

# ORGANIC AGRICULTURE

- ALTERNATIVE FOOD PRODUCTION -



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## FOREWORD

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*The following paper is a compilation of a several documents. It is a summary of reports, facts sheets and internet data and can be used as an information source in order to have an overview of fair-trade specificities. The references in the documents used are available in the annex of this document. The references of the documents used are available in the annex.*

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## GLOSSARY

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**Certification** is the procedure by which official certification bodies, or officially recognized certification bodies, provide written or equivalent assurance that food or food control systems conform to requirements. Certification of food may be, as appropriate, based on a range of inspection activities which may include regular inspection, auditing of quality assurance systems and examination of finished products

**Certification body** means a body which is responsible for verifying that a product sold or labelled as "organic" is produced, processed, prepared handled, and imported according to these guidelines.

**Competent authority** means the official government agency having jurisdiction.

**Genetically modified organisms** are produced through techniques in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination.

**Ingredient** means any substance, including a food additive, used in the manufacture or preparation of a food and present in the final product although possibly in a modified form.

**Inspection** is the examination of food or systems for control of food, raw materials, processing, and distribution including in-process and finished product testing, in order to verify that they conform to requirements. For organic food, inspection includes the examination of the production and processing system.

**Labelling** means any written, printed or graphic matter that is accompanied with the food, or is displayed near the food, with the purpose of promoting its sale or disposal.

**Livestock** means any domestic or domesticated animal including bovine (including buffalo and bison), ovine, porcine, caprin, equine, poultry and bees raised for food or in the production of food. The products of hunting or fishing of wild animals shall not be considered part of this definition.

**Marketing** means holding for sale or displaying for sale, offering for sale, selling, delivering or placing on the market in any other form.

**Official accreditation** is the procedure by which a government agency having jurisdiction formally recognizes the competence of an inspection and/or certification body to provide inspection and certification services. For organic production the competent authority may delegate the accreditation function to a private body.

**Plant protection product** means any substance intended for preventing, destroying, attracting, repelling, or controlling any pest or disease including unwanted species of plants or animals during the production, storage, transport, distribution and processing of food, agricultural commodities, or animal feeds.

**Preparation** means the operations of slaughtering, processing, preserving and packaging of agricultural products and also alterations made to the labelling concerning the presentation of the organic production method.

**Product of agricultural origin** means any product or commodity, raw or processed, that is marketed for human consumption (excluding water, salt and additives) or animal feed.

**Production** means the operations undertaken to supply agricultural products in the state in which they occur on the farm, including initial packaging and labelling of the product.

**Veterinary drug** means any substance applied or administered to any food-producing animal, such as meat or milk-producing animals, poultry, fish or bees, whether used for therapeutic, prophylactic or diagnostic purposes or for modification of physiological functions or behaviour.

## INTRODUCTION

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### 1. Context

Organic agriculture is becoming of growing importance in the agriculture sector of a number of countries, irrespective of their stage of development. For example, in several developed countries organic agriculture has come to represent a significant portion of the food system (10 percent in Austria, 7.8 percent in Switzerland) and many others are experiencing growth rates that exceed 20 percent annually (i.e. USA, France, Japan, Singapore). Some of the developing countries have small domestic organic markets (i.e. Egypt) and a few have begun to seize the lucrative export opportunities presented by organic agriculture (i.e. exports of Mexican coffee, Ugandan or Burkina Fasan cotton).

For many years, and with great success, the private sector alone has developed the concepts and markets for organic products. However, the rise in consumer interest has created new interest from the public sector, and producers are particularly in need of good information. Governments need to know the potential of organic agriculture to contribute to sustainability in order to direct research and extension efforts.

The World Food Summit Plan of Action recognized the importance of "appropriate input technologies, farming techniques and other sustainable methods, such as organic farming, to assist farming operations to be profitable, with the goal of reducing environmental degradation, while creating financial resources within the farming operation."

### 2. Definition of organic agriculture

Sustainable agricultural production, by definition, should support both environmental and social sustainability, where the natural productive capacity of the land provides sufficient food or income to meet social needs on an ongoing basis. In turn, a stable social order and robust ecosystem allows farmers to follow agricultural practices that are themselves self-sustaining. Agricultural land is seen as a productive asset rather than a resource to be exploited.

Organic agriculture is one of several approaches to sustainable agriculture. What makes organic agriculture unique, as regulated under various laws and certification programmes, is that almost all synthetic inputs are prohibited and 'soil building' crop rotations are mandated.

"Organic" is a labelling term that denotes products that have been produced in accordance with organic production standards and certified by a duly constituted certification body or authority. Organic agriculture is based on minimizing the use of external inputs, avoiding the use of synthetic fertilizers and pesticides. Organic agriculture practices cannot ensure that products are completely free of residues, due to general environmental pollution. However, methods are used to minimize pollution of air, soil and water. Organic food handlers, processors and retailers adhere to standards of maintaining the integrity of organic agriculture products. The primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals and people.

### 3. Highlighted principles of organic agriculture

<b>Principle of health</b> Organic agriculture should be based on living ecological systems and cycles, working, emulating and helping sustain them.	<b>Principle of ecology</b> Organic agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.
<b>Principle of fairness</b> Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.	<b>Principle of care</b> Organic agriculture should build on relationships that ensure fairness with regard to common environment and life opportunities.

#### 4. Specific objectives of organic labelling

Organic labelling is designed to:

- ✦ To protect producers of organic produce against misrepresentation of other agricultural produce as being organic
- ✦ To protect consumers against deception and fraud in the marketplace and unsubstantiated product claims
- ✦ To ensure that all stages of production, preparation, storage, transport and marketing are subject to inspection and comply with guidelines
- ✦ To harmonize provisions for the production, certification, identification and labelling of organically grown produce
- ✦ To provide international guidelines for organic food control systems in order to facilitate recognition of national systems as equivalent for the purposes of imports
- ✦ To maintain and enhance organic agricultural systems in each country so as to contribute to local and global preservation

Today, sustainable farming practices commonly include:

- ✦ Crop rotations that mitigate diseases, insect as well as other pest problems; provide alternative sources for soil nitrogen; reduce soil erosion; and reduce risk of water contamination by agricultural chemicals
- ✦ Pest control strategies that are not harmful to natural systems, farmers, their neighbours, or consumers. This includes integrated pest management techniques that reduce the need for pesticides by practices such as scouting, use of resistant cultivars, timing of planting and biological pest controls
- ✦ Increased mechanical/biological crop control; more soil and water conservation practices; and strategic use of animal and green manures
- ✦ Use of natural or synthetic inputs in a way that poses no significant hazard to man, animals, or the environment

An organic label indicates to the consumer that a product was produced using certain production methods. In other words, organic is a *process claim* rather than a product claim. An apple produced by practices approved for organic production may very well be identical to an apple produced under other agricultural management regimes.

An organic production system is designed to:

- ✦ Enhance biological diversity within the whole system
- ✦ Increase soil biological activity
- ✦ Maintain long-term soil fertility
- ✦ Recycle wastes of plant and animal origin in order to return nutrients to the land, thus minimizing the use of non-renewable resources
- ✦ Rely on renewable resources in locally organized agricultural systems
- ✦ Promote the healthy use of soil, water and air as well as minimize all forms of pollution hitherto that may result from agricultural practices
- ✦ Handle agricultural products with emphasis on careful processing methods in order to maintain the organic integrity and vital qualities of the product at all stages
- ✦ Become established on any existing farm through a period of conversion, the appropriate length of which is determined by site-specific factors such as the history of the land as well as type of crops and livestock to be produced

## BENEFITS OF ORGANIC AGRICULTURE

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### 1. Sustainability

Many changes observed in the environment are long-term, occurring slowly over time. Organic agriculture considers the medium- and long-term effect of agricultural interventions on the agro-ecosystem. It aims to produce food while establishing an ecological balance to prevent soil fertility or pest problems. Organic agriculture takes a proactive approach as opposed to treating problems after they emerge.

### 2. Soil

Soil building practices such as crop rotations, inter-cropping, symbiotic associations, cover crops, organic fertilizers and minimum tillage are central to organic practices. These encourage soil fauna and flora, improving soil formation and structure and creating more stable systems. In turn, nutrient and energy cycling is increased and the retentive abilities of the soil for nutrients and water are enhanced, compensating for the non-use of mineral fertilizers. Such management techniques also play an important role in soil erosion control. The length of time that the soil is exposed to erosive forces is decreased, soil biodiversity is increased, and nutrient losses are reduced, helping to maintain and enhance soil productivity. Farm-derived renewable resources usually compensate crop export of nutrients but it is sometimes necessary to supplement organic soils with potassium, phosphate, calcium, magnesium and trace elements from external sources.

### 3. Water

In many agriculture areas, pollution of groundwater courses with synthetic fertilizers and pesticides is a major problem. As the use of these is prohibited in organic agriculture, they are replaced by organic fertilizers (e.g. compost, animal manure, green manure) and through the use of greater biodiversity (in terms of species cultivated and permanent vegetation), enhancing soil structure and water infiltration. Well managed organic systems with better nutrient retentive abilities, greatly reduce the risk of groundwater pollution. In some areas where pollution is a real problem, conversion to organic agriculture is highly encouraged as a restorative measure (i.e. by the Governments of France and Germany).

### 4. Air

Organic agriculture reduces non-renewable energy use by decreasing agrochemical needs (these require high quantities of fossil fuel to be produced). Organic agriculture contributes to mitigating the greenhouse effect and global warming through its ability to sequester carbon in the soil. Many management practices used by organic agriculture (i.e. minimum tillage, returning crop residues to the soil, the use of cover crops and rotations, and the greater integration of nitrogen-fixing legumes), increase the return of carbon to the soil, raising productivity and favouring carbon storage.

### 5. Biodiversity

Organic farmers are both custodians and users of biodiversity at all levels. At the gene level, traditional and adapted seeds and breeds are preferred for their greater resistance to diseases and their resilience to climatic stress. At the species level, diverse combinations of plants and animals optimize nutrient and energy cycling for agricultural production. At the ecosystem level, the maintenance of natural areas within and around organic fields and absence of chemical inputs create suitable habitats for wildlife. The frequent use of under-utilized species (often as rotation crops to build soil fertility) reduces erosion of agro-biodiversity, creating a healthier gene pool - the basis for future adaptation. The provision of structures providing food and shelter, and the lack of pesticide use, attract new or re-colonizing species to the organic area (both permanent and migratory), including wild flora and fauna (i.e. birds) and organisms beneficial to the organic system such as pollinators and pest predators.

### 1. Background

Certified organic products are those which have been produced, stored, processed, handled and marketed in accordance with precise technical specifications (standards) and certified as "organic" by a certification body (Annex 1 | Regulating and certifying agencies for organic farming). Once a certification body has verified conformity with organic standards, the product can be labelled as such. This label will differ depending on the certification body, but can be taken as an assurance that the essential elements constituting an "organic" product have been met from the farm to the market. It is important to note that an organic label applies to the production process, ensuring that the product has been produced and processed in an ecologically sound manner. The organic label is therefore a production process claim as opposed to a product quality claim.

An organic label (Annex 2 | Sustainable agriculture labels) indicates that a product has been certified against specific organic standards. The label carries the name of the certification body and the standards with which it complies. To the informed consumer, this label can function as a guide. Certification bodies evaluate operations according to different organic standards and can be formally recognized by more than one authoritative body. The label of a given certification body, therefore, informs the consumer on the type of standards complied with during production and processing as well as on the type of recognition granted to the certification body. Many certification bodies operate worldwide, most of which are private and originate in developed countries.

### 2. Description

Foods should only refer to organic production methods if they come from an organic farm system employing management practices which seek to nurture ecosystems which achieve sustainable productivity, and provide weed, pest and disease control through a diverse mix of mutually dependent life forms, recycling plant and animal residues, crop selection and rotation, water management, tillage and cultivation.

Soil fertility is maintained and enhanced by a system which optimises soil biological activity and the physical and mineral nature of the soil as the means to provide a balanced nutrient supply for plant and animal life as well as to conserve soil resources. Production should be sustainable with the recycling of plant nutrients as an essential part of the fertilizing strategy. Pest and disease management is attained by means of the encouragement of a balanced host/predator relationship, increase of beneficial insect populations, biological and cultural control and mechanical removal of pests and affected plant parts. The basis for organic livestock husbandry is the development of a harmonious relationship between land, plants and livestock, and respect for the physiological and behavioural needs of livestock. This is achieved by a combination of providing good quality organically grown feedstuffs, appropriate stocking rates, livestock husbandry systems appropriate to behavioural needs, and animal management practices that minimize stress and seek to promote animal health and welfare, prevent disease and avoid the use of chemical allopathic veterinary drugs (including antibiotics).

### 3. General guidelines for organic agricultural labelling

An organic label indicates to the consumer that a product was produced using certain production methods. In other words, organic is a process claim rather than a product claim. An apple produced by practices approved for organic production may very well be identical to an apple produced under other agricultural management regimes. Several countries and a multitude of private certification organizations have defined organic agriculture. In the past, differences in these definitions were significant but the demand for consistency by multinational traders, has led to great uniformity. The International Federation of Organic Agriculture Movements (IFOAM), a non-governmental organization internationally networking and promoting organic agriculture, has established guidelines that have been widely adopted for organic production and processing.

Most recently, the Codex Committee on Food Labelling has debated "Draft Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods". According to the proposed Codex definition, "organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems.

This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system."

Organic agriculture is one of several approaches to sustainable agriculture and many of the techniques used (e.g. inter-cropping, rotation of crops, double-digging, mulching, integration of crops and livestock) are practised under various agricultural systems. What makes organic agriculture unique, as regulated under various laws and certification programmes, is that: (1) almost all synthetic inputs are prohibited, and (2) 'soil building' crop rotations are mandated.

The basic rules of organic production are that natural inputs are approved and synthetic inputs are prohibited. But there are exceptions in both cases. Certain natural inputs determined by the various certification programmes to be harmful to human health or the environment are prohibited (i.e. arsenic). As well, certain synthetic inputs determined to be essential and consistent with organic farming philosophy, are allowed (i.e. insect pheromones). Many certification programmes require environmental protection measures in addition to these two requirements. While many farmers in the developing world do not use synthetic inputs, this alone is not sufficient to classify their operations as organic.

#### 4. Costs of agricultural ecolabels for producers

To evaluate the potential costs, it is necessary to make assumptions about how such programmes would be designed. There is a wide range of possibilities depending on: (1) the comprehensiveness of the environmental standards, and (2) the precision with which certification of environmental improvements is determined.

A comprehensive standard would consider all potential environmental impacts associated with production of an agricultural commodity including use of energy resources, soil quality, water quality, biodiversity, solid waste, toxic waste, and other agro-ecosystem attributes. The least comprehensive standard would focus on a single category of environmental impact. Precise measurement of environmental improvements would involve extensive sampling of relevant environmental media. A less precise approach would be to draw inferences about environmental impacts using simulation models based on data of site characteristics, production practices, and inputs used. The least precise approach would be to simply record the extent to which certain "best management practices" are used with no attempt made to measure or estimate actual impacts.

Due to the fact that there are few agricultural ecolabelling programmes, there is little empirical information about how ecolabelling costs would vary with comprehensiveness and precision.

### 1. Markets

The demand for organic products has created new export opportunities for the developing world. While some consumers express a preference for locally-grown organic foods, the demand for a variety of foods year-round makes it impossible for any country to source organic food entirely within its own borders. As a result, many developing countries have begun to export organic products successfully (i.e. tropical fruit to the European baby food industry, Zimbabwean herbs to South Africa, six African nations export cotton to the European Community). Typically, organic exports are sold at impressive premiums, often at prices 20 percent higher than identical products produced on non-organic farms. The ultimate profitability of an organic farm varies, however, and few studies have assessed the long-term potential for such market premiums. Nevertheless, under the right circumstances the market returns from organic agriculture can potentially contribute to local food security by increasing family incomes.

Entering this lucrative market is not easy. Farmers are denied access to developed country organic markets for two to three years after beginning organic management since such countries will not certify land and livestock as organic before that time, arguing that it is necessary for the purging of chemical residues. Under the Draft Codex guidelines, however, products produced on land under organic management for at least one year but less than the two-three year standard can be sold as "transitional organic", although few markets have yet developed for such products.

In most cases farmers and post-harvest businesses seeking to sell their products in developed countries must hire an organic certification organization to annually inspect and confirm that these farms and businesses adhere to the organic standards established by various trading partners. The cost for this service can be expensive, although it varies in relation to farm size, volume of production, and the efficiency of the certification organization (i.e. IFOAM certification costs a maximum of 5 percent of sales value, but where local certification organizations exist, it reduces to 2 percent of sales value). Few developing countries have certification organizations within their borders, and even when sufficient resources are available to pay for certification farmers often lack the information to find credible inspectors.

While most developing country traders have focused on export markets in the developed world, domestic market opportunities for organic food or eco-food may also be exploited. In China, for example, there is a growing market for "green food" which, according to government grading standards, is produced without certain pesticides and fertilizers and with biological methods. Chinese farmers also produce organic food for export (i.e. tea to the Netherlands, soybeans to Japan).

Whether the intent is to sell organic products domestically or abroad, reliable market information is difficult to obtain. There is virtually no systematic production or market survey data being collected with which to assess the rate and pattern of organic market growth. In particular, no projections for the market in the developing world have been made, nor have markets systematically been identified for developing country exports. Estimates of the public's willingness to pay premiums, the impact of regional attitudes and tastes, and the incidence of market fraud have not been undertaken.

### 2. Farm productivity

Farmers will probably experience some loss in yields when converting their operations to organic production. There is a period of time between the discarding of synthetic inputs and sufficient biological activity being restored to the land (i.e. growth in beneficial insect populations, nitrogen fixation from legumes) during which pest suppression and fertility problems are typical. The degree of yield loss varies, however, and depends on factors such as the inherent biological attributes of the farm, farmer expertise, and the extent to which synthetic inputs were used under the previous management system. Where soil fertility is low and biological processes have been seriously disrupted, it may take years to restore the ecosystem to the point where organic production is possible. In such cases other sustainable approaches, which allow judicious use of synthetic chemicals, may be more suitable start-up solutions. One strategy to survive the difficult transition period involves converting farms to organic production in partial instalments so that the entire operation is not at risk.

Most studies find that organic agriculture requires significantly greater labour input than conventional farms. This is especially true in areas of low ecological potential. However, when labour is not a constraint, organic agriculture can benefit underemployed labour in rural communities. Furthermore, the diversification of crops typically found on organic farms, with their various planting and harvesting schedules, may distribute labour demand more evenly which could help stabilize employment. Land tenure is also critical to the adoption of organic agriculture. It is highly unlikely that tenant

farmers would invest the necessary labour and sustain the difficult conversion period without some guarantee of access to the land in later years when the benefits of organic production are attainable.

Soil-building rotations need to be designed both from economic and technical points of view - uses must be identified for all the crop and livestock products produced. As in all agricultural systems, diversity in production increases income-generating opportunities and can, as in the case of fruits, supply essential health protecting minerals and vitamins to the family diet. It also spreads the risks of failure over a wide range of crops. It is possible that, even on those farms where organic crop yields are lower than those produced under systems which use high levels of inputs, the overall economic yields of the farm will be competitive since organic systems benefit from market premiums and sometimes lowered input costs.

The insights generated by organic farmers in their search for site-specific production strategies can be of great benefit to non-organic farmers interested in expanding their management options. However, organic farmers still face huge uncertainties. A lack of information is an obstacle to organic conversion (i.e. surveys find that 63 percent of sub-Saharan African farmers and 73 percent of North American (US and Canada) organic farmers cite a lack of knowledge as the greatest barrier to adoption). Extension personnel rarely receive adequate training in organic methods and studies have shown that they sometimes discourage farmers from converting. Furthermore, institutional support in developing countries is scarce. Professional institutions with a capacity to assist farmers throughout the production, post-production and marketing processes are non-existent in many developing countries. While there are helpful research results that immediately could be extended to farmers, much more are needed. In 1990, FAO sponsored a conference at which organic research needs were identified (i.e. economics of stockless farms, animal husbandry, nitrogen cycling); however these challenges have largely gone unmet.

### 3. Environmental impacts and sustainability

The explicit goal of organic agriculture is to contribute to the enhancement of sustainability. Nevertheless, negative impacts may occur and organic agriculture is not an exclusive method for sustainable farming. Soil and water protection and conservation techniques of sustainable agriculture used to combat erosion, compaction, salinisation and other forms of degradation are evident in organic farming. The use of crop rotations, organic manure and mulches improves soil structure and encourages the development of a vigorous population of soil micro-organisms. Mixed and relay cropping provide a more continuous soil cover and thus a shorter period when the soil is fully exposed to the erosive power of the rain, wind and sun. Terracing to conserve moisture and soil are used in appropriate situations and particular attention is paid in irrigated areas to on-farm water management. Properly managed organic farming reduces or eliminates water pollution and helps conserve water and soil on the farm (although improper use of manure can seriously pollute water). A few developed countries compel or subsidise farmers to use organic techniques as a solution to water pollution problems (i.e. Germany, France).

Organic farmers rely on natural pest controls (i.e. biological control, plants with pest control properties) rather than synthetic pesticides which, when misused, are known to kill beneficial organisms (i.e. natural parasites of pests, bees, earthworms), cause pest resistance, and often pollute water and land. Reduction in the use of toxic synthetic pesticides, which the World Health Organization (WHO) estimates to poison three million people each year, should lead to improved health of farm families.

Organic farmers aim to make the maximum use of the recyclable fertility in on-farm crop residues (straws, stovers and other non-edible parts) either directly as compost and mulch or through livestock as farmyard manure. Eliminating the use of synthetic nitrogenous fertilizer greatly lowers the risks of nitrogen contamination of water. Crop rotation is a widely used method of fertility maintenance and pest and disease control, which is used in large- and small-scale farming in both developed and developing countries, especially under intensification. Fodder legumes are well-known fertility-building crops and are grown on vast areas in sub-tropical Asia and in semi-arid regions for the dual purpose of feeding livestock and adding nitrogen to the farm fertility cycle. Grain legumes may also produce a reasonable crop without nitrogenous fertilizer. Leguminous crops in rotations add various amounts of nitrogen to the overall farm system through biological fixation; other nitrogen-fixing plants such as *Azolla* may also be used.

Biological nitrogen fixation is a powerful technique but it often requires some addition of minerals to the soil, especially phosphorus. Most certification programmes restrict the use of mineral fertilizers which may be necessary to supplement the organic manure produced on the farm. Natural and organic fertilizers from outside the farm are used (i.e. rock phosphate, potash, guano, seaweed, slaughterhouse by-products, ground limestone, seaweed, wood-ash). While most certification programmes prohibit the use of sewage sludge and night-soil they are still used in some places. However, sludge may contain many contaminants including heavy metals which can have a deleterious and cumulative effect on the soil, while night-soil contains human pathogens and must be carefully composted before use.

Crop rotations encourage a diversity of food crops, fodder and under-utilized plants; this, in addition to improving overall farm production and fertility may assist the on-farm conservation of plant genetic resources. Integrating livestock into the system adds income through organic meat, eggs and dairy products, as well as draught animal power. Tree crops and on-farm forestry integrated into the system provide shade and windbreaks while providing food, income, fuel and wood. Integrated agri-aquaculture may also be found within diverse organic agricultural systems. Economic objectives are not the only motivation of organic farmers; their intent is often to optimize land, animal, and plant interactions, preserve natural nutrient and energy flows, and enhance biodiversity, all of which contribute to the overall objective of sustainable agriculture to preserve natural resources and ecosystems for future generations.

### 1. Agriculture and labelling

The fundamental question for the agricultural community is whether labelling would increase market share and yield price premium sufficient to cover the extra costs involved. Ecolabel programmes can provide a new kind of direct marketing tool. For example, 'Green Seal' has established an Environmental Partners Programme which organisations can join by pledging to use more environmental preferable products. This may be a potential opportunity for fresh market producers and cooperatives on the cutting edge of sustainable agriculture. Ecolabelling of agricultural inputs may also improve a firm's reputation to buyers and regulators.

The threats involved include the possibility that the market may be too thin to generate sufficient sales volume, the costs of certifying may be too high, the non-ecolabelled products produced by the same company may suffer sales losses, some control may be lost over marketing conditions, ecolabelling agents and certifiers may not be stable or credible, and last, at some point ecolabels may be considered a barrier to international trade.

In the end ecolabelling may provide a potential framework for clarifying the definition of sustainable agriculture.

### 2. Fair-trade vs. Organic

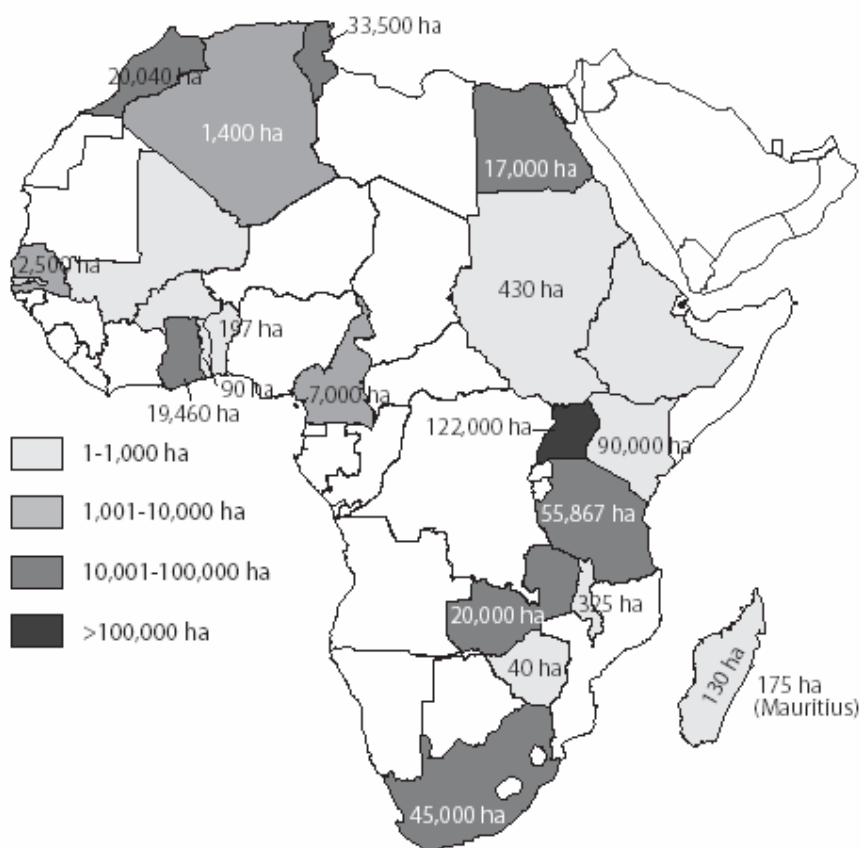
Many fair-trade certified products in Australia and New Zealand are also organically certified. The fair-trade certification ensures fair-trade criteria such as democratic decision-making, decent working conditions and a fair price are met while organic certification is a guarantee that the environmental requirements of organic agriculture standards are met. While most people understand organic agriculture as the prohibition of synthetic agrochemicals, there are other key components including nature conservation by prohibiting the clearing of primary ecosystems, biodiversity preservation, soil and water conservation, no genetically modified organisms (GMOs), crop diversity, soil fertility and biological activity among others. Organic certification standards generally do not cover social justice or fair trade issues in any detail.

Many fair-trade certified producers use the fair-trade premium to invest in environmental projects, including extension support for organic agriculture. In this way, they use fair-trade as a capacity-building tool to improve environmental performance and gain additional market certifications at the same time. Fair-trade certified producers comprise 45% of certified organic producers and this trend seems to be growing.

## ORGANIC FARMING IN THE SOUTH

### 1. Africa

The growth of organic agriculture in poorer countries of the South and East is not only a result of an increasing market demand from the North for tropical organic products. In many countries organic agriculture has proven to be a more efficient and more sustainable option of natural resource management, allowing to maintain agricultural productivity and to gain a better income. Especially for smallholders cultivating marginal lands, organic farming practices can help to reduce production costs, while ecology and health benefit indirectly. In India, organic agriculture is now gaining momentum. There are at least ten thousand certified organic farms, many of them organized by NGOs or traders. The Indian government has set up national organic standards and an accreditation system and is supporting the development of the organic agriculture sector. Besides the demand pull from export markets, there are more and more successful initiatives building up a domestic organic market for an increasingly health-aware middle-class.



Organic agriculture in Africa (2005)

### 2. Lebanese organic certification body launched

LibanCert, an organic certification company, was launched on 30 March 2006. LibanCert operates under the umbrella of the American University of Beirut, with the support of the Swiss government and FiBL, the Swiss Research Institute of Organic Agriculture.

LibanCert is situated in Beirut and offers its services in Lebanon and to neighbouring countries, Syria and Jordan. Roula Fares, the manager of LibanCert, who has a profound knowledge of and practical experience in organic agriculture said: "We are targeting our services especially to the small farmers in the region since we believe that organic agriculture provides new perspectives for the rural sector. We are familiar with the situation of small farmers and their culture and do not face communication problems like international service providers." Due to the collaboration with the Swiss certification body, bio.inspecta, LibanCert is able to offer certification for all relevant markets including the European Regulation for Council regulations EC 2092/91 and US-NOP.

A press conference was held under the patronage of the Economy and Trade Minister Sami Haddad who highlighted the "great attention" the government is giving to the organic farming sector, by endorsing a Swiss-backed project for establishing organic farming in Lebanon and developing markets for it. Haddad noted that Lebanon will have a better competitive edge if it develops its organic farming sector, since it would be able to export to both European and Arab countries.

Beate Huber, from the Swiss Research Institute of Organic Agriculture (FiBL), stated that organic agriculture is a fast growing market all over the world and that Lebanese farmers could benefit from the growth in the organic farming sector and the higher prices of organic produce compared with conventionally grown ones. She argued that it would be better for Lebanese farmers to compete on quality rather than quantity. Although there are 420 certification bodies all over the world offering organic certification, there are only four in the Arab world.

Dr. Ghazi Zaatari, head of pathology and laboratory medicine at the American University of Beirut, stated that since the concept of organic farming started developing in the past few decades, it became imperative to establish scientific standards to implement this new concept. "Now that the consumer has become more aware... we should seriously commit to quality... in all the projects we carry out," he said. "God has blessed Lebanon with a fertile soil, clear sky and a hard-working people, so let us all work together to preserve and benefit from all this, as much as possible, while maintaining sustainability."

LibanCert is part of the project "Organic Certification and Market Development in Lebanon", which aims developing the domestic and international market for Lebanese organic products. Besides LibanCert, the Association for Lebanese Organic Agriculture (ALOA) an organization representing the organic movement and three marketing initiatives benefit from financial as well as technical support provided by the Swiss government. Beate Huber and Paul van den Berge from FiBL are coordinating the project and assisting Lebanese partners in meeting international requirements and standards and exploring and developing market opportunities.



<b>Region</b>	Middle East
<b>Country</b>	Lebanon
<b>Title</b>	Organic Market and Certification
<b>Working domain</b>	Market development Organic institutional building
<b>Objectives and activities</b>	Development of domestic and international market for Lebanese organic products by supporting the establishment of a local certification body, pilot projects and various marketing, promotion and training activities.
<b>Project period</b>	2004-2008
<b>Project partners</b>	Libancert, ALOA, bio.inspecta
<b>Project lead</b>	Beate Huber, Paul van den Berge
<b>Financed by</b>	Swiss Government


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## ANNEXES



### Annex 1 | Regulating and certifying agencies for organic farming

<p><b>The International Federation of Organic Agricultural Movements (IFOAM)</b></p>	<p>IFOAM represents 500 member organizations and associations in nearly 100 countries, and supports organic agricultural practices globally. IFOAM has developed Basic Standards for Organic Agriculture and Processing which are considered definitive guides to worldwide initiatives in organic farming. Interestingly, <b>IFOAM does not certify organic farming practices</b>; their standards harmonise the many practices followed worldwide, but it will not endorse or attest an enterprise. <b>Certification is conducted by the respective national IFOAM affiliates</b> that lay down rules, inspect enterprises and issue certification. An IFOAM label as such does not exist.</p>
<p><b>Logo</b></p>	
<p><b>Web site</b></p>	<p><a href="http://www.ifoam.org/">http://www.ifoam.org/</a></p>
<p><b>Demeter</b></p>	<p>Demeter, founded in 1928, is widely regarded as the strictest and purest of all agriculture certification standards. Unlike labelling for organic production which was developed at EU level, Demeter was developed internationally. About 3500 farmers worldwide currently apply biodynamic production methods.</p> <p>In comparison to the standards for organic agriculture, some additional requirements must be met. For example, the entire enterprise, including all the fields and animal husbandry must be converted, cattle or other ruminants must be kept on agricultural farms, soil fertility is to be maintained primarily through the use of well-rotted compost, which has been prepared with the biodynamic compost preparations, all areas are to be sprayed with the biodynamic horn dung and horn silica preparations, no use of copper in vegetables, use of copper on perennial crops is restricted to a maximum of 3kg/ha/year. Since 1992, Demeter has prohibited the use of genetically engineered plant materials and organisms. The Demeter logo is used by farms which meet all Biodynamic guidelines. Demeter also has a special label for Wild Harvest. Demeter operates exclusively for agricultural and horticultural purposes, and certifies farms as either Biodynamic, or in conversion to Biodynamic.</p> <p>Certification as "In conversion to Demeter" can be attained after farming the whole enterprise bio dynamically according to the International Demeter Standards for at least 12 months. If it can be proven that previous farming methods were organic or extensive, the time to full certification can be shortened.</p>
<p><b>Web site</b></p>	<p><a href="http://www.demeter.net/">http://www.demeter.net/</a></p>
<p><b>Logo</b></p>	
<p><b>Contact</b></p>	<p><b>Trademark Administration</b></p> <p>Markus Topel          Demeter-International e.V.          Brandschneise 1          D-64295 Darmstadt          Germany</p> <p>Phone: +49-6155-8469-53          Fax: +49-6155-8469-11          E-Mail: <a href="mailto:markus.topel@demeter.de">markus.topel@demeter.de</a></p>

<p><b>Aurora Certified Organic (ACO)</b></p>	<p>The Aurora Certified Organic logo is used by farms which meet all ACO guidelines. Soil fertility is built and maintained through the use of composts and green manures and careful crop rotation. Ideally, composts, mulches and other inputs to aid soil fertility would be produced on the farm. Use of synthetic fertilizers, insecticides, fungicides, herbicides and hormones are prohibited on Aurora Certified Farms. In addition, during processing, storage and handling, Aurora does not allow food to be treated with synthetic chemicals, such as preservatives, colourings or flavourings, nor are they irradiated. Gelatines from animal sources, and genetically modified organisms (GMOs) of any kind are prohibited.</p>
<p><b>Products</b></p>	<p>Beverages : coffee, tea, wine          Bread: bread          Condiments : herbs and spices          Dairy products : cheese, eggs, milk          Fruit : apples, blueberries, citrus, most fruits          Grains: soybean meal          Meat : beef          Vegetables: avocado, corn (fresh), vegetables</p>
<p><b>Logo</b></p>	
<p><b>Contact</b></p>	<p><b>Demeter Association, Inc.</b>          Britt Road Aurora, NY 13026          Phone: 315-364-5617          Fax: 315-364-5224          Email Contact: <a href="mailto:demeter@baldcom">demeter@baldcom</a>.</p>

## Annex 2 | Sustainable agriculture labels

Label	Product categories	Meaning	Consumers evaluation	Contact
 <p><b>Bird Friendly</b></p>	Beverages : coffee	<p>The objective of the "Bird Friendly" program is to verify that the product (coffee) has been grown using shade management practices. The goal of the program is to foster conditions on coffee plantations that provide good bird habitats. Maintenance of the tree canopy, diversity in tree and plant species, shade at specific times of the day, and establishment of plant borders around streams or rivers are all included into the Bird Friendly label criteria.</p> <p>The Smithsonian Migratory Bird Center (SMBC) only allows <b>organic certifiers</b> to issue the Bird Friendly label on organically certified products. Organic inspectors must complete a "Shade Certification Check List" and sign a certificate before the SMBC will allow the use of the Bird-Friendly seal of approval.</p>	<p>The Bird-Friendly label is meaningful and clear with standards that consistently support the concept of "bird friendly." All of the criteria must be met in order for a product to carry the Bird Friendly seal. This label is used only on products that are certified as organic.</p> <p>Although organic coffee grown in tropical forests tends to be shade-grown (for example, the leaf litter is used as natural fertilizer), the Bird-Friendly label sets additional criteria.</p> <p>Although the SMBC has no policy regarding the source of funding, it currently has no related industry funding. Thus there is no conflict of interest and the standards are transparent.</p>	<p><b>Smithsonian Migratory Bird Center (SMBC)</b> National Zoological Park Washington D.C. 20008 Phone: 202-673-4908 Fax: 202-673-4916 URL: <a href="http://www.si.edu/smbc">www.si.edu/smbc</a> Email Contact: <a href="mailto:rarice@igc.org">rarice@igc.org</a></p>
 <p><b>Demeter Certified Biodynamic</b></p>	<p>Beverages : wine Dairy products : cheese, eggs Fruit : berries - other, blackberries, blueberries, boysenberries, citrus, most fruits, oranges, peaches, pears, strawberries, watermelon Meat : beef, chicken, pork Vegetables</p>	<p>The Demeter "Biodynamic" label indicates that the products were produced without the use of synthetic pesticides and fertilizers; and without animal by-products. Demeter prohibits the use of genetic engineering and has since 1992. In addition, crops may not be grown in areas subject to strong electromagnetic fields. The Biodynamic Transitional program is used for farms that are committed to Biodynamic agriculture but are in the process required for conversion from conventional farming. One year is required for full conversion to Biodynamic from organic farming.</p> <p>Biodynamic agriculture began in 1928 as a result of an Austrian based Anthroposophical movement, a "spiritual science" and incorporates guiding principles that include cosmic rhythm (i.e. timing of the sun and moon phases), food grown from healthy, living soil, specific organic preparations for fertilizing and consumer connection with farmers.</p>	<p>The Demeter Biodynamic is a highly meaningful sustainable agriculture label. The standards are clear and consistent in meaning.</p> <p>The guidelines for Biodynamic were formed in 1928 and it appears that Demeter follows them closely. The Demeter standards and board of directors are publicly available and therefore transparent.</p>	<p><b>Demeter Association, Inc.</b> Britt Road Aurora , NY 13026 Phone: 315-364-5617 Fax: 315-364-5224 URL: <a href="http://www.demeter-usa.org">www.demeter-usa.org</a> Email Contact: <a href="mailto:demeter@baldcom.net">demeter@baldcom.net</a></p>
 <p><b>Salmon Safe</b></p>	<p>Beverages : wine Dairy products : yogurt FRUIT : juices, most fruits Grains : rice</p>	<p>The Salmon Safe program began in 1995. The aim of the program is to recognize farm operations that contribute to restoring stream eco-system health in important native salmon fisheries of the Pacific Northwest.</p> <p>Farms producing products that carry the Salmon-Safe label have been evaluated by independent experts who certify the use of agricultural practices that promote healthy streams and wetlands, including water use, erosion control, chemical management, and proper animal farming. Each criteria is graded based on a 7-point scale from -3 to +3 and must receive a score of greater than zero in order for the farm to be certified as Salmon-Safe.</p>	<p>The Salmon-Safe label is meaningful and clear with standards that are consistent with the concept of <b>sustainable agriculture</b> and protecting salmon habitat. The criteria provides a multi-tiered approach to protect the salmon streams from farm run-off through good soil, water, and vegetation management that reduce chemical use and sustain resources.</p> <p>An overall grading system for each criterion adds consistency to qualitative and semi-quantitative analyses and make Salmon-Safe a meaningful label.</p> <p>Pacific Rivers Council (founder of Salmon-Safe) has turned down corporate contributions to date. Thus, there are no conflicts of interest. Its program and standards are transparent.</p>	<p><b>Salmon Safe Inc.</b> 805 SE 32nd Ave. Portland, OR 97214 Phone: 503-232-3750 Fax: 503-232-3791 URL: <a href="http://www.salmonsafe.org">www.salmonsafe.org</a> Email Contact: <a href="mailto:dan@salmonsafe.org">dan@salmonsafe.org</a></p>

Label	Product categories	Meaning	Consumers evaluation	Contact
 <p><b>Food Alliance (FA)</b></p>	<p>Dairy products : milk Frozen foods : frozen food Fruit Grains: wheat Meat : beef, lamb Nuts : chestnuts</p> <p>Vegetables</p>	<p>Food Alliance (FA) is a coalition of farmers, consumers, scientists, grocers, processors, distributors, farm worker representatives and environmentalists that certifies farmers for sustainable agriculture practices. Farmers must meet FA standards for pest and disease management, soil and water conservation, and human resource development.</p> <p>Farmers are required to submit a farm improvement plan and sign an affidavit that <b>genetically engineered</b> crops are not used. The pest and disease management, and soil and water conservation standards were designed by Thomas Green (independent contractor) and copyrighted by Food Alliance. This means that no other <b>certifier</b> can use FA standards. The <b>pest management</b> standards are tailored for each specific type of crop while the soil and water conservation standards and the human resource checklist are only evaluated at the whole farm level. The whole farm evaluations and the specific crop evaluations are based on a point system where a score of at least 70% (of the maximum points) is necessary for FA certification.</p> <p>Food Alliance also forms partnerships with retailers. This is not a certification program but rather a way to promote FA products in the marketplace. Retailers pay a licensing fee for FA logo usage and can purchase merchandise for FA promotion.</p>	<p>The Food Alliance label is a meaningful sustainable agriculture label. The FA label has three main standard areas. The first two, the pest management and soil/water conservation guidelines, were developed through an outside consultant and are copyrighted by Food Alliance. These are sound guidelines.</p> <p>However, the FA copyright is a significant impediment to FA's mission to promote sustainable agriculture. Farms wishing to follow these guidelines and receive certification may only be FA certified. The pest management guidelines do not include a list of prohibited pesticides, which would make the FA label stronger.</p> <p>The human resource checklist is a useful tool that incorporates some aspects of social responsibility. However, this list is extremely qualitative and general. FA had stated that it is in the process of updating this list. FA is transparent in providing its standards and organization information and has an explicit policy that does not allow members who are FA certified from serving on the board of directors. FA is therefore independent from the product that is certified</p>	<p><b>ORGANIZATION NAME AND CONTACT INFO:</b> <b>Food Alliance (FA)</b> 1829 NE Alberta, Suite 5 Portland , OR 97211 Phone: 503-493-1066 Fax: 503-493-1069 URL: <a href="http://www.foodalliance.org">www.foodalliance.org</a> Email Contact: <a href="mailto:info@foodalliance.org">info@foodalliance.org</a></p>
 <p><b>Rainforest Alliance Certified</b></p>	<p>Beverages : coffee, orange juice Candy : chocolate bars</p> <p>Fruit : bananas</p>	<p>Rainforest Alliance (RA) follows standards set by the Sustainable Agriculture Network (SAN)(also formally known as the Conservation Agriculture Network) that are designed to promote tropical conservation and steer commercial agriculture practices in the tropics. SAN is an international coalition of nonprofit conservation groups and Rainforest Alliance serves as the international secretariat of SAN. Rainforest Alliance Certified growers follow the criteria and standards designed by SAN. Rainforest Alliance verifies that certified products have been grown using environmentally responsible management practices including integrated pest and disease management practices, soil and water conservation, fair labour treatment practices and good community relations.</p> <p>The Rainforest Alliance Certified label standards have been tailored to crops in specific regions. There are nine main criteria areas for each crop and corresponding standards that must be met. Within pest and disease management, there is also a list of pesticides that are prohibited for use and includes the Pesticide Action Network's (<a href="http://www.panna.org">www.panna.org</a>) "dirty dozen" and EPA red lists. Within water resource standards, waterways must be protected with buffer zones and monitored for contamination. Workers must be paid minimum wage and have the right to organize. RA does not have an official policy regarding the use of <b>genetic engineering</b>; however this technique is not being used in growing any certified crops at this time.</p>	<p>The Rainforest Alliance Certified label is clear and meaningful in support of <b>sustainable agriculture, social responsibility</b> and <b>integrated pest management</b>. The label is consistent in meaning among all certified. The does not consist of farmers and none of the members are certified by the Rainforest Alliance. In this sense, the organizations behind these labels are independent from the products that they certify.</p> <p>Board members of the Rainforest Alliance do not have any vested interest in the products that are certified and therefore there are no conflicts of interest. The RA is also transparent, providing information about funding, board of directors and standards on its website</p>	<p><b>ORGANIZATION NAME AND CONTACT INFO:</b> <b>The Rainforest Alliance (RA)</b> 665 Broadway, 5th Floor New York , NY 10012 - 2331 Phone: 212-677-1900 Fax: 212-677-2187 URL: <a href="http://www.rainforest-alliance.org">www.rainforest-alliance.org</a> Email Contact: <a href="mailto:canopy@ra.org">canopy@ra.org</a></p>

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