



The International Federation of Organic Agriculture Movements

## Organic Agriculture and Food Security

### What is organic agriculture?

Organic agriculture includes all agricultural systems that promote environmentally, socially and economically sound production of food and fibers. Recycling nutrients and strengthening natural processes helps to maintain soil fertility and ensure successful production. Pests and diseases are controlled with naturally occurring means and substances according to both traditional as well as modern scientific knowledge. Organic agriculture excludes synthetic fertilizers and pesticides, and genetically modified organisms are excluded.

Especially in Latin America, the term “agroecology” is often used instead of organic agriculture. Some people perceive organic as meaning certified organic and prefer the term agroecology for non-certified or informal organic agriculture.



### Organic agriculture is different from:

- Production simply without synthetic inputs
- Conservation Agriculture, that builds on sustainable soil preparation but may include genetically modified organisms (GMOs) and synthetic pesticides
- Integrated Pest Management, an approach that attempts to rely primarily on non-chemical means to prevent and manage pest infestation, but does not exclude the use of synthetic chemicals.

Food security is a condition under which ‘all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life’.

*World Food Summit of the United Nations Food and Agriculture Organisation (FAO), Rome 1996.*

### Lack of access to sufficient food

There is no lack of food on a global level, although more than 830 million people remain malnourished. Sufficient food supply and production does not ensure sufficient food for all, neither globally nor at national level. For example, during the 2001 crisis in Argentina, large parts of the population went hungry while enough wheat was harvested in the country to meet the needs of the population many times over. The major causes of insufficient access to food are social, political, and economic in nature.

### Conventional agriculture lacks sustainability

Pesticides are a major health hazard for farmers and farm workers, especially in developing countries: 3 million people report suffering from severe acute poisoning, with a possibly greater number of unreported cases. Pesticides are found in groundwater around the world, imposing high costs for water purification and health care.

The so-called Green Revolution has harmed biodiversity, among other negative impacts. Much of the world’s regionally adapted and diverse varieties of agricultural seed, their wild relatives and locally adapted livestock breeds were replaced by a small number of often patented varieties. The use of vast quantities of pesticides has been toxic to wildlife, thus decreasing chances of survival and diversity on a massive scale. An estimated 70 per cent of all threatened bird species and 49 per cent of all threatened plant species can be attributed to conventional agriculture.

Monoculture systems related to conventional agriculture have not only resulted in the loss of habitats, but also in a loss of diversity of human food supply.



## Organic agriculture can produce higher yields in poor areas

With conventional agriculture as practiced in most developed countries, conversion to organic agriculture normally reduces yields, typically by 5–20%. This is not so in the developing countries:

- In Green Revolution agriculture (irrigated land), organic agriculture may have comparable yields.
- In 'traditional' agriculture in rain fed areas, organic agriculture normally leads to increased yields.

Increased productivity in traditional systems has several sources:

- Greater crop diversity, which has the added benefit of more varied diets and reduces the risk of harvest failure
  - The use of green manure crops
  - Improved on-farm recycling of nutrients and better use of organic materials from the surrounding ecosystem
  - Better use of natural resources, especially water
  - Integration of livestock and crops
  - More attention to soil and nature conservation.
- With its potential and benefits, organic agriculture rapidly taking root in developing countries.



## A modernized tradition with much development potential

Organic agriculture builds on traditional and indigenous farming knowledge while introducing selected modern technologies. Instead of being an obstacle to progress, tradition becomes an integral part of progress. By emphasising local resources and self-reliance, organic agriculture empowers farmers and local communities.

Moreover, organic farming can improve income, profitability and return to labour in several ways:

- By reducing the need for purchased inputs
- By optimising crop productivity and diversity
- By improving on- and off-farm biodiversity
- By sales on a premium market, such as coffee, tea, spices or cotton grown together with food for local consumption.

## Examples of the success of organic agriculture

### Madagascar: System of rice intensification (SRI)

The SRI, introduced in 1990, has improved rice yields from some 2 t/ha to 5, 10 or even 15 t/ha on farmers' fields, without the use of purchased pesticides or fertilizers. It is being tested throughout Asia and elsewhere, in all cases increasing rice yields substantially.

### Peru: Revitalising indigenous knowledge

A recently revived ancient system of raised fields surrounded by ditches filled with water for high-altitude production now produces potato yields of 8–14 t/ha without chemical fertilisers, compared with the regional average of 1–4 t/ha

### Senegal: Improving quality of soils

Since 1987, the Rodale Institute Regenerative Agriculture Research Center has worked on a diversified approach involving stall-fed livestock, legumes and green manures, improved use of manures and rock phosphate, water harvesting, and composting. Yields of millet and groundnut have increased several times, with less annual variability.

### Colombia: Comité de Investigación Agrícola Local

The CIAL programme has worked with 4000 farmers on rearing of guinea pigs, reintroduction of wheat cultivation, live barriers, IPM in potatoes, organic sugar patties, agroforestry, green manures, mulches, and small food enterprises.

### India: The Maikaal organic cotton project

More than 1000 households are participating in an organic cotton project that has resulted in substantially higher yields of cotton, wheat, soy, chilli and sugarcane, lower production and labour costs, lower irrigation requirements, improved soil structure, and absence of major pest problems.

### Mexico: ISMAM fair-trade coffee

By adopting organic techniques and improving quality, the ISMAM co-operative of smallholder coffee growers was able to overcome soil degradation and low yields and move into a privileged speciality market (fair trade) that rewarded their extra efforts toward ecologically sound production.

### Kenya: Vutu-sukumu (Push-pull) pest management in smallholder systems

A project investigating novel habitat management attempts to suppress cereal stem borer, which infests maize crops from seedling stage to maturity, seriously limiting yields. *Striga*, a parasitic weed otherwise known as witch weed, threatens the lives of over 100 million people in Africa and infests 40 percent of arable land in the Savannah region. Vutu-sukumu is an effective strategy to trap pests on highly susceptible trap plants (pull) and drive them away from the main crop by using a repellent intercrop (push).

## Policies in favour of organic agriculture

Food security requires that a society not be based on inequity and discrimination and that international trade rules not impede efforts to develop the local food sector. Beyond these requirements, major changes must be made in policies, institutions, research and development to realize organic agriculture's full benefit for sustainable food security. The challenge is to increase investment and research in organic agriculture and to scale up projects that have already proven successful, thereby generating a meaningful impact on the income, food security, and environmental well-being of the world's population, especially its millions of poor farmers. There are three approaches to advancing organic agriculture in developing countries:

- A *development* approach for resource-poor communities, mainly for self-sufficiency and community development.
- An *income generation* approach, giving farmers access to a premium market.
- A *nature conservation* approach, where organic agriculture is seen as a tool for nature conservation and natural resource management.

By integrating *all* these aspects of sustainability – social, economic, and environmental – organic agriculture is even more truly sustainable.



## Policies to promote organic agriculture and food security

### **General**

- Identify and recognize existing organic systems.
- Define a clear policy for sustainable agricultural development that incorporates organic agriculture and supports farmers in conversion.

### **Economic measures**

- Reform national economic indicators to reflect depletion and degradation of agricultural resources.
- Internalise 'external' costs for environmental and health damage into the price of products.
- Eliminate subsidies for pesticides and synthetic fertilisers and subsidies that encourage natural resource degradation.

### **Food and markets**

- Eliminate support programs and export incentives that create surpluses and lower global commodity prices.
- Give priority to safe food crops and investment in the food sector.
- Develop local and regional food markets, and promote sustainable consumption patterns and local food.
- Promote value-added production.

### **Research, extension service, and information exchange**

- Give priority to research on organic livestock and food crops.
- Link research, extension and farmers closely.
- Reform extension service and agriculture education and retrain staff both in knowledge and methodology.
- Support farm-based research and other participatory methods.

### **Empowering people**

- Include a clear commitment to government-NGO partnerships, the democratic process, and the inclusion of women, small farmers, indigenous people and other possibly disadvantaged groups.
- Support producers', women's, and community organisations to play a leading role in development.

### **Access to resources**

- Secure farmers' land tenure.
- Make credit accessible for organic projects and production.
- Reject privatisation of genetic resources and protect Farmers' Rights to develop, exchange, sell and save seeds.



## Can certified organic agriculture help alleviate poverty?

Organic farmers in many countries have introduced certification in order to guarantee the quality of the product and of the production process according to organic standards. Governments as well as the European Union have introduced regulations to control these guarantee systems. IFOAM is an umbrella organisation that develops the "standard of standards" and advocates for organic agriculture worldwide, whether certified or not.

Around 23 million hectares worldwide are certified organic. Of the 400.000 certified organic farms worldwide, 44% are located in the South, covering 24% of the world's certified land. In some of the poorest countries in Africa, Latin America and Asia, organic agriculture has improved yields and income of smallholders. Certification can be useful to poor countries where farmers produce for both export and local consumption.

Informal, non-certified, organic agriculture is now well documented with examples, although statistics are difficult to come by. Many farmers, especially in the developing world, produce according to organic principles for their own consumption or local markets and therefore don't apply for certification. They have started to develop their own alternative guarantee systems that suit their needs in order to raise awareness if not fetch a better price in local niche markets.

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**IFOAM's mission is leading, uniting and assisting the organic movement in its full diversity. Our goal is the worldwide adoption of ecologically, socially and economically sound systems that are based on the principles of Organic Agriculture.**

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