



## Organic Farming: Myth, Reality, and Future Prospects

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### INTRODUCTION

Organic farming operates as an integrated farming system which develops sustainable agricultural practices through environmental protection and soil health maintenance and biodiversity preservation efforts. The system uses natural materials and biological functions to replace synthetic fertilizers and pesticides and genetically modified organisms and growth regulators. Over the past few decades, growing concerns about environmental degradation, food safety, and human health have increased interest in organic agriculture worldwide.

Organic farming gains popularity, yet its practices face public confusion because of widespread agricultural myths and misconceptions. The scientific progress and policy development of these practices face obstacles from public misunderstanding. The critical assessment of both perceived and actual organic farming elements is necessary because this process leads to successful execution and sustainable results.

### 2. The Concept and Principles of Organic Farming

The International Federation of Organic Agriculture Movements (IFOAM) established basic principles which guide organic farming practices that develop sustainable agricultural methods through their philosophical and scientific foundations.

The principle of health emphasizes the required activities to sustain and improve soil conditions and plant development and animal welfare and human health as interdependent components of an integrated system. The principle of ecology focuses on working with natural ecosystems and ecological cycles rather than against them. The principle of fairness highlights the importance of equity, justice, and ethical relationships among all stakeholders involved in agriculture. The principle of care advocates responsible management practices to protect the environment and future generations.

Organic farming uses multiple methods which support environmental preservation and ecological system maintenance. Farmers apply farmyard manure and compost and vermicompost to enhance soil fertility while using crop rotation and intercropping methods to create biodiversity and control pest populations and they maintain soil structure through green manuring and cover cropping and they control pests through biological pest management techniques and they use biofertilizers and biopesticides to decrease their need for chemical products.

### **3. Myths About Organic Farming**

Various misconceptions about organic farming create barriers which prevent farmers from making correct choices while they establish wrong beliefs about organic farming.

The common belief exists that organic farming lacks the ability to provide sufficient food for global needs because its production levels fall short of conventional methods. Research demonstrates that yield gaps which affect specific crops and regions during their first transition phase can be decreased through better agricultural practices. Organic farming achieves similar results as conventional farming methods in both rainfed and low-input agricultural systems.

People believe that organic food products do not contain any chemical substances. Organic farming practices permit farmers to use both natural substances and specific materials that receive approval. The term "chemical-free" creates confusion because all substances in existence are made up of chemical components which include both natural and synthetic materials.

People hold the belief that organic farms possess complete protection against all types of pests and diseases. Organic systems require pest and disease control which operates through biological and cultural and mechanical approaches that exclude synthetic pesticide use.

Some individuals view organic farming as a practice that merely revives past farming methods. Modern organic farming has become a

scientific practice that uses microbial biofertilizers and advanced composting methods and ecological pest control techniques.

People believe that organic food products provide better nutritional value than conventional food products. Scientific research shows that organic produce contains fewer pesticide residues while showing only small nutritional differences compared to other food types.

People believe that organic farming requires excessive costs which make it impossible to operate sustainably. The conversion period results in lower initial yields, but farmers can benefit from reduced input expenses and higher prices for their organic products.

### **4. Reality of Organic Farming**

#### **4.1 Productivity**

The productivity of organic farming systems depends on three factors which include the crop type and the management practices and the environmental conditions. The soil ecosystem takes two to three years to complete its conversion process during which time the soil yields will decrease. The organic systems achieve long-term productivity because they improve soil health and nutrient cycling capabilities. The advantages of organic farming include better performance during stressful situations which include drought because of its ability to maintain soil moisture.

#### **4.2 Soil Health**

Organic farming techniques increase organic carbon levels in soil through their effects on microbial activity which leads to better soil health. Organic manures together with crop residues enhance soil properties by improving its structural integrity and increasing its capacity to hold water and its ability to allow air circulation. Healthy soils lead to improved plant growth and better plant resistance to diseases.

#### **4.3 Environmental Impact**

Organic farming decreases environmental damage because it eliminates synthetic chemicals which pollute both soil and water bodies. The practice establishes environments that suitable

for beneficial organisms to thrive which results in improved biodiversity and maintains ecological equilibrium. Organic methods help reduce climate change effects because they sequester carbon emissions through soil absorption.

#### 4.4 Economic Aspects

Organic farming enables farmers to decrease their dependence on expensive synthetic materials which results in reduced farming expenses according to its economic benefits. The process of certification together with difficulties in accessing markets will create obstacles that decrease profitability. Organic farmers can achieve better financial outcomes because organic products fetch higher market prices which help them overcome financial difficulties.

#### 4.5 Social Impact

The labor-intensive nature of organic farming creates job opportunities for people living in rural areas. The system helps small-scale farmers through its implementation of traditional agricultural practices which decreasing their need for external agricultural support.

### 5. Organic Farming in India

India has established itself as a major nation in global organic agriculture. The nation maintains extensive organic certification throughout its territory which enables it to serve as one of the top organic product producers and exporters.

Sikkim stands as an example of a state that achieved complete organic status through its successful implementation of extensive organic farming practices. The Indian government established various programs to advance organic farming which include the Paramparagat Krishi Vikas Yojana (PKVY) and the National Programme for Organic Production (NPOP) and the Mission Organic Value Chain Development for North Eastern Region (MOVCDNER) initiative.

India exports various organic products which include spices and tea and pulses and oilseeds and processed foods to generate foreign exchange earnings that support rural development.

### 6. Challenges in Organic Farming

The widespread implementation of organic farming methods experiences multiple obstacles that hinder its progress. The transition period causes farmers to experience their first major barrier which results in reduced crop yields. The lack of knowledge about organic farming methods combined with insufficient technical expertise creates obstacles for farmers to adopt these methods.

Certification processes become difficult for small farmers to join because they require long periods and high expenses and complex procedures. The agricultural sector in general encounters difficulties because it lacks access to essential organic inputs which include biofertilizers and biopesticides. The absence of proper market connections together with fluctuating prices creates obstacles that decrease the profitability of organic farming. Organic farming methods require substantial manual work which drives up expenses for production.

### 7. Future Prospects of Organic Farming

The future of organic farming shows positive indicators because consumers become more informed about health benefits and environmental sustainable practices. Pesticide-free food products, which also meet environmental protection standards, have become more popular among customers in both domestic and international markets.

Organic farming practices can achieve better results through their combination with smart agriculture technologies, which include Internet of Things devices and tools for precise farming. The inherent capacity of organic systems to withstand climate stress makes them appropriate for agricultural practices that need to adapt to climate change.

Organic product exports will experience substantial growth because global demand for these products keeps increasing. The expansion of organic farming operations will depend on government policies and support systems that provide subsidies and certification assistance together with their promotion of Farmer Producer Organizations.

Research and innovation progress through the creation of high-yielding organic system varieties and better bio-inputs which will boost the sector's growth.

### 8 Way Forward

The organic farming field needs better extension services together with farmer training programs which will teach them about scientific organic practices. The certification process will become more accessible when its requirements become simpler and its costs decrease.

The implementation of integrated farming systems, which combine crop production with livestock maintenance and agroforestry practices, will improve both environmental sustainability and economic returns. Farmers will achieve better financial outcomes through improved market infrastructure, which enhances supply chain operations. Public-private partnerships will help build value chains which will enable businesses to access new markets.

### CONCLUSION

Organic farming is neither a myth nor a universal solution to all agricultural challenges. It represents a scientifically grounded and environmentally sustainable approach that integrates ecological principles with modern innovations. While myths often exaggerate its limitations or benefits, the reality lies in its potential to contribute significantly to sustainable agriculture, environmental conservation, and human health.

The future of organic farming depends on effective policy support, technological integration, farmer awareness, and market development. With a strategic and scientific approach, organic farming can play a vital role in building a resilient and sustainable agricultural system for future generations.

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