

# Necessity of Organic Farming in the Modern Era of Agricultural Sector

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## Abstract

The scope of organic farming as an efficient strategy to promote sustainable agriculture in India is discussed in this study. To address the obstacles posed by chemical fertilizer-based farming, the promotion of sustainable agriculture is a must in today's society. Agriculture is the backbone of the Indian economy, with more than half of the people relying on it for a living. At the same time, agriculture's contribution to India's GDP is lower than that of other sectors. This is primarily due to unsustainable agricultural methods. Organic agriculture is a viable option for promoting India's long-term agricultural sustainability. A long-term agricultural sector plan can help to boost agricultural output, food security, rural employment, and poverty reduction while also preserving the natural resource base. This new plan should be implemented with good infrastructure, governance, private public engagement, and successful execution in order to help reduce poverty, boost regional integration, speed up rural development, and increase agricultural output.

**Keywords:** *Organic, Farming, Sustainability, Fertilizer, Production.*

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## I. INTRODUCTION

Organic food is becoming increasingly popular. Consumer worries about the harmful effects of conventional agriculture on human health and the environment are largely to blame for the rising demand. Most people, particularly in industrialized nations, believe that organic food is safer and healthier than conventionally produced food. Organic farming is typically seen as better for the environment, climate protection, and animal welfare by wealthy customers. Organic farming, in particular, has such a strong public image in Europe that it is frequently referred to as the model for sustainable agriculture. According to a representative study conducted in Germany, about half of the public views broader use of organic agriculture as an essential method for combating world hunger. Agrochemicals and genetically modified organisms (GMOs) are frequently seen as serious dangers to food security, according to the same poll. Organic agriculture is still less well-known in poor nations, but European opinions and food preferences are beginning to gain traction, particularly among better-off urban customers.

### Concept and principles of organic farming

"Organic farming" is defined by the USDA as "a system that avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives, etc.) and relies on crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives, and a biological system of nutrient mobilisation and plant protection to the maximum extent feasible." "Organic agriculture is a unique production management system that promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity, using on-farm agronomic, biological, and mechanical methods in the absence of all synthetic off-farm inputs," according to the FAO. The concepts of organic farming are as follows.

**Principle of health:** Organic agriculture should aim to maintain and improve the health of the land, plant, animal, human, and planet as a whole. This theory emphasizes that the health of individuals and communities is inextricably linked to the health of ecosystems: healthy soils generate healthy crops, which in turn help animals and humans stay healthy.

**Principle of ecology:** Organic agriculture should be founded on live ecological processes and cycles, and should work with, replicate, and assist to sustain them. Organic agriculture is based on this notion, which places it within live ecological systems. It specifies that production should be based on environmentally friendly

procedures and recycling. It is possible to have nourishment and happiness.

**Principle of fairness:** Organic agriculture should be based on partnerships that provide fairness in terms of the environment and life possibilities. Equity, respect, justice, and stewardship of the common planet are characteristics of fairness, both among humans and in their interactions with other living species. This idea stresses that individuals involved in organic agriculture should handle human connections in such a way that all parties - farmers, labourers, processors, distributors, merchants, and customers - are treated fairly at all levels.

**Principle of care:** Organic agriculture should be managed with prudence and responsibility to safeguard present and future generations' health and well-being, as well as the environment. Organic agriculture is a live, dynamic system that adapts to both internal and external pressures.

### **Organic Agriculture In Present Times**

More than a hundred nations now openly embrace organic standards. There are also a number of private organic standards. Governmental and private standards are frequently based on the International Federation of Organic Agriculture Movements' criteria (IFOAM). As a result, most organic standards are comparable, even if minor differences exist.

Crop cultivation, animal husbandry, wildlife gathering, beekeeping, aquaculture, and processing, among other things, are all covered by organic standards. Those that are forbidden or restricted, as well as activities that are necessary or recommended, are covered by the standards. Balanced crop rotations with legumes, nutrient recycling (e.g., through mixed farming), and the use of organic fertilizers are all foundations of organic agricultural systems. Chemical pesticides and synthetic fertilizers are not permitted. The animals in livestock production must be fed organic feed, ideally from the same farm, and given enough room and access to outside regions.

India has an abundance of natural and human resources. India is the world's leading producer of various agricultural products such as tea, spices, grains, and ayurvedic herbs. Traditionally, India's economy has been based on agriculture, and farm techniques have been environmentally benign. Later, the Green Revolution displaced conventional farming techniques, resulting in a significant increase in the usage of pesticides and artificial fertilisers. The increased usage of chemical inputs has had negative environmental and health consequences. Pesticide resistance in pests and negative impacts on helpful natural predators and parasites have emerged from the widespread use of pesticides. Due to the negative effects of modern fertiliser-based farming, a huge number of farmers have switched to organic farming. As a country with a strong agricultural foundation and tradition, India still has a lot of potential to promote organic farming by offering excellent training and marketing services to organic farmers.

## **II. MATERIALS & METHODS**

The increased use of chemical fertilizers and other contemporary agricultural methods endangers human and environmental health. Environmental worries over the use of chemicals in agriculture have drawn the world's attention to organic farming, which provides an environmentally benign and sustainable approach to agriculture. The presence of well-documented literature is shown through an examination of the literature. The following methodological technique is used in this paper:

- A) A look back at the history of organic farming.
- B) Organic farming's contribution to agriculture's long-term viability.
- d) Examining current global policy.
- D) Suggestions for enhancing organic agricultural policies.

The special function of organic farming in sustaining environmental health and improving the quality of agricultural products is highlighted in this review. The comprehensive literature review of many research and articles related to the current issue is part of methodology. It also contains an evaluation of online material available on several agriculturally relevant websites. A variety of web data sources were employed to gather pertinent information. These are the ones:

- a) Google Scholar
- b) PubMed
- c) Discovery
- d) Library Genesis
- e) Science Direct etc.

"Organic farming," "Sustainable development," "Agriculture," and "Policies" were among the search terms. The findings were reviewed in this study, which is useful in formulating policy recommendations and predicting future trends in the sector.

### III. RESULTS AND DISCUSSION

#### Existing global policies

Many initiatives, restrictions in the form of government policies have been implemented across the world to improve the practise and culture of organic farming. Almost every country in the world is concentrating on the production of organic food.

Table 1 shows statistics on organic agriculture across the world. According to a FiBL and IFOAM research, organic based farmlands have seen a significant increase and will continue to develop at greater rates with a good growth trend. The organic agricultural business is predicted to be around 97 billion dollars, the largest it has ever been. This study is based on data collected by the end of 2017 from 181 nations (33). With a net worth of 40 billion euros, the United States now leads the organic market (34). Following the United States, Germany comes in second with a market worth of 10 billion euros (35), followed by France and China, each with a net market share of 7.9 and 7.6 billion euros (36). The organic market in France grew at the fastest pace of 18%. (37). India is the leading producer of organic products, with the biggest number of manufacturers (38). These statistics data are especially important for policymakers to comprehend the global economic effect and to build more sophisticated, people-centered policies.

**Table 1. Current status and global policy initiatives in the organic farming sector.**

World's Regions	Current Status of Organic Market	Policies & Legislations	References
Europe	In 2017, Organic farmland reaches up to 12.6 million ha. 250000 organic product producers reported in 2016 in EU.  2nd largest consumer of organic food (retail sales of 34.3 billion euros).  Import of 3.3 million tons of organic food products, reported in 2018.	National action plan.  EU rural development program.  Main target is to double the organic land proportion. Scheme of compensation for management of organic farms.	(34)
Asia	Total cultivated organic land is 6.1 million ha (0.4% of total agricultural land).  25 % hike is observed in organic farmland area in between 2016-2017.  China is on the top with largest organic cultivated area followed by India.  Estimation of 9.6 billion euros market of	Establishment of OFDC by China in 1994 for organic products certification.  Establishment of CAAC (China) in 2002. China instituted CNOPS in 2005.  Cluster program by Indian government "Parampragat krishi vikas yojana" brings about 500,000 acres under organic farming.  India initiates value chain based organic	(34,39-42)

	organic farming in Asia.	farming scheme in northeast regions.  Scheme for integrated development of horticulture (India) was implemented from 2014-15.  Introduction of national mission for sustainable agriculture.	
North America	Presence of 7% agricultural land.  2.2 million ha land under organic farming. In 2017, FiBL and IFOAM estimated 48.7 billion dollars net worth of organic market.	USA in 1990 passes organic food production act to regulate production and processing of organic food.  Initiation of National Organic Program. USDA labelling of products.	(43,44)
Germany	8% increase has been observed in organic cultivated land.  10.91 billion Market with average growth rate of 5.5% since 2018.	Framing of Organic farming act by the German government. Establishment of BOLW for improvement of organic farming.  Uniform Ecolabel on organic products is used since 2001.	(35)
Australia	Australian organic market is with net worth of 2.4 billion dollars.  88% growth rate has been observed since the year 2012.  12% of Australians are now committed purchasers of organic products.	Development of private certification organizations in the period of 1980s.  These organizations come under AQIS in 1990. Establishment of BFA and NASAA for the promotion of organic practices.  Adoption of national standard in 1992 which later amended in 1998.	(45,46)
Denmark	World's leading nation in organic farming. Having share of 8.4% in global market.	Government in 1987 adopted the organic farming act.  In 1992, Government starts providing Grant in aid for organic research.  Introduction of permanent subsidies to farmers of organic agriculture sector in 1994.  Initiation of Education program of farmers working in organic fields in 1995.  Permanent organic payments and flat conversions replace the permanent subsidies in 2004.	(47,48)

### Efficiency Analysis

Governments have adopted a number of measures in this area, however it has been recognised that greater consistency and farmer-oriented policies are required. Policy formulation alone is insufficient; the competent authorities must guarantee that policies are implemented correctly. Aside from a huge range of policies and legislations, a few explanations and difficulties for these policies' inefficiency have been highlighted. These are

the ones:

- a) Lower productivity rate.
- b) Lack of global standards for organic processing and production.
- c) Higher consumer costs.
- d) Issues in maintaining consistency in food quality.
- e) Lack of required infrastructure and supply chain management.
- f) Lack of awareness between the people.
- g) Lack of professionals.

### **Suggestions for Policy improvement**

The following are some recommendations for enhancing present organic agricultural policies:

**Clear objectives:** Authorities must conduct an in-depth review of the policy and have specific goals in mind.

**Ensure Participation:** The government should ensure that all relevant players in society are involved. It is taken into account their involvement in policy creation and numerous initiatives.

**Existing Situation Analysis:** A thorough examination of the current state of the sector and its implications for society is highly recommended prior to policy formulation.

**Assigning Tasks:** Different agencies must be assigned responsibilities under one primary government agency that is accountable for the proper execution of policy.

**Formation of a Bridging Body:** A permanent bridging entity must be formed to act as a link between the government and the organic sector's connected entities.

**Research and Development:** The government must ensure that scientific data and information about the organic farming sector are collected. This information was valuable in developing a policy framework for the specific industry.

**Preparation of Regional Standards:** Developing regional standards for organic goods requires collaboration between the public and business sectors.

**Effect Assessment:** The government must encourage and prioritise research and studies related to scientific impact assessments of policies. As a result, the competent authorities are aware of the policy's effects on the relevant industry.

**Policy Review:** Policy review is required on a regular basis to ensure that the framed policies remain efficient and relevant. This enables policymakers to make adjustments to law in response to current organic industry demand.

**Education and Awareness:** It is strongly suggested that steps be taken to educate and raise awareness about organic food among the general public.

**Scientific Monitoring:** Before a policy is implemented, authorities must verify that the policy's effects on the ground are properly monitored scientifically.

## **IV. CONCLUSION**

The purpose of this study was to emphasize the relevance and absolute necessity of organic farming in the current agricultural sector. It's a time-honored and still-relevant agricultural method. Many laws and regulations

have been enacted across the world to promote organic farming, however adequate implementation of rules at the regional level is still required in some areas. Organic farming draws individuals from all around the world throughout time. The organic sector, despite its efficacy, continues to face obstacles. As a result, it is imperative that organic sector policies be framed and implemented with the participation of society's stakeholders in order to strengthen organic farming. Every policy's effectiveness is determined by adequate follow-up, ground-level execution, impact analysis, and public awareness. Better policy promotes long-term development and aids in the achievement of the objective of a sustainable environment.

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