-date information on organic farming. Traditional teaching material is not ideal in this context, as circumstances in organic farming are subject to such rapid change, and as there is wide variation in the approaches taken in the work set in the educational system. The Internet would therefore be the ideal medium for disseminating organic information amongst schools and colleges.

Recommendation no. 28: It is recommended that a central service function be set up for all educational institutions, offering, via the Internet, current and relevant information on prevailing conditions in organic farming.

## **Primary production**

*The Action Plan shall identify and assess the need for initiatives and support and shall set priorities for these in order to ensure continued growth within organic food production and sales of organic foods.*

At the end of 1998 there were approximately 2,200 organic holdings in Denmark, with a total organic production area of approximately 99,000 hectares. Thus, the organically cultivated area represented 3.7% of the total agricultural area.

The number of organic holdings is expected to rise again in 1999 to at least 3,300, with a total production area of some 150,000 hectares.

The rise in the number of growers who began conversion in 1997 and 1998, has not yet borne fruit in the supply of organic cereals etc., because these holdings, unlike those which produce animal feed for their own use have to undergo a 2-year conversion period. Even though these holdings can sell organic crops in the years 1999 and 2000, it is judged that there will continue to be a shortfall in the market during these years and possibly beyond.

Since the 1995 Action Plan was drawn up, with the primary purpose of satisfying the demand identified at that stage, it must be acknowledged that the situation has deteriorated somewhat and there is now a marked shortfall of organic crops. For example, there are producers today who cannot start organic broiler chicken production, for which there is demand from the market, because of the lack of organic feed. Similarly, there are pig producers who have had to delay conversion of their pigmeat production for the same reason.

This deficit must therefore be singled out as the greatest obstacle to the overall growth in organic production.

The 1995 Action Plan set targets for a better balance in the conversion between the different sectors of production. There is currently a preponderance of dairy cattle holdings amongst organic holdings. 1997 and 1998 saw great advances in the number of growers who were authorised for organic operation, and a number of egg producers have converted. There are still relatively few organic pig producers and fruit growers.

## **Obstacles to further conversion and increased productivity**

Organic livestock farming systems are characterised amongst other things by crop rotation with permanent clover meadows and row crops. These organic crops are an efficient means of nitrogen absorption and weed control.

An obvious possibility is therefore to suggest closer partnership between livestock farming and other types of farming so that the livestock farms can work to promote the development of plant production systems.

The purpose is to make the best use of the advantages of large-scale operations without compromising organic principles of balanced and integrated crop rotation. At the same time, such partnerships afford individual farmers the opportunity to develop their production in dialogue with other organic units. Finally, such partnerships can help to achieve more efficient recycling of nutrients.

Recommendation no. 8: It is recommended that the development be encouraged of new forms of and opportunities for partnership between farmers. Research is needed into how partnerships between holdings can be extended and to discover whether legislation and the organic codes of practice act as an obstacle for such partnerships. Further, all organic holdings should, whatever stage of conversion they may have reached, be able to enter into 2 types of partnership agreement whereby growers' crops are given equal organic status to those grown by livestock producers for use in their own system.

Large quantities of organic cereals and protein crops are currently imported, which does not necessarily satisfy the organic principles of using local resources etc. This problem may be more acute in future years when demand is expected to rise for a large number of organically produced cash crops including seeds, malting barley and cereals for breadmaking. A corresponding rise is expected in the demand for protein and oil crops, particularly in the context of the anticipated rise in the production of organic pigmeat and eggs. Given these factors, research is needed into the possibilities of eliminating the existing obstacles which prevent the increased production of these crops.

Recommendation no. 10: It is recommended that the possibilities be investigated for ensuring the supply of feedstuffs for animal production, possibly by addressing the technical obstacles to production. Furthermore, the opportunities for reducing production costs must be assessed.

Several model projections show that on the eastern Danish islands it is difficult to make organic plant cultivation competitive in financial terms with conventional farming, in spite of the attractive premiums on the products and the increased conversion grants.

This applies particularly to farms on Falster and Lolland, where the potential yield using conventional methods is very high. If this potential is not exploited on the same scale using organic methods, it will be difficult for the holdings to convert.

There is a general need for a region-by-region focus on the best means of practising organic plant cultivation on a realistic basis, to include more reliable documentation to show which yields can be achieved on holdings without livestock.

Recommendation no. 11: It is recommended that initiatives be put in place for more targeted support for organic plant growing, in areas where growing is the predominant form of husbandry. This support shall be concentrated on yield, finances and the environment through optimised organic operation and on the impediments to and solutions for individual crops.

Organic plant production is and should be characterised by large exports of nutrients. This is a factor which is not necessarily provided for in the current standards which allow a maximum purchase of 25% of the nitrogen requirement in the form of approved non-organic fertilisers. However, there are a number of waste products and nutrients in the community, which, on the basis of a recycling philosophy, could be approved for use in organic systems.

Nitrogen is often, albeit not necessarily always, the least readily available source of nutrients in organic plant cultivation. The nutrients potassium and sulphur can also be similarly restricted. One option is therefore to change the rules for importing nutrients in order to match more closely crop growers' needs and the opportunities for importing.

Recommendation no. 12: It is recommended that the need be investigated for supplies of nutrients for stockless systems.

Research in recent years has shown that there are many new opportunities for increasing production of organic crops including vegetables, consumer crops and fodder crops. In some cases, permanent clover pastures can be replaced by soil conditioning break crops whose function is to stabilise crop rotation and to improve nutrient stewardship and the opportunities for biological nitrogen fixation.

Similarly, changes to the range of species and varieties, possibly in connection with combined cultivation of cereals and pulse crops may create opportunities for improved supplies of nitrogen in crop rotation. The development of new technologies for the regulation of weeds, fertilisation, soil preparation and sowing also provide the opportunity to stabilise crop rotation in respect of the application of nutrient and weed controllers.

Finally, wider issues are relevant to increased efforts in relation to the improvement of strains and the development of cultivation techniques which can prevent problems with weeds, pests and diseases.

Recommendation no. 13: It is recommended that future research and development activities within the spheres of production of vegetables and consumer and forage crops be improved.

There is a need within organic greenhouse production for an integrated research programme. A central theme is how to feed nutrients to greenhouse vegetables and how to achieve sufficient accuracy in managing the effects of organic fertilisers.

Recommendation no. 14: It is recommended that a research and development programme be launched with a view to promoting integrated development of sustainable organic production of greenhouse vegetables.

In relation to the particular problems which prevail in the production of fruit and berries, and if there is any desire for Danish production of organic fruit and berries, special support is required for developing production systems which could achieve greater and more reliable yield of saleable fruit. A changed production system could, for example, take its starting point in cultivation technology initiatives (pruning strategies), the development of early warning systems, breeding resistant strains and the use

of wild stock which is suited to organic cultivation conditions; and research into initiatives which encourage populations of utility animals. It is also topical to look into the possibilities for the use of compatible crops and of the symbiotic effects of combined production for example of poultry and fruit.

Recommendation no. 15: It is recommended that fact-finding work be started immediately to develop further the organic production systems for fruit and berries.

The EU quality standards set standards for size in fruit and vegetables. These standard sizes are not necessarily appropriate for organic producers, in that organic apples and pears are generally smaller. Correspondingly, organic consumers are unlikely to expect organic fruit and vegetables to have the same surface appearance as those which are conventionally produced. Amendments to the quality standards would therefore help to increase the saleable yield and thereby be economically beneficial to producers.

Conversely, it is necessary to ensure that amended quality standards do not cause consumers to opt out of organic products. The precise requirements as to quality standards should therefore be determined in collaboration with interested parties in this area. It must at the same time be emphasised that amendments to the quality standards cannot in any sense substitute measures aimed at reducing pests: indiscriminating acceptance of pests can lead to increases in populations which can in the long run lead to difficulties for organic production.

Recommendation no. 16: It is recommended that the advisability be investigated of introducing tailored quality standards in order to allow for the qualities of organically grown fruit and vegetables.

### **Publicly owned land**

Although the land under organic cultivation has increased significantly since the 1995 Action Plan, the conversion of publicly owned land to the organic system would still represent a meaningful addition to the total of organically farmed land. However, there have hitherto only been sparse state or municipal initiatives in respect of requiring organic cultivation of the land.

No coordinated research has been done into the opportunities for and obstacles to the conversion of publicly owned land to organic production.

Recommendation no. 9: It is recommended that research be undertaken into the possibilities of converting publicly owned land to organic production.

### **Organic area payments**

The Organic Foods Council reports that the rate of subsidies was adjusted in 1998. The Council believes that it is essential for the future development of organic food production that the structure which will henceforth apply to the organic area payments (conversion aid and maintenance subsidy) as a model is retained for development in the coming years.

However, it can be demonstrated that there are ongoing changes to the background for operational economics within the individual sectors of production. The Organic Foods Council does not believe that a statistical interpretation can be applied to the prospective structure of the organic subsidy, as changes are likely not only in the EU context, such as the forthcoming livestock standards and the requirements of Agenda 2000 but also the price-related conditions determined by developments in the market price.

Recommendation no. 18: It is recommended that ongoing monitoring be introduced of economic trends in the individual sectors of production with a view to securing optimum levels for the conversion subsidy, so that the conditions are ensured for continued integrated evolution in organic farming. The Organic Foods Council will regularly follow up trends in the need for adjustments to the rates of organic area payments although the Council believes that the maintenance subsidy should until further notice remain at the present level in order to continue to provide an element of active assistance.

Many farmers are currently postponing conversion by 1 year if they do not satisfy the requirement for a minimum 50 per cent subsidised alternative crops in the year preceding conversion. The requirement is therefore delaying a more accelerated conversion.

Recommendation no. 17: It is recommended that the requirements be lifted for a minimum of 50 per cent subsidised alternative crops in the year preceding conversion in connection with the allocation of supplementary conversion aid.

However, the current requirement for an average of 50 per cent cereal or high value crops in the 5-year period of commitment should be retained.

### **Education and training**

New statutory instruments relating to basic agricultural education and training for skilled farmers came into effect on 28 June 1997. Organic farming was integrated into the courses offered at agricultural colleges and under the instrument on agricultural training, a new area of study was introduced - Applied Organics - in order to meet the rising demand for training in organics and sustainability.

In the light of the increasing focus being brought to bear on animal welfare and medication which bore fruit in, amongst other things, the introduction of the state-controlled quality mark, it is important for further education and for courses in organic production to cover the correlation between animal welfare and the incidence of diseases, with a particular focus on the organic standards for animal husbandry.

The framework for specialised organic studies has not been modified since 1992, but is on the verge of being overhauled. The framework for specialised studies includes courses in production management training, advanced production management training and agricultural economics. One of the conditions for running an agricultural holding of more than 30 hectares is a certificate from a specialist course at this level. However, the specialist courses do not at present include any elements on organic farming

Recommendation no. 27: It is recommended that organic farming be promoted at all levels of the agricultural education system. This applies in respect of present and future students of agriculture, further educational courses for established farmers, specialised courses in all sectors of farming and in the further training of agricultural consultants.

## Consultancy services

Given the rising number of conversions to organic production and increasing research and development activities concerning organic farming and production, coupled with a marked growth in market developments, the need is growing for advice on organic production in virtually all sectors of production. It is therefore important to reinforce and develop the provision of information. In this context, further education of organic farming consultants, with increased focus on the fundamental principles of organic farming, is of great importance.

Due to the particular obstacles in certain sectors of production, the need exists for a national campaign to supplement the otherwise decentralised advisory support.

Recommendation no. 29: It is recommended that a national organic fruit-growers' advisory service be set up in association with the existing fruit-growers' advisory service.

Given the highly specialised structure in farming, there is a great need for partnership between organic growers and livestock farmers. As the section on primary production explains, there are, however, a number of psychological and legislative obstacles impeding closer cooperation. In all probability, the advisory service, given increased aid, will be in a position to identify and develop new partnership models and thus overcome the current obstacles to increased cooperation.

Recommendation no. 30: It is recommended that within the budgetary framework of the legislation on consultancy services, increased aid be allocated for consultancy service in respect of advice on operational associations and cooperative projects amongst organic farmers.

In several cases, research has already provided concrete knowledge, albeit so new that it has yet to be fully developed or implemented. It is important that new knowledge be fully developed and demonstrated in collaboration with the advisory services and private organic farmers. One of the purposes of this collaboration with organic farmers must be to ensure that development continues to adhere to the organic principles and ethos. It is also absolutely essential to draw on the experience of organic farmers for the benefit of research and advisory work.

The advisory services also need to develop new management strategies which promote sources of nutrients other than artificial fertilisers and animal fertilisers and whereby the advice which is given concentrates on prevention rather than cure.

Recommendation no. 31: It is recommended that, taking the research farms as a starting point, an integrated campaign be launched with the aim, through a process of partnership and dialogue with organic farmers, of reinforcing the advisory base and achieving greater insight into the problems faced by organic farming; this would include using results from other research projects.

### **Organic standards**

There is a high level of confidence in the regulatory function fulfilled by the Government-appointed Danish Plant Directorate but there are areas which could be developed and improved: notably in respect of information on breaches and the relevant sanctions.

Recommendation no. 42: It is recommended that results of inspections be divided into several categories when they are published and should refer to the types of sanction applied.

Standards can in certain cases be susceptible of a number of different interpretations, and may also provide for exemptions. It is important to ensure that the interpretations of the Danish Plant Directorate are readily accessible not only to consultants/growers but also the general public. Improved accessibility of such information could help to reinforce consumer confidence and to minimise the number of breaches of the standards.

Recommendation no. 43: It is recommended that the Danish Plant Directorate set up a home page on the Internet giving information on standards, specific interpretations and details of exemptions.

Although on the one hand many consumers are familiar with and have full confidence in the Ø-mark, there are on the other hand relatively few who are familiar with the detailed standards or all the fundamental principles which are at the root of the symbol. This limited understanding of the standards behind production can represent a threat to confidence in the Ø-mark.

As organic farming progresses from minor niche production to large-scale production, where demand for the products comes from a large section of the population, there will, not least because of growing media interest, be several occasions which, justifiably or unjustifiably, generate doubt as to the nature of the standards governing production and their compliance with the organic ethos. This may arise, for example, when exceptional cases of abuse are discovered or where it is shown that the production standards are not in practice sufficiently stringent to ensure animal welfare. This situation has arisen in some flocks of chickens where the regulations then in force were followed.

In such situations the Ø-mark can be vulnerable, as the popular interest is still relatively new and relatively few consumers have sufficient knowledge of the production standards.

At the same time, organic products are exposed to stiff competition from other conservation grade or added value concepts which can on one or more points satisfy consumer expectations for improved animal welfare, environmental protection, health etc. In order for the Ø-mark to occupy a position of strength in relation to other quality concepts, its regulatory basis must be clearly distinguishable from other concepts.

It is therefore important to ensure at all times that there is a strong basis for consumer confidence in the symbol and in organic foods. Maintenance of this confidence must be ensured through better information on the principles and standards which lie behind the Ø-mark, in order to create long-term consumer preference for organic foods, based on familiarity with and views on the organic movement and will therefore not be vulnerable to individual cases of fraud or short-term deficiencies in the rules.

Recommendation no. 46: It is recommended that the standards which apply to the Ø-mark be regularly monitored and amended in line with fresh information, international regulation and technological developments, in order to retain customer confidence and to advance development of organic farming in line with its aims and objectives.

There are currently common EU regulations which apply to the cultivation of vegetables, with very limited possibilities for national interpretations. In livestock farming, there are still regulations which apply only to Denmark, but common EU regulations are currently being negotiated which will in turn supersede Denmark's standards governing organic livestock production. When the Codex guidelines for organic foods have been adopted, this

will also have a significant impact, as the Codex standards will provide the underlying guidance in cases of commercial disputes within the WTO system.

It is therefore important for the Danish government to continue to work to ensure that EU organic standards and the Codex Alimentarius guidelines satisfy Danish expectations in respect of organic products. It is important in this context to maintain a close and constructive dialogue between the authorities, The Organic Foods Council and consumer and commercial organisations.

Recommendation no. 47: It is recommended that pressure be maintained for EU organic regulations and the Codex Alimentarius guidelines to be developed in accordance with Danish expectations in terms of organic food production.

International codes are both necessary and beneficial in relation to production and sales of organic food products, as international trade in this area is essential.

On the other hand, it can also be desirable for binding standards to be laid down which apply only to Danish production, and which are stricter than those adopted at international level. This would not prevent EU products processed in Denmark being awarded the Danish organic symbol, the Ø-mark, but the consumers could be told that special standards apply in Denmark. Other countries will in their turn be free to stipulate standards which cannot immediately be met in Denmark.

Recommendation no. 48: It is recommended that work be done to ensure that the EU regulations on organic production include provision for additional national standards to be laid down.

As is currently the case, farmers will have to comply with these more stringent standards in order to qualify for subsidies for conversion and for maintaining production in line with organic principles. It may therefore be useful in some cases, such as in vulnerable water catchment areas, to investigate the possibility for more rigorous requirements to apply to the receipt of organic aid.

Recommendation no. 49: It is recommended that the possibilities be explored for upgrading standards for the use of fertilisers and natural manures in the context of receiving conversion and maintenance aid for organic farming. It should in this context be investigated whether a structure to supplement the organic standards could be elaborated in collaboration with the water suppliers, to operate in threatened water catchment areas.

### **Genetically modified organisms**

The current draft of the EU recommendations on livestock and organic animal-based food contains a total ban on the use of genetically modified organisms (GMO's) in organic production. The possibility of making specific exceptions is being mooted, for example whether sick animals can be treated with medicines produced by means of genetic engineering, in cases where there is no alternative. Once the legislation has been adopted, the ban will cover both animal and vegetable foods.

The current draft of the Codex dealing with organic vegetable foods includes a general ban on the use of GMO's or derived products; this proposal is likely to be adopted in the summer of 1999. This, in addition to the subsequent adoption of the standards in respect of livestock and organic animal feeds will mean a total ban in respect of all organic foods.

It is therefore to be expected that it will be specified in the very near future that genetic engineering has no place in organic production. The Danish approach is that the use of GMO's is fundamentally at variance with the organic philosophy; this is not based on considerations of health, but is an expression of the expectations which consumers have and associate with organic products.

In spite of the desire to maintain GMO-free production, this may become difficult to achieve without determined efforts to keep all organically produced animals and plants uncontaminated.

If GMO-free production is to be ensured, initiatives in the form of development activities etc. must be taken now, in order to secure a breeding régime which is tailored to organic cultivation practices.

Recommendation no. 51: It is recommended that plans be drawn up and resources set aside for active endeavours to ensure that non-GM seeds, seed grain, animal feed etc. are available in future and to ensure that new non-GM plant species are available as quickly as possible to the individual farmer, so that organic food production continues to be possible without the use of GMO's.

### **Working environment**

If organic farming is to promote its image and live up to consumers' expectations for a good working environment, documentation of the conditions relating to the working environment must be kept. There is no provision for this in the organic standards in the same way as for product quality, the environment and animal welfare. Systems should therefore be introduced whereby working conditions on individual holdings can be recorded, in a manner which is user-friendly, both for proprietors and employees in farming and for customers of organic products.

Recommendation no. 32: It is recommended that a strategy be formulated, to include the use of environmental audits, for improving working conditions in organic farming, if this is proved to be necessary by any investigations which are currently in progress into the working environment in organic farming.

### **Exchange of experience with Third World Countries and Eastern Europe**

In many developing nations, local NGO's (Non Governmental Organisations) have gathered and collated considerable experience of organic cultivation. Organic farming has been proved to be beneficial in improving soil fertility, combatting erosion, achieving profitable production for export and, not least, higher yield for the benefit of reliable, plentiful local food supply. But there is a lack of resources for sharing experience and for developing the markets for organic products.

Recommendation no. 33: It is recommended that avenues be explored for the use and exchange of experience in the sphere of organic production in relation to DANIDA's aid work and the Sector Programme for Central and Eastern Europe.

## Quality and health

*The Action Plan will include assessments of the development of the quality of organic foods by comparison with consumer demand, and trends in the relationship between producers and consumer expectations in respect of organic products. The Action Plan will identify initiatives which can encourage the development by processing companies of the quality of the products.*

Quality is an multifarious concept. Appearance, consistency and taste are the traditional components of quality, but quality is increasingly also associated with aspects such as environmental issues, animal welfare and ethical considerations.

Respect for and awareness of these aspects of quality will vary, not only amongst consumers as a whole but also for the individual consumer over time, depending on a variety of experiences and impressions.

The fact that organic production has now progressed beyond marginal niche production is due in no small part to the fact that organic foods offer a number of qualities which are prized by an increasing proportion of consumers.

It is therefore a central attribute of quality in this context that a food be produced in harmony with the natural rotation, where preventive methods replace pesticides and where animal welfare is respected. In addition, many organic consumers perceive organic foods to be more healthy.

Although organic foods are perceived by some consumers as representing several qualitative merits, continued development of organic food production is contingent upon the ability of the products to fulfil consumers' expectations in terms of all the quality parameters, including traditional as well as environmental and health-related values.

The incidence of even a tiny proportion of inferior quality organic products can therefore significantly impede the growth of organic food production, and measures taken to prevent this are very important.

This is the basis for a series of recommendations relating to aspects of quality in organic food production, from primary production through sorting, processing and storage to health issues.

Existing breeds of livestock and species of plants have been developed to combine high productivity and standardised product quality under conditions which involve nutrient-rich animal feed and fertiliser. When these breeds and species are farmed in the organic system, it is not always possible to exploit the great potential yield, and product quality can be significantly reduced. It is likely that the necessary genetic variety exists to develop genotypes which can efficiently produce high-quality products under nutrient-poor conditions. But there has only been limited focus on this fact in conventional rearing and breeding work, as it is generally speaking more profitable to use chemical fertilisers and concentrates than to use hardy genotypes.

Recommendation no. 21: It is recommended that a targeted initiative be set up, combining the forces of commercial and public agencies in a collaborative effort to produce species and breeding stock which are suited to organic production.

Consistent addition of excessive nutrients is in opposition to the organic philosophy. It is therefore particularly necessary to understand the relationships between product quality and all the relevant aspects of the system of production.

Recommendation no. 22: It is recommended that more intensified research and development work be conducted into the relationships between the system of production and product quality, extending this to include the suitability of the raw materials for subsequent processing.

In many forms of cultivation, a large proportion of production has to be rejected or used for low-value products because of surface blemishes, irregular size or shape, or the presence of insects, all of which make the products unsuitable for the fresh product market. The processing sector often demands the same or corresponding standards for the raw materials supplied for its products, as the processing equipment is geared to handle standardised items. In the case of many products, optimising modern sorting technology and re-thinking of processing procedures would permit significantly better use of raw materials in the case of many products.

Recommendation no. 23: It is recommended that development initiatives be launched with the aim of optimising sorting mechanisms and tailoring the organic raw materials used in the production of quality products.

Standards demanded in the processing of organic products are far more exacting than those applied to conventional products. This is due to the fact that consumers expect organic products to taste better, while additives and extraneous technical substances which are used to solve quality-related problems in conventional production are not permitted. The solutions include the use of the best manual traditions and practices, new practices which have been developed to combine modern processing technology with the organic standards and ethos, and maximised quality of raw materials. The challenge is to achieve this in a way which allows organic products to be produced at competitive prices. However, the producers cannot drop their standards of taste and texture.

Recommendation no. 24: It is recommended that research and development work be launched into new and improved methods of rational storage, processing and packaging of organic products in accordance with the principles of organic food production, with particular focus on quality and safety of the finished product.

The regulation on organic production does not legislate for the substances which are permitted to come into contact with the foods. A draft for the Codex guidelines on organic foods, which is expected to be adopted in the summer of 1999, includes a section on pest control. Prevention through “good manufacturing practice” must be the first line of defence. Once the Codex guidelines have been adopted, the best way of incorporating these standards into the regulation on organic production must be assessed, including the question of whether it is necessary to add specific substances whose use is permitted to combat rats.

There is an urgent need for new, safer means of preventing and solving pest control problems. Additional research is therefore needed into ways of preventing pests in warehouses and establishments, for example by suitable construction and layout of establishments and by laying down procedures and working practices.

Recommendation no. 25: It is recommended that research into pest control problems in relation to the storage and processing of organic foods be improved, to include the issues of prevention and detection.

Organic foods enjoy a position of great and growing favour amongst producers, consumers, politicians and the media. From scientific quarters in particular, attention has been brought to bear on its environmental aspects,

while for their part, consumers tend to concentrate on broad considerations of the quality of the food. The production of foods in sufficient quantities and of sufficiently high nutritional quality by primary agriculture will be one of the most important tasks which organic production must tackle. Apart from the requirement that foods must be disease-free and uncontaminated with pathogenic bacteria, the existing quality standards are largely limited to visual quality which does not necessarily reflect the real health-related value.

However, there is a conspicuous lack of genuine scientific research into the quality of organic foods and their impact on our health. Current knowledge is highly deficient in areas such as nutritional composition, health-related value and sensory and ethical qualities.

Recommendation no. 26: It is recommended that research projects be set up into the significance of organic and also biodynamic cultivation standards for the nutritional quality of selected and clearly defined crops.

## Export

*The Action Plan will present an assessment of the opportunities and need for initiatives in respect of the export of organic foods.*

The export of organic foods has only reached the early stages of a process of development. This is due to the fact that organic producers give priority to satisfying demand on the domestic market. As production rises, the opportunities for export will become more apparent.

It is clear from initial market research that the Danish market is the most advanced in terms of the production and sale of organic foods. This is due to the size of the market in relation to the size of the overall food market, consumer interest in and awareness of organic products, and professionalism in production, sales and labelling.

However, it is also clear that the market for organic products is also developing elsewhere; not least in the UK and in Germany.

There is also a need for initiating a series of in-depth analyses of selected export markets in order to achieve a better basis for organising export promotion initiatives.

Recommendation no. 39: It is recommended that in-depth analyses be conducted of selected export markets, namely the UK, Germany and Sweden in the first instance. The Ministry of Food, Agriculture and Fisheries should in this context establish a system whereby government-appointed consultants and ambassadors give ongoing feedback on the development of the organic market in the different countries.

However, it must be emphasised that the Organic Foods Council does not see it as its task to initiate market analyses which are designed with a view to launching and designing products; this task is the province of the enterprises involved.

Whatever the outcome of the analyses, it is considered to be appropriate that they should provide the basis for the general profiling of Danish organic food production and products.

Recommendation no. 40: It is recommended that a strategy be drawn up for a campaign to promote the image of Danish organic products on the export markets. The campaign should include activities at trade fairs and exhibitions, information for buyers, importers and wholesalers and should be designed so as to raise the profile of Danish organic standards, Danish organic products and possibly the Danish Ø-mark.

Further, it is crucial that campaigns must only be launched within the individual product groups as and when there are sufficient volumes available to make export possible. Market research is expensive and quickly becomes out of date and it is not conducive to exports if campaigns cannot be followed up with regular and sufficient supplies.

Organic authorisation and labelling schemes outside Denmark are typically in the private domain. It is therefore most often the case that the codes of practice in the different countries differ from the Danish, which again is an impediment to trade.

Consequently, it is crucial if exports are to be boosted that organic enterprises play a part in getting Danish controlled and accredited products approved on the relevant export market.

Recommendation no. 41: It is recommended that the Danish Plant Directorate and the Danish Veterinary and Food Administration, in conjunction with the Organic Foods Council, work to help raise the profile of Danish organic products on the export market.

The Danish authorities including the Danish Veterinary and Food Administration can issue a certificate confirming that an enterprise is subject to official organic inspections but not that a specific product is organic. This is current practice.

The Danish Veterinary and Food Administration can help exporting businesses to prepare informative material, also in English, about the Danish organic standards and organic inspections. The Administration can also participate to a limited extent in trade fairs and so on.

The possibilities of accreditation through the IOAS (International Organic Accreditation Service) should be investigated and the setting up of a working group should be considered, to help enterprises win approval for

their products on the export market, including by explaining the standards and requirements which apply in the individual markets.

## **Institutions and commercial kitchens**

*The Action Plan will include models for the best way to promote the use of organic foods in public and private institutions, commercial kitchens and canteens*

Approximately a third of the total consumption of foods in Denmark is accounted for by institutional and commercial kitchens in the public and private sectors: in the public sector it is chiefly in hospitals, nursing homes, prisons, and residential and day care institutions; in the private sector it is hotels, restaurants, teaching institutions and the commercial transport catering sector.

Large-scale consumers are clearly distinguished from the ordinary consumer by the fact that foods must normally be supplied to them in processed form in previously specified packaging and in large volumes. Deliveries are scheduled in advance to suit the needs of the consumer.

Some state and private institutions such as the *folk high schools* and Prison Service institutions have catering obligations which correspond to county council and municipal obligations. However, these institutions only receive 40 per cent subsidy for standard development projects in connection with conversion to organic foods.

Recommendation no. 34: It is recommended that the subsidy scheme for environmental purchasing agreements in county councils and municipalities be extended to include, as a pilot scheme, schools which fall within the ambit of the Act on Folk High Schools, establishments of higher education, Prison Service institutions and independent institutions which have catering obligations of a similar nature to those of municipal and county council institutions.

Many of the problems which need to be addressed in order for organic foods to be suitable for institutions and commercial kitchens are similar in nature. It would therefore be helpful to set up some form of uniform, systematic, nationwide system for disseminating expertise and experience to all municipal services and to catering managers and personnel in general. This dissemination could be undertaken by different institutions in collaboration, for example with the National Association of Local Authorities in Denmark, the School for Ecological Sales, Denmark, and the Danish Veterinary and Food Administration's industrial kitchen centre.

Recommendation no. 35: It is recommended that development projects be conducted on nationwide and regional information and advisory activities with a view to disseminating fundamental specialist knowledge to public services, institution managers and personnel, concentrating in particular on kitchen personnel.

Using reference material, newsletters, seminars, themed days and conferences, information activities can help to build up, retain and communicate expertise to all interested parties in tandem with the expertise and experience gained in the context of developments within the area.

Private production kitchens including those in the transport catering sector and enterprises in the hotel and restaurant sector are likely to market organic products in response to increasing supplies of raw materials and processed products.

Recommendation no. 36: It is recommended that the competence in the field of organic conversion, acquired over several years, be consolidated by means of the continued organic advisory service for commercial kitchens and canteens. It is proposed that the scope of the activities be extended to include large-scale consumers in the private sector.

Further training of kitchen managers and other staff is needed. However, no recognised qualifying further training has yet been developed.

Recommendation no. 37: It is recommended that a basic course be developed and established as part of general employment training; this may be in the form of further education modules to supplement existing training of kitchen staff and personnel in the organic food industry.

Many of the organic products which are used in public large-scale kitchens, canteens and institutions and comparable private canteens, restaurant kitchens etc. are produced locally and regionally. The use of locally and regionally produced products can reduce distribution costs, satisfy demand for fresh produce and reduce problems of unnecessary packaging.

Local/regional distribution centres therefore need to be set up to cater for commercial kitchens and canteens in the public and private sectors and for the smaller institutional kitchens and canteens.

Recommendation no. 38: It is recommended that the opportunities be investigated for setting up an appropriate number of local/regional distribution centres in the private domain.

Demand for organic products in public sector institutions is a central factor in the development of the organic sector. The public sector can generate substantial demand for high-quality organic products.

It is crucial that the public sector does more to influence the organic sector than simply to generate demand for the end product. What is also needed is for the public sector institutions to be more willing than at present to participate in the work of developing both new products and new service concepts for the sale of organic products.

For example, the public sector in the field of health and social welfare is creating considerable demand for organic foods (specifically in institutions catering for the elderly, children and young people and in the hospital sector). However, there is still scope for considerable growth in demand for organic products in public sector institutions.

This being so, there is a central role to be played by promotional mechanisms which stimulate collaboration between public institutions and private enterprises in the organic sector on developing both products and new supply systems.

Recommendation no. 53: It is recommended that avenues be explored for instigating and co-financing large-scale, broad-based development contracts.

## **The Environment**

*The Action Plan will help to provide increased opportunities for organic farming to play a significant part in protecting the environment and promoting sustainable development in agriculture.*

One of the tenets of organic farming is that it should give special consideration to sustainable production. When buying organic foods, the consumer therefore expects them to have been produced under a system which respects, *inter alia*, the environment, the balance of nature and the exploitation of resources.

If organic farming in future is to continue to provide an alternative to conventional farming, its aims must be pursued more vigorously. A description follows of how, through organic farming, cultivation and production can be developed so as to be more successful in achieving the aim of sustainability.

### **Leaching of nutrients**

One of the fundamental tenets of organic farming is the husbandry of nutrients. Leaching of nutrients is harmful to the surrounding environment and at the same time squanders one of the farm's valuable resources which is needed for maintaining the basis of production.

One of the effects of current regulations is that there is imbalance in the excess nutrients permitted on different types of farms, and early review of the regulations on fertilisers and cover crops etc. for different types of cultivation is needed. Similarly, the new standard stipulating that 6 per cent of the high-subsidy alternative crops must be mulch crops is too low in the case of nitrogen fixing mulch crops as these are essential to the fertility of organic soil.

This review will take into account not only the fundamental organic principles but also the results of new research, specialist agricultural expertise and the desire for a more simplified, efficient administrative system than is currently in place.

The most serious environmental problems are associated with holdings with a high level of intensification and with high imports of animal feeds or fertilisers. The solution to these problems lies in higher levels of balance and/or self-sufficiency in terms of animal feeds and fertilisers on

holdings or groups of holdings. This would allow a more balanced relationship between feedstuff and fertiliser production and the infrastructure for more efficient use of nutrients in rotations. It is also necessary to investigate how this aim of balance may be achieved in practice and how it can provide better developmental opportunities for organic cultivation in combination with livestock farming.

Recommendation no. 62: It is recommended that the standard on livestock be amended, setting the maximum rate of fertiliser use on accredited organic holdings at 1.4 DE/ha. Further, early appraisal is needed of the standards, including the standard for 6 per cent mulch crops, in order to achieve greater consistency between types of farms in terms of production in the context of break-down and the leaching of nutrients.

It should be investigated in the context of this appraisal how systems for the exchange of fertilisers, plant products and animals across the range of types of holding can be encouraged, in order to improve the exploitation of nutrients. It is extremely important for this work to be underpinned by research which will provide the framework for improved husbandry of nutrients. This research should cover the various types of farm and different rotations, types of soil and regional variations.

Recommendation no. 63: It is recommended that research be stepped up to provide basic knowledge of how to optimise husbandry of nutrients in organic farming in terms of both production and environmental issues; this work should include research into regular monitoring of trends in the use of nutrients on individual organic farms and the impact on the environment and the countryside.

## **Recycling of nutrients**

It is in the clear interests of Danish society that household and industrial waste be recycled in an environmentally responsible manner. Recycling is also in the interests of organic farming.

At present, organic farming in general is not providing any large part of the solution to society's problems in relation to the recycling of nutrients in agriculture, due to the fact that the current urban biological waste products do not easily meet the standards of quality set for non-organic fertilisers destined for use in organic farming.

However, there is a need for appraisal of the organic standards in this area, taking as a starting point organic aims, considerations of the environment, energy and resources, and the demands of the consumer and of the processing industry for high standards of quality in organic foods.

Recommendation no. 64: It is recommended that a detailed appraisal be made of the organic and environmental standards which apply for the use of different non-organic waste products.

There is also a clear need to re-think policies in relation to the treatment of waste water and urban ecosystems. The long-term aim would be to reduce the leaching of nutrients and to produce less polluting, more well-balanced fertilisers which can be recycled in organic farming without running the risk of spreading diseases, adversely affecting product quality.

Recommendation no. 65: It is recommended that research and development in the area of systems for treating urban waste be encouraged in order to permit assessment of how nutrients from urban waste can be ploughed back into agriculture.

### **Natural status and environmental protection**

One of the aims of the organic system is to promote cultivation practices which take the greatest account of the environment and nature. It is therefore in the interests of both society and organic farming to promote cultivation practices which take the balance of nature into consideration. If this aim is to be achieved, natural status and the balance of nature must be taken into account as an element of organic cultivation practices. It is therefore necessary to create better opportunities for organic farming to take the balance of nature and wild flora and fauna into account in its cultivation practices.

Recommendation no. 66: It is recommended that research and development work be launched to suggest indicators for the balance of nature and to develop practical tools to be used by advisors and farmers in consideration of the balance of nature specific to individual holdings.

In order to ensure that organic farming in practice gets closer to its ideals, a tool is needed which can help the individual manager to monitor developments on the holding in relation to his or her own goals; this would be both for internal use on the farm (management) and for external documentation.

Recommendation no. 67: It is recommended that models for environmental audits be designed, which will facilitate the process of achieving the organic goals and which can at the same time be compared with environmental audits for conventional holdings. An assessment is also needed of how environmental audits can be incorporated as part of the system of organic regulation while other official inspections of farms are correspondingly simplified.

One of the philosophies underlying organic farming is to promote steady development of forms of cultivation in response to local conditions and associated cultivations. It is therefore appropriate to investigate avenues for promoting the development of organic farms which are adjusted to take account of local natural and environmental issues in selected areas.

In order to exploit the potential in organic farming in this area, it will be necessary to stimulate development locally of types of cultivation in the context of local conditions and aims. This will require close collaboration between local authorities, farmers and researchers with a view to defining standards for cultivation practices and the need for monitoring. Designating large-scale adjoining areas where organic production would be the predominant system could provide important workshop forums for inter-discipline studies of the relationship between agriculture, its impact on nature and the environment and the development and organisation of local networks in order to ensure coordinated action.

Recommendation no. 68: It is recommended that the options be investigated for developing new forms of partnership between farmers, regional/local authorities and other interested parties in order to make the best use of the potential for environmental protection afforded by organic farming.

### **The fertility of the soil**

A well-functioning eco-system in healthy soil provides the basis for good decomposition of nutrients, good soil structure and a rich biodiversity in

arable land. Similarly, a well-functioning eco-system helps to keep harmful organisms to an acceptable minimum. In organic farming, the processes which affect and are affected by micro-organisms and fauna may not be manipulated by agrochemical input. Therefore, one of the basic organic tenets is “to protect the natural fertility of the soil”.

It is therefore important to provide organic growers and breeders with tools for cultivation which enable them to maximise the beneficial aspects affecting the biology of the soil while minimising the harmful. At the same time, it is important to determine which single organisms and functional groups perform key functions in the soil and to ensure that any micro-organisms which are applied (bio-intensification) to encourage certain processes and organisms have no detrimental effect on health or the environment.

Recommendation no. 69: It is recommended that systems be developed to give the advisory service and the organic farmer the competence to determine the fertility of the soil and thus to take operational initiatives to maintain and improve the quality of the soil. In the context of this project, integrated and long-term research should be conducted into this area. In addition, systems which can regularly locate and identify relevant micro-organisms in the agricultural system should be developed.

## **Energy and resources**

One of the fundamental aims of organic farming is to achieve sustainable production which conserves natural resources and does not have a detrimental effect on the environment. However, as awareness of this aim is low, a drive is needed to encourage reduced consumption of fossil fuels, to increase the use and where possible the production of alternative sources of energy and to disseminate information on pollution in organic farming.

This may be achieved through analysis of energy consumption in different forms of production and documentation of the technical options for reducing energy consumption. In this context, research is needed into the potential for reducing energy consumption within different agricultural production systems. An important element in this process is the development and dissemination of knowledge, for example on new types of housing, reduced soil preparation and weed control.

Recommendation no. 70: It is recommended that research provide more help in achieving the aims of organic farming in respect of reducing energy consumption per unit of production.

Hitherto, organic farming has not made any significant contribution in the form of generating sustainable, renewable energy. If the aim of conserving fossil fuels is to carry real weight there are a number of possibilities which should be investigated. It may be appropriate in the first instance to ensure self-sufficiency on the farm in terms of energy, and in the second, to address the question of selling the raw materials for energy production.

Increased production and processing of organic raw materials now generates a series of waste products which can profitably be recycled by means of biogas systems. However, research is needed into the effect on the fertility of the soil of degassed slurry and it must also be decided whether there are good grounds for amending the standards.

Recommendation no. 71: It is recommended that a research, demonstration and explanatory project be launched, with a view to investigating the possibilities of producing biogas in the context of organic farming.

Organic farming is also a potential provider of energy in the form of crops - biomass - which can be used for the generation of energy, both internally on the farm and in the wider community. However, it will be difficult to justify the role in organic farming of biomass production which breaks into the nutrient reserves in the rest of the cultivation system. A commitment must therefore be made to biomass systems with efficient nutrient husbandry, or the community's waste products might be used with due regard to considerations of health and hygiene.

Recommendation no. 72: It is recommended that an analysis be conducted of the role which biomass can play in relation to any targets for reducing the dependency of organic farming on fossil fuels. Further, research and demonstration activities should be instigated, focusing on the question of which biomass crops can justifiably be fitted into organic crop rotations.

Organic standards do not provide a guarantee that the organic aims will be achieved throughout the production process. It has therefore been pointed out in several sections of this Action Plan that the regulation of organic

production could be based on simple nutrient balances and the recording of the balance of nature and animal welfare. Such environmental or green audits include elements which could be used in a production cycle assessment of organic products.

The purpose of production cycle assessments is to take stock of the overall environmental impact of a product throughout the process of production, use and disposal. The methodology, which was originally designed for industrial processes, cannot be transferred directly to agricultural production systems, but the Organic Foods Council considers it to be important to increase readiness and sound knowledge of the problems associated with production cycle analysis, as this environmental appraisal tool will sooner or later be used in relation to organic products.

Recommendation no. 73: It is recommended that fact-finding work be conducted covering the options associated with production cycle analyses of organic farming.

### **Woodland stewardship and wetlands**

Future planning of land use must take account of wide-ranging expectations as to woodland stewardship and nature conservation. Future use of agricultural land is therefore conditional upon competing forms of land use and a general appraisal of agricultural land must therefore be seen in the light of land use as a whole in Denmark.

Meanwhile, there is in this context the possibility of using organic farming as an element in the process of nature conservation and stewardship.

Increasing conversion to organic farming will also give rise to appraisal of future land use overall in Denmark.

Recommendation no. 74: It is recommended that opportunities be analysed for involving the organic farming system as an environmentally beneficial element, on a par with other environmentally friendly agricultural systems, in the context of the future management of land in Denmark.

## **Health and welfare of livestock**

Recent years have seen a sharp rise in demand for organic animal products. As one of the important tenets of organic farming is to provide all livestock with good living conditions in keeping with their natural behaviour and needs, it must be accepted that consumers naturally assume that organic livestock enjoy high standards of welfare. In this context, animal health is a crucial factor in welfare, the consumption of medicines and the incidence of zoonoses.

The means of continuing to provide for the health and welfare of livestock are therefore an important factor in promoting organic food production. A series of recommendations as to the means of improving the health and welfare of livestock in organic livestock production in future are set out below.

### **Review of practices and standards**

Organic animal husbandry is generally characterised by high standards of health and welfare, but practical experience shows that there is an unacceptably wide variation amongst herds and flocks.

The organic principles state that “as far as possible, diseases in animals shall be prevented by selecting the breeds and strains of livestock, housing, feed ration etc. which are appropriate for the organic system of production used on each holding”. However, adapting housing and breeds and strains is a very long-term undertaking and the management of the farm is in itself crucial and often has more effect on the health and welfare of the animals. Thus, careful planning and a sound basis for management decisions are important elements in improving the health and welfare of livestock.

Recommendation no. 75: It is recommended that a review be conducted of practices applied and of the effect of the existing standards on animal welfare. The appraisal will provide the basis for further proposals for best practice and possibly for amendments to standards with a view to improving animal health and welfare.

As a step towards providing for animal health and welfare, a special plan can be drawn up when a livestock holding converts from conventional to organic farming, for reorganisation of the livestock, including activities which promote health and welfare.

In order to achieve overall satisfactory standards of welfare and food safety in organic husbandry, the Danish Plant Directorate must have the means of securing improvements. It is therefore important for the Danish Plant Directorate to grasp the new opportunity provided by the statutory instrument whereby the Directorate can require that an action plan be drawn up for guaranteeing the health and welfare of the livestock. The Danish Plant Directorate must have the opportunity to submit the plan to a panel of experts prior to implementation.

At the same time, it is important that the Danish Plant Directorate's inspectors are given the appropriate training, which will permit a suitably professional appraisal of animal health and welfare.

Recommendation no. 76: It is recommended that, whenever necessary, the Danish Plant Directorate stipulate that the livestock farmer draw up an action plan which will provide for the health and welfare of the livestock.

### **Health promotion in organic livestock production**

One of the basic principles of organic farming is that prevention is better than cure. Access to medicines is more limited and the standards for periods of retention after medication are more exacting than in conventional animal husbandry. This inevitably leads to a reduced use of medication but also requires greater awareness of health promotion.

In recent years, a number of studies have been conducted in Denmark and other countries into the incidence of diseases in organic livestock. Although these studies cannot immediately be summarised, the general impression is that the good state of health which prevails amongst many organic livestock is due in large part to the weight given by individual farmers to the parameters for organic production.

However, there is insufficient awareness of the risk of zoonoses and of which medical treatments are not suitable. An assessment is therefore needed of the risks of zoonoses particularly salmonella in pigs and poultry and campylobacta in poultry. Similarly, a better system is needed for recording cases of salmonella in relation to the type of unit and for explaining the opportunities and pitfalls associated with the current systems of cultivation.

It is important in this context to gather more information on methods for treating infectious agents in stock grazed outdoors, including information on the development of infection challenge not only within the livestock but also amongst outdoor stock using different production practices; information on options for planning penning rotations and slotting in crop rotations; and information on the requisite provisions for shelter/shade and grazing in large-scale units.

Recommendation no. 77: It is recommended that a fact-finding project be launched, to assess the risk of zoonoses, notably salmonella in pigs and poultry in organic animal husbandry systems.

### **The development of production systems emphasising health and welfare**

In many new areas of production, there is such uncertainty as to how production systems should be structured, that a targeted and coordinated research project is needed to develop systems and concepts which provide for health and welfare. This applies primarily to the production of organic broiler chickens, the organic production of chickens for organic egg production, the production of organic beef based on suckled calf and bullock production and to the development of systems for free-range pigmeat.

On the basis of considerations such as nutrient balance and parasite control it may be appropriate to combine several different types of livestock production (such as pigmeat and milk production) With such types of production come new requirements in terms of management and routine care and such systems need to be developed so as to provide for the health and welfare of livestock.

In the case of broiler chickens and live chickens for egg production there is an urgent need for breeding stock which is suitable for free-range rearing. Similarly, a review of available options for improving the state of health of other breeds by means of breeding programmes is also desirable.

There is also the need for action in other more established sectors of production: for example, developing sheds/farrowing pens which reduce crushing and developing loose housing systems for dairy cattle with reduced use of straw. A concurrent survey of diseases and health-related problems relating to the environmental aspects of the various types of production is also desirable.

Recommendation no. 78: It is recommended that the existing research activities relating to the development of organic animal production systems be stepped up and supplemented with studies which are aimed at disease prevention and welfare, including particular attention to aspects of breeding, feeding, housing systems, herd size, stocking levels and weaning.

### **Developing alternative treatments of diseases**

Finally, there is an urgent need for practical trials with phytotherapy and homoeopathy in controlled conditions and using ethical models. This need must be addressed in the context of likely future EU regulations in this area.

Recommendation no. 79: It is recommended that systems be developed for evaluating alternative treatments of diseases (phytotherapy and homoeopathy), *cf* in view of an anticipated standard in prospective EU regulations.

## Research and development

*Research in organic farming has grown considerably, but there is still a need for a targeted research programme to help to promote organic farming.*

The section below sets out only the recommendations on coordination and financing of the research programme. The details of the recommendation thus recapitulate the areas of action already indicated above.

The aim in setting up the Centre for Research into Organic Farming (FØJO) is to coordinate research into organic farming in Denmark with a view to maximising the returns from the resources which are allocated for research.

FØJO was established as a "research centre without walls", where the specialist research competence is provided by the approximately 100 researchers and 14 institutions which currently take part in the centre's research projects.

The research which FØJO coordinates will help in the development of organic farming towards more productive economic and environmental management and will thus facilitate conversion from conventional to organic farming. The research must achieve the highest international standards of quality and must be comprehensive, encompassing organic, social and economic issues and will take as its starting point the principles behind organic farming and the problems it addresses.

Recommendation no. 80: It is recommended that early evaluation be made of the specialist research activities which are coordinated by the Centre for Research into Organic Farming, to include consideration of whether dissemination of the results is satisfactory.

Research into organic farming should take as its starting point existing research skills and existing knowledge, so that the quality of the research can be maintained and Denmark can continue to build on its position at the forefront of research into organic farming.

The research must be comprehensive and based on a philosophy of recycling and prevention. Issues such as the environment, biodiversity and the balance of nature, animal health and welfare, food quality, health, nutri-

tional value and working environment, social, economic and sociological aspects will therefore be addressed as part of the concerted effort.

The overall aim of the forthcoming project is therefore to develop organic farming and to promote sustainable development of agriculture as a whole.

As organic research must be seen in a social context and must therefore be inter-disciplinary, it will be necessary, in order to drive the research forward, to draw on cross-Ministerial research activity; in addition to the agricultural aspects, this will also cover environmental, wildlife and health issues, as well as purely theoretical aspects.

Higher levels of research activity will be needed in future if Danish research in this field is to continue at international levels and to be effective in promoting organic farming.

Recommendation no. 81: It is recommended that funding for current research activities be increased to at least double the current level by the year 2003.

It is also important that organic research is prioritised as an integral part of the work of the advisory service of the Ministry of Food, Agriculture and Fisheries.

Recommendation no. 82: It is recommended that future research into organic farming be coordinated by the Centre for Research into Organic Farming with the involvement of the Advisory Research Committee of the Ministry of Food, Agriculture and Fisheries and the Organic Foods Council.

## **Administrative streamlining**

In the light of growth in the organic sector, and of the multiplicity and complexity of aid schemes, the Organic Foods Council has expressed the aim of simplifying administrative processes.

Organic area payments play a pivotal role in the conversion to organic farming, not least as a motivating tool which can provide the necessary stimulus for conversion in the sectors where motivation to proceed with conversion is limited, due to particular obstacles and risks.

With a view to maximising the impact of area payments as a motivating tool, offshoots of the scheme have been encouraged so that there is now a graded scale of rates of subsidy.

To cater for these graded rates, scrupulous supervision is required of the status of cultivation on individual holdings and of any subsequent procedures.

Recommendation no. 19: It is recommended that, within the framework of the forthcoming Danish rural development programme under Agenda 2000, the allocation criteria for the organic area payments scheme be simplified, and that the possibility of holding-based conversion aid be examined.

Since the 1995 Action Plan, standards governing applications for accreditation/reports on rotation plans etc. to the Danish Plant Directorate and applications for aid from the Danish Directorate for Development have been simplified so that since 1997 it has only been necessary to send one form to the Danish Plant Directorate.

It is still the case that the organic farmer has to send in an application for acreage-based aid to the EU Directorate and an organic report to the Danish Plant Directorate. Further streamlining requires, amongst other things, a common time-limit for applications for acreage-based aid and for the organic report to the Danish Plant Directorate.

Recommendation no. 20: It is recommended that efforts be redoubled to simplify administrative aspects of the organic area payments scheme so that organic farmers can make a single submission of all the necessary details in respect of organic stock inspection, acreage-based aid and organic area payments (applications for acreage-based aid and organic report). Out of consideration for new organic farmers this application/report should build on the details given in the application for acreage-based aid.

The number of organic producers has grown considerably in recent years and indications are that this trend will continue for the foreseeable future. Consequently, a review is needed of the current inspection service which caters for primary production, in order to ensure that it is efficient and user-friendly.

Recommendation no. 44: It is recommended that the Danish Plant Directorate's organic inspection procedures be reviewed in 1999.

The high level of confidence in the Ø-mark is contingent upon ongoing adjustment and tailoring of the standards, keeping pace with new information and experience.

Quick, efficient adaptation of standards must therefore be looked upon in future as a prerequisite for consumer confidence in the organic system.

Meanwhile, it is necessary to ensure that organic food production can be achieved within a framework which provides a reasonable timescale for planning. This is because purely biological factors make it difficult to realign and adapt production at short notice.

Recommendation no. 50: It is recommended that wherever possible, notice of at least 6 months be given of changes to standards.

However, allowance must be made for the fact that international regulations which are binding upon Danish practice in this area often come into effect at short notice. In such cases, the above recommendation cannot be realised.

## **Funding Action Plan II - Developments inorganic farming**

*The Action Plan will set out proposals for supporting the public/private partnership in the organic area. The options for setting up new funding models for the requisite investment in the context of the development of organic food production must be examined.*

With a view to implementing the recommendations of *Action Plan II - Developments in organic farming* in order to provide for continued positive development within organic food production in Denmark and adjustment of its fundamental parameters, it is necessary to gain an overview of and coordination between the sources of funding which currently make for these fundamental parameters, and activities in general.

There are at present a number of subsidies which have a bearing on the implementation of the recommendations of *Action Plan II - Developments in organic farming* and therefore on the development of organic food production in Denmark.

Taking as a starting point the recommendations in the Action Plan and therefore the comprehensive development and conversion activities whereby continued growth in organic food production is to be ensured, there is a need for improved coordination of the exploitation of the various sources of funding which, in turn, can help to realise the recommendations of the Action Plan.

In the public, quasi-governmental and also the private domain there are a number of sources of funding and subsidies which have hitherto had only a limited element which could be described as organic. However, it is possible by means of development of these sources of funding and subsidies to obtain funding to implement the recommendations of *Action Plan II - Developments in organic farming*.

In identifying the subsidies and sources of funding, the Organic Foods Council has laid down the following prerequisites:

- The subsidy or source of funding must be appropriate for the development of organic food production.
- Coordination in this area must be achieved through teamwork in the form of advice from the Organic Foods Council and dialogue with the administrators of the relevant subsidies or sources of funding.

The overall budget framework for promoting organic food production in the next 5 years amounts to approximately DKK 2.2 billion.

Taken as a whole, the Organic Foods Council estimates that the costs involved in the recommendations of the Action Plan will, as far as the 1999 financial year is concerned, be covered by the grants earmarked in the budget for that year.

Given that *Action Plan II - Developments in organic farming* touches upon several major areas of political agreement - Action Plan II of the Aquatic Environment settlement, the Agreement on Pesticides and the agreement in respect of the 1999 Budget - the Organic Foods Council believes that there is a need for continuous monitoring of developments in the demand for the provision of funding for the development specified in the Action Plan.

In the coming financial year, the Organic Foods Council will regularly monitor developments in the need for adjustments to the existing sources of funding.

For more a more detailed account of the funding of *Action Plan II - Developments in organic farming*.

### **Organic area payments**

In the Danish Government's budget estimate for the period 2000-2002, funds have at this juncture been earmarked for conversion to organic farming on a total of 70,000 hectares or an average of 23,000 hectares per annum.

On the basis of the applications for accreditation received by the Danish Plant Directorate by the end of 1998, 50,000 hectares in total are expected to be converted in 1999. In the light of Action Plan II of the Aquatic Environment agreement of early 1998, which includes a requirement for the conversion of a further 170,000 hectares by the end of 2003; and on the basis of the predicted conversion to organic farming as presented in Chapter 3 of the Action Plan, the Organic Foods Council believes that a corresponding level of conversion in the coming years is likely. This may mean that additional grants will be needed.

In this context, the Organic Foods Council will point out the additional benefits of integrated land use under the organic system, which provides for food production and environmental considerations including the question of pesticides, by proposing that organic farming be given higher pri-

ority in cases where it emerges that other initiatives under Action Plan II of the Aquatic Environment may be unable to meet the specified aims and can therefore not use the allocated funds.

Recommendation no. 83: It is recommended that funds be allocated for conversion of 50,000 hectares per annum until the year 2003. It should be pointed out here that the Organic Foods Council does not believe that the revenue from the pesticide tax scheme should necessarily be used to finance organic aid nor be of the same order of magnitude as the organic aid.

It is recommended that, if necessary, a new order of priority be drawn up for the allocation of the total funds provided in Action Plan II of the Aquatic Environment for the benefit of organic farming, if it emerges that there is greater interest from farming quarters in this type of production than in other methods which Action Plan II of the Aquatic Environment specifies.

### **Partnership with institutional investors**

With a view to ensuring a better capital base for financing organic development projects, consideration is needed of how the product development scheme, for example, can join forces, financially and in terms of risks, with private investors (financial institutions).

By means of such partnerships, research institutions and the Danish Directorate for Development, for example, make their expertise and other experience available to the development companies. In this context, these players represent attractive partners who can add to the development companies' basis for decisions on the funding of commercial projects in the organic sector.

By way of example of a partnership in operation, the Danish Directorate for Development would approach a development company with a concrete proposal for a project which the Directorate is either willing to finance in partnership with the development company or would like to transfer to a development company where the profile of the project does not match the funding parameters of a given subsidy scheme.

Recommendation no. 52: It is recommended that the options be explored for involving financial backers in the development and funding of projects with commercial aims.

### **Production and pro mille levy funds**

The increase in organic activity and in payments from the organic sector into these funds are expected to lead to a rising share of per thousand and production tax funds in connection with co-financing of organic research activities and marketing.

Recommendation no. 84: It is recommended that the Minister for Food, Agriculture and Fisheries take steps to ensure that the agricultural production and pro mille levy funds annually earmark funds for the organic sector, such as for research and experimental activities, advisory functions, sales promotion etc., which account in large measure for the organic sector's share of output in the individual sectors of production.

### **Agenda 2000 and funding for the development of organic food production**

EU agricultural policy is of great significance to the future profitability and scope of organic food production.

The EU Commission proposes an amalgamation of the existing structural funding regulations and the supplementary provisions under the 1992 reforms - environmentally friendly agricultural measures such as organic farming, voluntary early retirement schemes and woodland stewardship. The EU Commission has stated that the same annual sum will be available for structural measures under the new policy as for the current period. It has at the same time indicated that the individual member states can expect the same annual total funding as at present. The proposal for the new rural development scheme provides for a budget increase for supplementary provisions (early retirement schemes, woodland stewardship and environmentally friendly farming, including organic farming) from 2.62 billion ECU to 2.8 billion ECU per annum. There are also funds available in relation to horizontal decision-making processes (cross-compliance).

In the context of scheduling i.e. drafting the application for aid, it is up to the individual member states to determine how they will distribute the total

national funding amongst projects such as specifying co-financing rates. In the same way, it is up to the individual member states to set their own levels for how “green” and environmentally friendly the measures under the rural development scheme will be.

When the regulations on rural development have been adopted together with the rest of Agenda 2000, the member states must, before the end of 1999, draw up proposals for national rural development plans which will be forwarded to the Commission for approval, so that the plans can come into effect at the beginning of the year 2000. These plans shall include the member states’ proposals for the priorities for the individual elements of the rural districts policy.

Recommendation no. 56: It is recommended that the Organic Foods Council should be actively involved in drawing up Denmark's rural development plan, when, in the course of 1999 the contents of the Agenda 2000 proposals are given political clarification at EU level.

Freezing the budgetary framework for EU co-financing of environmental initiatives in agriculture can have consequences for Denmark’s activities in the area of organic production and in connection with other environmental initiatives under Action Plan II of the Aquatic Environment. In its first plan under RFO 2078/92 (1994-1998), Denmark had a total expenditure refundable by the EU of approximately DKK 575 million. 26 per cent of the total funding was originally earmarked for the organic sector and 74 per cent for environmentally friendly agricultural schemes. After some years, the organic sector exceeded the 26 per cent mark for EU co-financing but this did not cause difficulties as there was less demand for other programmes (reduced nitrogen spreading, pesticide-free headlands, green cover). The funds could therefore be used in the organic sector.

No significant increases are expected in the total funding for EU co-financing, which may cause problems for Denmark when drawing up the forthcoming rural development plan.

Recommendation no. 57: It is recommended that, in the context of the drafting of Agenda 2000, efforts be made to secure the largest possible EU grant for the organic sector.

Article 45 of the Commission’s proposed reforms of schemes for developing rural districts sets out the possibility of increasing co-financing rates

(55 per cent as against 50 per cent) for schemes which from an environmental point of view are of particular value.

Recommendation no. 58: It is recommended that efforts be made in the context of negotiations on Agenda 2000, to secure the highest possible co-financing rate for schemes connected with organic farming, and thereby to set EU environmental farming schemes on a more equal footing with market schemes.

Not included in the regulations on structural funds is RFO 2200/96 whereby support is made available for organic fruit and berry producers' organisations for large-scale market orientation, with the accent on quality, handling and the environment.

Recommendation no. 59: It is recommended that, in the context of the formulation of the rural development scheme on improving the processing and sales of foods, Denmark give priority to organic foods.

Due to more balanced crop rotations, organic farms have a relatively large acreage under grass and green manure, and a relatively small acreage under cereals, oil seed and other EU-subsidised crops. As a result, organic farmers are in receipt of less subsidy from the acreage-based aid scheme than conventional farmers.

Recommendation no. 60: It is recommended that in the context of the Agenda 2000 negotiations the Minister for Food, Agriculture and Fisheries work to achieve adjustments to the market schemes to achieve parity for organic and conventional farming as far as acreage-based aid is concerned.

In the light of the influence of organic farming following the Agenda 2000 reforms, and the opportunities to promote organic food production through the drafting and incorporation of the reforms, it is important for organic views to be given a better hearing in the discussions concerning Agenda 2000 and in the implementation phase in Denmark following the reforms. The Organic Foods Council can draw on a wide-ranging store of knowledge in terms of production, sales, business economics, the environment and agri-politics in the sector.

Recommendation no. 61: It is recommended that the Organic Foods Council be listened to on all matters with a bearing on organic farming including the reforms of EU agricultural policies and other EU matters.

## **Following up Action Plan II - Development in organic farming**

Under the legislation, the purpose of the Organic Foods Council is “to promote, monitor and assess the opportunities for developing Danish organic food production”.

Since its inception in 1987 the Organic Foods Council has discharged this office without interruption, submitting a number of reports and evaluations to the Minister for Food, Agriculture and Fisheries in order to achieve amendments to legislation, response to labelling agreements including the introduction of the Ø-mark, inspection issues, subsidy rates etc.

The Council represents a cross-ministerial, wide-ranging forum to mediate with the NGO's. It therefore resides over considerable knowledge and expertise in respect of organic issues.

The Council's central areas of work have been to review development and information projects and initiate specific inquiries in the organic sector.

The Organic Foods Council believes that it is essential to set up a process of ongoing monitoring and appraisal of the implementation and performance of the Action Plan, using the council's existing pool of expertise.

The Organic Foods Council also hopes to carry on a balanced, constructive and close dialogue with the Minister for Food, Agriculture and Fisheries and the foods sector on developing organic food production in Denmark.

<p>Recommendation no. 85: It is recommended that the Minister for Food, Agriculture and Fisheries take steps to ensure that the Organic Foods Council has the opportunity to report regularly on the implementation of the recommendations in <i>Action Plan II - Developments in organic farming</i>.</p>
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It is proposed as an extension of this recommendation that the Organic Foods Council present a status report to the Minister for Food, Agriculture and Fisheries on the implementation of the recommendations in *Action Plan II - Developments in organic farming*, including a report on the recommendations in the 1995 Action Plan which are being implemented.

## **Annex. List of institutions and associations mentioned in the action plan**

<b>English name</b>	<b>Danish name</b>
DANIDA	DANIDA (Danish International Development Assistance)
Danish Family Farmers' Association	Dansk Familielandbrug
Danish Farmers' Union	De Danske Landboforeninger
IFOAM	IFOAM (International Federation of Organic Agriculture Movements)
Sector Programme for Central and Eastern Europe	Øststøttepuljen
The Advisory Research Committee of the Ministry of Food, Agriculture and Fisheries	Fødevareministeriets Rådgivende Forskningsudvalg
The Agricultural Council of Denmark	Landbrugsraadet
The Association of Organic and Biodynamic Milk Producers in Denmark	Landsforeningen af Økologiske og Biodynamiske mælkeproducenter i Danmark
The Biodynamic Association	Landsforeningen for Biodynamisk Jordbrug
The Centre for Research into Organic Farming	Forskningscenter for Økologisk Jordbrug
The Council on Organic Agriculture	Det Økologiske Jordbrugsråd
The Danish Agricultural Advisory Centre	Landbrugets Rådgivningscenter
The Danish Association of Organic Farming	Landsforeningen Økologisk Jordbrug
The Danish Board of Technology	Teknologirådet
The Danish Consumer Council	Forbrugerrådet
The Danish Dairy Board	Mejeriforeningen
The Danish Directorate for Development	Strukturdirektoratet
The Danish Economic Council of the Labour Movement	Arbejderbevægelsens Erhvervsråd
The Danish Environmental Protection Agency	Miljøstyrelsen
The Danish Institute of Agricultural and Fisheries Economics	Statens Jordbrugs- og Fiskeriøkonomisk Institut
The Danish Institute of Agricultural Sciences	Danmarks JordbrugsForskning
The Danish Ministry of Environment and Energy	Miljø- og Energiministeriet

The Danish Ministry of Food, Agriculture and Fisheries	Ministeriet for Fødevarer, Landbrug og Fiskeri
The Danish Ministry of Foreign Affairs	Udenrigsministeriet
The Danish Pest Infestation Laboratory	Statens Skadedyrslaboratorium
The Danish Plant Directorate	Plantedirektoratet
The Danish Veterinary and Food Administration	Veterinær- og Fødevederedirektoratet
The Division for Development	Udviklingskontoret
The Foreign Service of Agricultural Counsellors	Fødevareministeriets statskonsulenttjeneste i udlandet
The Fund Section	Fondssektionen
The Green Fund	Den Grønne Fond
The Institute of Product Development, Technical University of Denmark	Institut for Produktudvikling, DTU
The Joint Committee on Organic and Biodynamic Farmers	Samarbejdsudvalget for Økologisk og Biodynamisk Jordbrug
The MAPP Centre - The Centre for Market Monitoring, Assessment and Processed Food Production	MAPP - Center for Markedsovervågning, - Vurdering og -Bearbejdning til Fødevaresektoren
The National Agricultural Advisory Centre	Landbrugets Rådgivningscenter
The National Association of Local Authorities in Denmark	Kommunernes Landsforening
The National Environmental Research Institute	Danmarks Miljøundersøgelser
The Non-food Secretariat	Non-food sekretariatet
The Organic Foods Council	Det Økologiske Fødevareråd
The Organic Service Centre	Økologisk Landscenter
The Production and Pro Mille Levy Fund	Produktions- og promilleafgiftsfonden
The Research Department of Human Nutrition, the Royal Veterinary and Agricultural University	Institut for Human Ernæring, KVL
The Research Secretariat	Forskningssekretariatet
The School for Ecological Sales, Denmark	Skolen for Økologisk Afsætning
The Travelling Unit (similar to the former ADAS in the UK, Agricultural Development Advisory Service)	Rejseholdet
The Ø-group, the Association of Danish Organic processors and Suppliers	Ø-gruppen, Dansk Økologileverandørforening

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**ISBN 87-90327-47-0**