



## Organic Farming in India

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### INTRODUCTION

**Organic farming** is an agricultural system that uses ecologically based pest controls and biological fertilizers derived largely from animal and plant wastes and nitrogen-fixing cover crops. Modern organic farming was developed as a response to the environmental harm caused by the use of chemical pesticides and synthetic fertilizers in conventional agriculture, and it has numerous ecological benefits.

Food quality and safety are the two important factors that have gained ever-increasing attention in general consumers. Conventionally grown foods have immense adverse health effects due to the presence of higher pesticide residue, more nitrate, heavy metals, hormones, antibiotic residue, and also genetically modified organisms. Moreover, conventionally grown foods are less nutritious and contain lesser amounts of protective antioxidants. In the quest for safer food, the demand for organically grown foods has increased during the last decades due to their probable health benefits and food safety concerns. Organic food production is defined as cultivation without the application of chemical fertilizers and synthetic pesticides or genetically modified organisms, growth hormones, and antibiotics. The popularity of organically grown foods is increasing day by day owing to their nutritional and health benefits. Organic farming also protects the environment and has a greater socio-economic impact on a nation. India is a country that is bestowed with indigenous skills and potentiality for growth in organic agriculture.

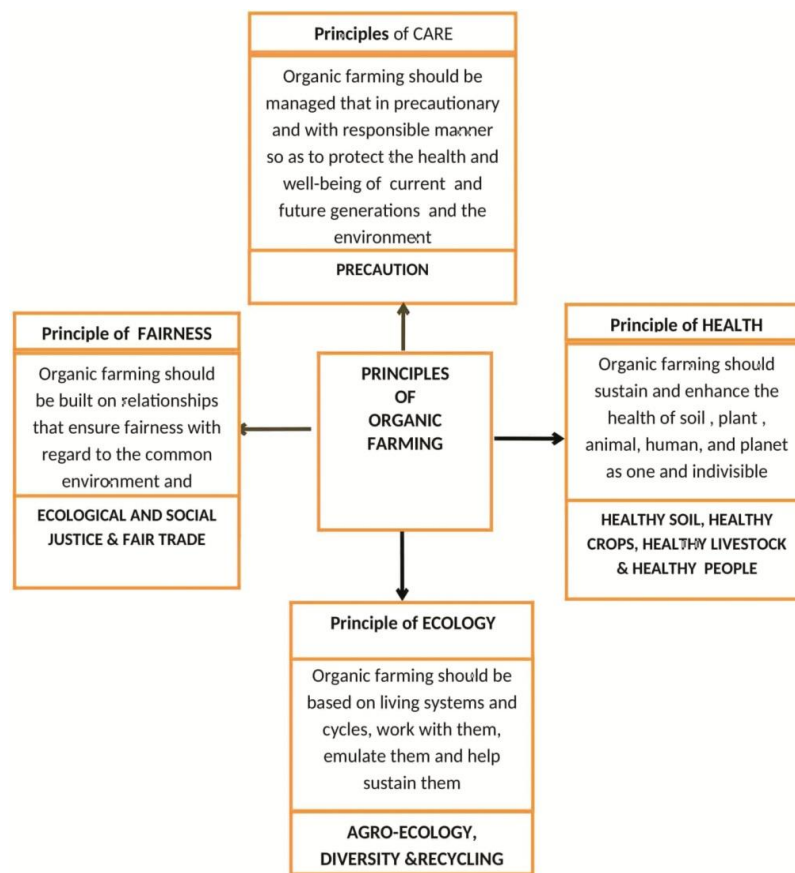
Compared with conventional agriculture, organic farming uses fewer pesticides, reduces soil erosion, decreases nitrate leaching into groundwater and surface water, and recycles animal wastes back into the farm. These benefits are counterbalanced by higher food costs for consumers and generally lower yields.

Indeed, yields of organic crops have been found to be about 25 percent lower overall than conventionally grown crops, although this can vary considerably depending upon the type of crop. The challenge for future organic agriculture will be to maintain its environmental benefits, increase yields, and reduce prices while meeting the challenges of climate changes and an increasing world population.

**Organic Farming Process**

Organic farming and food processing practices are wide-ranging and necessitate the development of socially, ecologically, and economically sustainable food production

system. The International Federation of Organic Agriculture Movements (IFOAM) has suggested the basic four principles of organic farming, i.e. the principle of health, ecology, fairness, and care. The main principles and practices of organic food production are to inspire and enhance biological cycles in the farming system, keep and enhance deep-rooted soil fertility, reduce all types of pollution, evade the application of pesticides and synthetic fertilizers, conserve genetic diversity in food, consider the vast socio-ecological impact of food production, and produce high-quality food in sufficient quantity.



To be acceptable as organic, crops should be cultivated in lands without any synthetic pesticides, chemical fertilizers, and herbicides for 3 years before harvesting with enough buffer zone to lower contamination from the adjacent farms. Genetically engineered products, sewage sludge, and ionizing radiation are strictly prohibited. Fertility and

nutrient content of soil are managed primarily by farming practices, with crop rotation, and using cover crops that are boosted with animal and plant waste manures. Pests, diseases, and weeds are mainly controlled with the adaptation of physical and biological control systems without using herbicides and synthetic pesticides.

## Benefits of Organic Farming

### 1. Nutritional benefits and health safety-

Organic products reduce public health risks to farm workers, their families, and consumers by minimizing their exposure to toxic and persistent chemicals on the farm and in food, the soil in which they work and play, the air they breathe, and the water they drink. Organic products are free of toxins. Organic production help reduce public health risks as the that food grown organically are rich in nutrients, such as Vitamin C, iron, magnesium, and phosphorus, with less exposure to nitrates and pesticide residues when compared to conventionally grown products.

### 2. Environmental Benefit

#### a. Reduces Exposure to Harmful Chemicals-

Organic farming in principle discourages the use of harsh chemicals and therefore, contributes towards the preservation of the natural environment.

#### b. Consumes Less Energy-

Organic farming does not rely on the use of synthetic fertilizers as opposed to conventional techniques that are generous with these external chemicals. Avoiding fertilizers contributes to a greater cause of energy conservation because manufacturing synthetic fertilizers consumes a significant amount of energy.

#### c. Facilitates Healthy Soil Formation-

Organic farming is all about natural cultivation practices, which are fairly superior to chemical soil management in terms of ultimate impact on soil. Organic farming ensures that the earth

remains unaffected due the externally exposed chemicals. This retains the soil's natural ability to thrive sustainably.

#### d. Combats the Effects of Global Warming-

Organic farming also contributes towards curtailing the phenomenon of global warming as it has the potential to not only reduce carbon dioxide but also slow down the climate change process .

**Types of Organic Farming:** There are two types of organic farming- pure organic farming and integrated organic farming. These farming processes have their advantages and disadvantages. Some farmers prefer to use a refined farming process, whereas some opt for an integrated farming process.

#### a. Pure Organic Farming-

As the name suggests, it uses natural ways for cultivation. Pure organic farming completely avoids inorganic chemicals that may harm the soil, crop, and people who consume it. In this process, farmers use organic fertilizers and bio-pesticides derived from natural sources.

#### b. Integrated Organic Farming-

The integrated farming process consists of integrating pest management and nutrients management to achieve ecological requirements and fulfill the economic demands also.

### Methods or Techniques of organic farming

Organic farming aims to cultivate the land and grow crops in such a way that the health of the soil gets improved by using organic waste. It focuses on producing crops with a high nutrition level. There are different techniques practiced for organic farming. These techniques include-

- a. Green Manure- Green manure means the dying plants that are uprooted and turned into the soil. These plants act as nutrients to the soil that helps to improve its fertility.
- b. Compost- Compost is one of the best natural fertilizers used in organic farming. It is a recycled organic matter highly enriched with nutrients that enhance the soil quality and improve crop production.
- c. Crop diversity- In polyculture, a variety of crops can be cultivated simultaneously to fulfill the increasing demand for food items across the world. The polyculture farming method also helps to produce necessary soil microorganisms to boost up the production.
- d. Soil Management- The organic farming focuses on using bacteria (present in animal waste) that help to increase the nutrients level in the soil, making it fertile for more production.
- e. Controlling pests Biologically- Organic farmers can use mild (having fewer chemicals) or natural herbicides and pesticides to control pests biologically. The farmers can also sanitize the farm properly to control harmful organisms in the field.
- f. Weed Management- Organic farming methods aim to reduce the growth of weeds instead of eradicating it. *Mulching* and *mowing* are two techniques mainly we use for weed management in organic farming.

### **Future Prospects of Organic Farming in India**

India is an agriculture-based country with 67% of its population and 55% of manpower depending on farming and related activities. Organic farming has been found to be an indigenous practice of India that is practised in countless rural and farming communities over the millennium. Even in developing countries like India, the demand for organically grown produce is increasing as people are becoming more aware now about the safety and quality of food. Thus, organic cultivation has an immense prospect of income generation too. The soil in India is bestowed with various types of naturally available organic nutrient resources that aid in organic farming.

Inhana Rational Farming Technology developed on the principle 'Element Energy Activation' is a comprehensive organic method for ensuring ecologically and economically sustainable crop production and it is based on ancient Indian philosophy and modern scientific knowledge.

### **CONCLUSIONS**

Organic farming yields more nutritious and safe food. The popularity of organic food is growing dramatically as consumer seeks the organic foods that are thought to be healthier and safer. Thus, organic food perhaps ensures food safety from farm to plate. The organic farming process is more eco-friendly than conventional farming. Organic farming keeps soil healthy and maintains environment integrity thereby, promoting the health of consumers. Moreover, the organic produce market is now the fastest growing market all over the world including India. Organic agriculture promotes the health of consumers of a nation, the ecological health of a nation, and the economic growth of a nation by income generation holistically. Encouraging organic farming in India can build a nutritionally, ecologically, and economically healthy nation in near future.