

## ORGANIC AGRICULTURE IN INDIA: A BLUEPRINT FOR A HEALTHY COUNTRY

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### ABSTRACT

*In recent years, food quality and safety have garnered considerable public attention as crucial factors. Due to the presence of high levels of pesticide residue, nitrate, heavy metals, hormones, antibiotic residue, and genetically modified organisms, conventionally farmed foods are detrimental to human health. In addition, conventionally farmed vegetables contain fewer nutrients and antioxidants. Due to potential health benefits and food safety concerns, the demand for organically grown foods has increased over the past few decades in an effort to obtain safer food. Organic agriculture is the production of food using environmentally and animal-friendly farming techniques. Organic food has been produced and enjoyed in India for generations. However, in recent years, consumers have demonstrated a great desire for a nutritious, nutrient-dense, and flavourful diet, as well as trust in food safety, environmental and animal welfare concerns, and sustainability. This shift in consumer behavior and interest stimulates the revitalization of India's market for organic goods.*

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**Keywords:** Organic Food, Organic Farming, IFOAM, Environment.

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### Introduction

Exposure to chemicals in food products can lead to various health issues such as cancer, birth defects, miscarriage, and stillbirth. It can also cause various types of cancer among children and adults (Salleh et al., 2010).

Nowadays, food consumption patterns are changing rapidly because of environmental influences, health issues and people's consciousness of the nutritional value of food. The safety and quality of organic food are the main factors that attract consumers' interest. However, concerns about chemical residue and synthetic fertilizers are also raised by consumers (Zotos, Ziamou & Tsakiridou, 1999; Fotopoulos & Krystallis, 2002). Organic farmers improve the ecological balance and integrate the various components of an agricultural system by employing organic methods and materials (Goldman & Clancy, 1991). Numerous organizations have described organic foods. For instance, the United Kingdom Department of Agriculture and Rural Affairs (DEFRA) states that "organic food is the result of a farming system that avoids the use of synthetic fertilizers, pesticides, growth regulators, and animal feed additives."

Besides environmental advantages, organic farming reduces the dependence on harmful chemical fertilizers. India, an agrarian country, is considered the land of farmers, but the majority are small and poor. Many of these farmers are indebted because they rely on pricey hybrid seeds and chemical inputs to boost productivity. As a result, thousands of Indian farmers die or become ill every year (Rao et al., 2005). Conversely, no external inputs and more use of natural manure in organic farming reduce operational costs. So organic farming practices are a more economical and efficient alternative to conventional farming methods (Adhavani, 2009).

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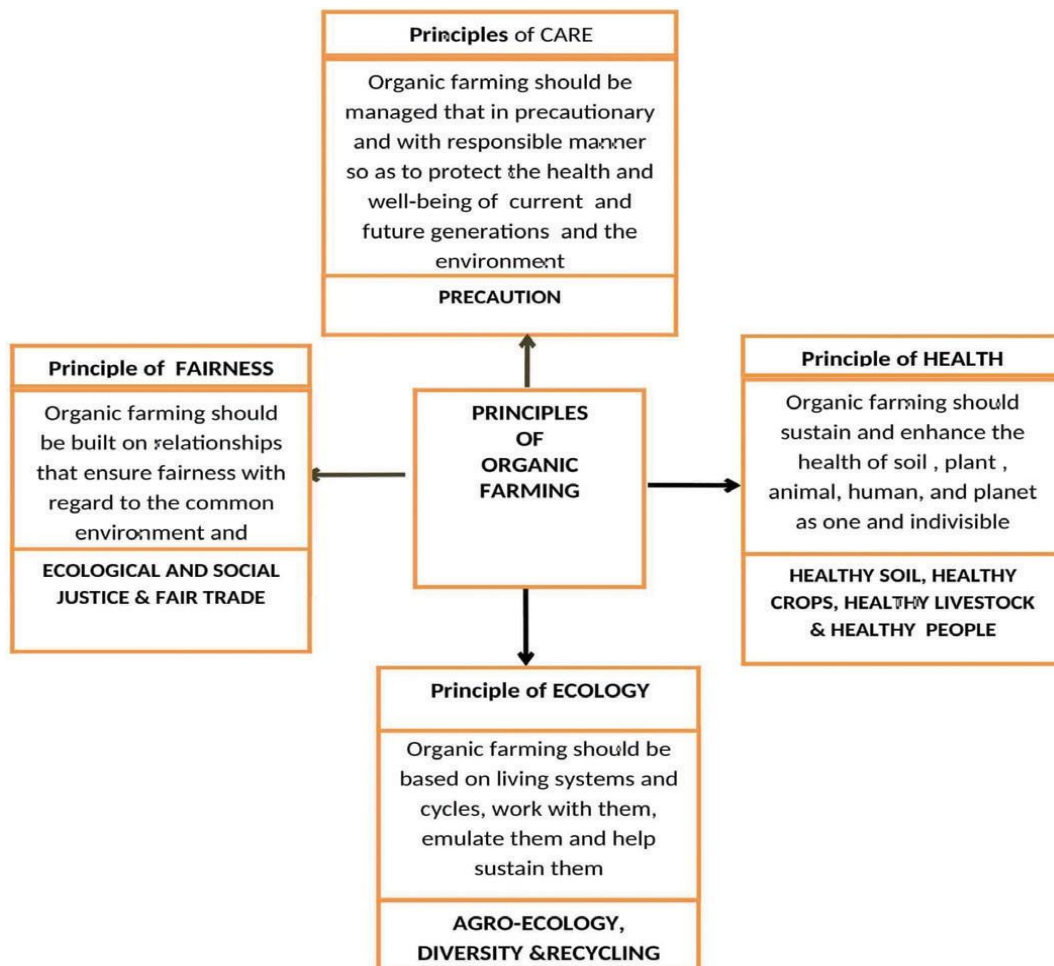
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**Organic Farming Process**

The implementation of socially, environmentally, and commercially viable food production systems is necessitated by the prevalence of organic farming and food processing techniques. IFOAM (International Federation of Organic Agriculture Movements) has promoted four essential principles of organic farming: health, ecology, fairness, and care (Figure 1). Enhancing and maintaining deep-rooted soil fertility, prohibiting the use of pesticides and synthetic fertilizers, conserving genetic diversity in food, taking into account the significant socio-ecological effects of food production, and producing enough high-quality food in enough quantities are the fundamental tenets and practices of organic food production (IFOAM, 1998).

The National Organic Programme established by the USDA Organic Food Production Act (OFPA, 1990) requires specific agricultural production and animal husbandry standards. Crops must be grown on land that has been free of synthetic pesticides, chemical fertilizers, and herbicides for at least three years prior to harvest, in addition to a buffer zone that is sufficiently large to prevent contamination from nearby farms. It is strictly forbidden to use products created by ionizing radiation, sewage sludge, or genetic engineering. Agricultural methods, such as crop rotation and cover crops, with the addition of animal and plant waste manures, often control the soil's fertility and nutrient content. By applying physical and biological control mechanisms, the majority of pests, illnesses, and weeds can be managed without the use of synthetic pesticides and herbicides. Cattle raised organically should not be administered antibiotics or growth hormones and should have sufficient access to the outdoors. Also preventive health measures such as regular immunization and vitamin and mineral supplements are required (OFPA, 1990).



**Figure 1: Principles of Organic Farming (Adapted from IFOAM,1998)**

### Organic Agriculture in India: Production, Popularity, and Economic Development

Indian farmers were organic farmers before the advent of chemical fertilizers and pesticides. After 1947, the population explosion and many natural calamities moved the nation to a situation of food scarcity. So, the government had to import food from other countries. In response, the government was compelled to introduce the concept of the green revolution during the 1960s under the supervision of Rd. M. S. Swami Nathan. The government's historic decision to introduce hybrid seeds into agriculture farming increased food production for millions of poor people (Chakravarty, 1973).

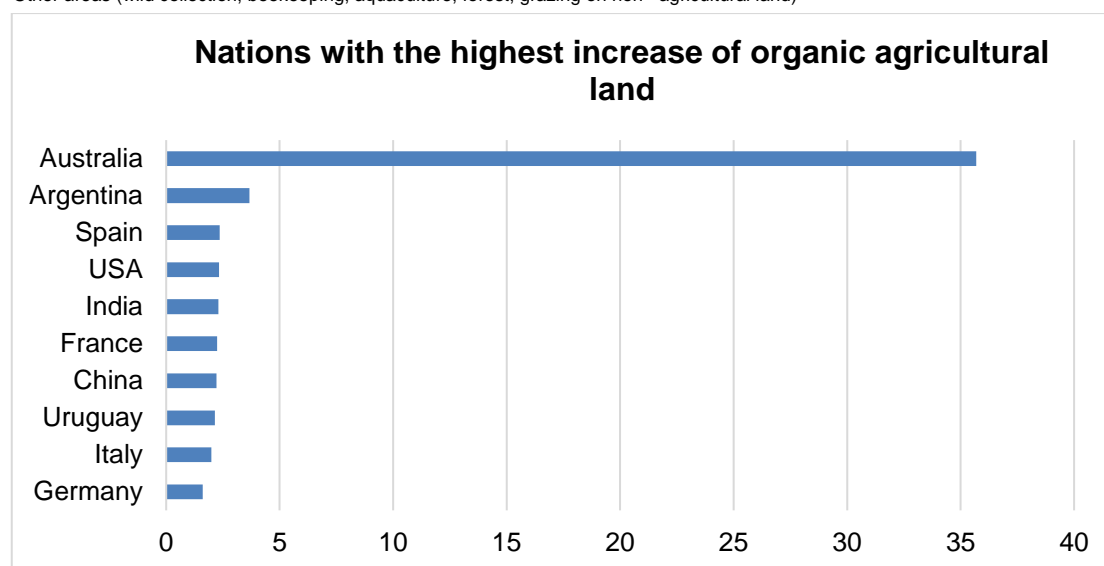
In 2003-2004, the total area certified as organic was 42,000 hectares, and total organic land reached 4.8 million hectares, including 1.1 million hectares of certified organic agricultural land and 3.7 million hectares of forest and wild area (Willer & Lernoud, 2017). According to APEDA, the total certified organic area in 2017 is 5.71 million hectares. 1.49 million hectares (26%) of all organic land is used for organic agriculture, while 4.22 million hectares (74%) are used for wild gathering and forest. India is ranked 33rd for total land under organic cultivation and 88th for the proportion of total farmland under organic crops (Mervin & Karpagam, 2012). India now ranks ninth (1.1 million hectares) in the top 10 nations with the most acreage suitable for organic farming, up from the fifteenth place in 2013. India is currently rated 81st (0.7% of the total agricultural area) compared to 97th (0.3% of the total agricultural area) in 2013, as indicated by statistics. (Arbenz et al., 2017; Willer & Lernoud, 2017).

**Table 1: Organic Agriculture Statistics Worldwide**

Region	Agri. Land (Million hect.)	Other Area* (Million hect.)	Organic agri. Land & Share of the Global organic Agri. land (%)	Organic agri. Share of Total Agri. land (%)	Growth 2014-15(%)	Organic Producers by region
Africa	1.7	11.9	16, 68,482 (3%)	0.1%	+33.5%	7, 19,720
Asia	4.0	5.6	39, 65,289 (8%)	0.2%	+11.1%	8, 51,016
Europe	12.7	17.7	12,716,969 (25%)	2.5%	+8.2%	3, 49,261
Latin America	6.7	4.2	67, 44,722 (13%)	0.9%	-1.3%	4, 57,677
Northern America	3.0	0.3	29, 73,886 (6%)	0.7%	+21.0%	19,138
Oceania	22.8	-----	22,838,513 (45%)	5.4%	+23.2%	23,728
<b>Total</b>	<b>50.9</b>	<b>-----</b>	<b>50,919,006 (100%)</b>	<b>1.1%</b>	<b>+14.7%</b>	<b>2,417,414</b>

Source: Willer, & Lernoud, 2016; 2017 (FiBL-IFOAM Survey, 2017).

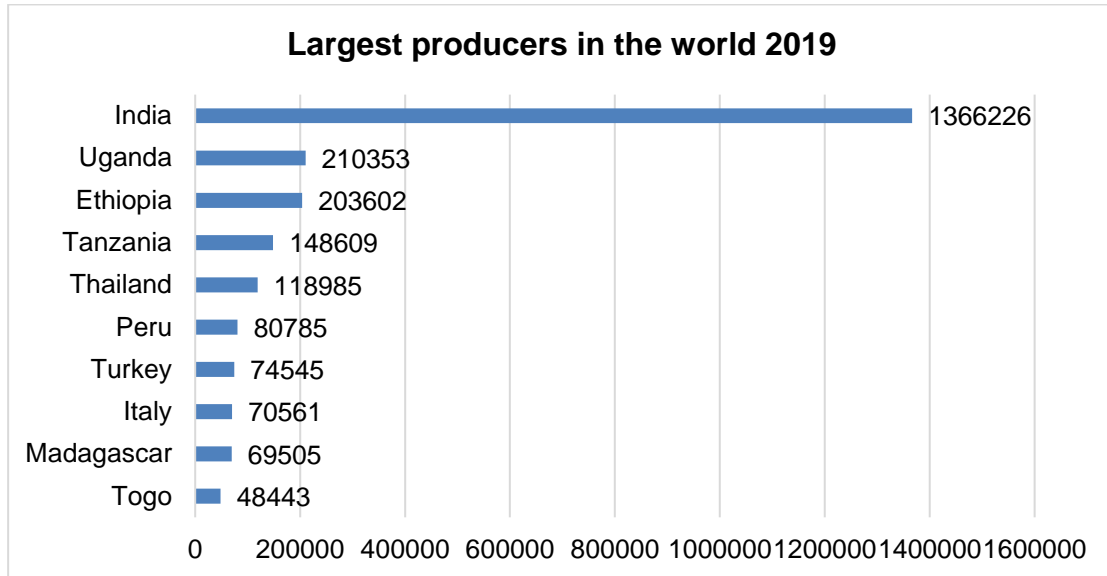
\*Other areas (wild collection, beekeeping, aquaculture, forest, grazing on non –agricultural land)



**Figure 2: Ten Nations with the Highest Increase of Organic Agricultural Land in 2020**

Source: FiBL Survey 2022

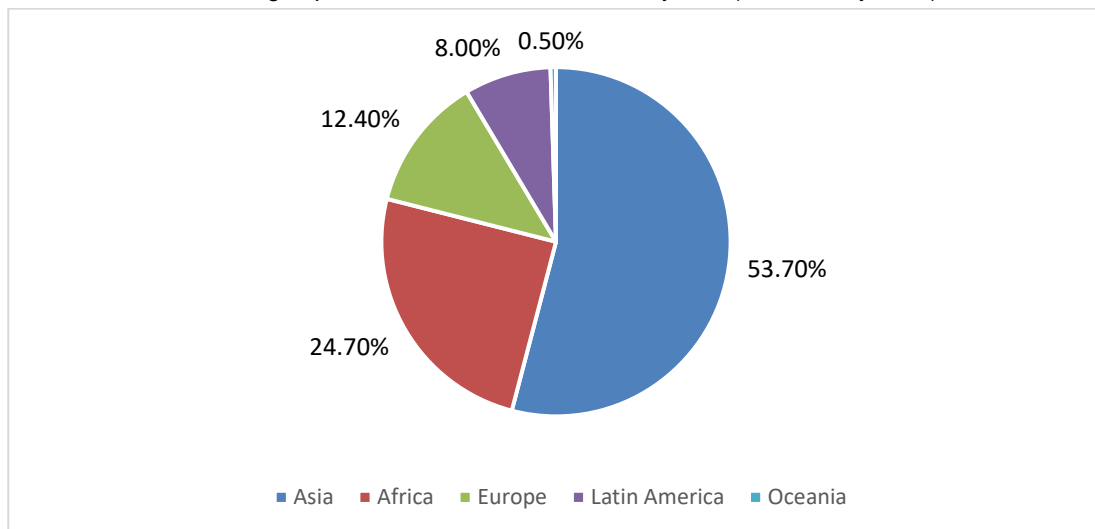
Compared to 1999, when 15 million hectares were organic, the amount of organic agricultural land has increased five-fold (2020). In 2020, an additional 2.97 million hectares, or 4.1%, were reported compared to 2019. Many countries saw big growth, like Argentina, which grew by 21.3% and added more than 0.78 million hectares (27.9 percent increase; almost 0.60 million hectares more). India, which grew by 15.6% and added nearly 0.36 million hectares, and France, which grew by 13.7% and added nearly 0.31 million hectares, also saw big increases (figure 2).



**Figure 3: Largest number of producers in the world 2019**

Source: FiBL Survey 2021

The country with the most organic farmers is India, followed by Tanzania and Ethiopia (Figure 3). Globally, the number of organic producers is growing. There were 3.1 million organic producers reported in 2019. Figures 3 shows that India continues to be the country with the highest number of producers (13,66,226), followed by Uganda (2,10,000), and Ethiopia (2,04,000). Most small-scale producers are certified in groups based on an internal control system (FiBL Survey 2021).



**Figure 4: Distribution of Organic Producers Worldwide by Region 2020 (Total: 3.4 Million Producers)**

Source: FiBL Survey 2022

There were more than 3.4 million organic producers worldwide. Almost 91 percent of the producers were in Asia, Africa, and Europe (Figure 4). Over 66% of Indian parents choose organic food over non-organic food and are prepared to pay extra due to the claimed health benefits of organic food, even though organic food is 25% more costly than traditional food (Chandrashekar, 2010). Several organic food stores are proliferating in India as a result of the surge in organic food consumption. Today, every major city in India has an organic grocery store, with several organic restaurants and stores in large cities. Given that the first organic food store to open in Mumbai was in 1997, this is a significant shift (Chandrashekar, 2010), and in 2007, the first fully organic certified store was started in Bangalore (Osswald & Menon, 2013).

### **COVID-19's Impact on the World's Organic Market**

The Covid-19 pandemic started in the spring of 2020 and has substantially affected our everyday life and the organic food business. Consumers gravitate toward organic foods as they focus more intently on their health, well-being, and nutrition. As the food business moves to a post-COVID era, organic food is expected to gain market share, according to Willer et al (2021). According to Willer et al (2021), the coronavirus pandemic is expected to alter the global organic food business by introducing several trends that will affect the growth of organic agriculture in various ways. Such developments include the de-globalization of food supply chains, the growing significance of food security, more excellent government backing, a shift toward traceability and transparency in food supply chains, a shift in consumer behavior, and the rising significance of online retailing.

While North America and Europe accounts for most of the sales, their market share is decreasing. As additional regional markets for organic foods grow, the coronavirus outbreak is expected to intensify this tendency. In particular, the number of countries like China, India, Brazil, and Indonesia that are "emerging" is expected to grow quickly over the next few years.

The country (India) has witnessed a surge in certification, even though there were challenges with inspections and appraisals during the lockdown. Participatory Guarantee System (PGS) certified farmers under the government-administered PGS system have risen to almost one million in five years, while about 1.3 million are certified under third-party systems.

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

India has great potential for producing all kinds of organic goods because of its diverse agro climatic areas and traditional expertise. Indian traditional farmers have a strong understanding of how to maintain soil fertility and manage pests, which has been found to be effective in boosting organic production and subsequent economic growth in India. This insight is based on their knowledge, in-depth observation, perseverance, and pest management practices. As a result, quite commendable progress has been made in organic farming. With 1.78 million hectare of organic agricultural land in the world in 2017 and ranking ninth, India is currently the largest organic producer in the world (Willer and Lernoud, 2017, 2019). The potential of the export market is also growing.

However, producing organically in a nation like India comes with several limitations. More than 1 billion people will need food; thus, relying just on organic farming will not be adequate. India will become a successful exporter of organic goods and enhance farmer's net profits if obstacles are overcome and the key locations and prospective hotspots for producing organic products are identified. An integrated strategy that blends organic and inorganic crop production is advised to combine a sustainable production system with satisfying India's demands for food security while maintaining a healthy environment Khadda, B. S. (2021).

India has adopted three significant regulations that would affect agriculture:

- In accordance with the Farmers' Produce Trade and Commerce (Promotion and Facilitation) Ordinance of 2020: Allowing liberal trade, enhancing buyer competition, reducing barriers to interstate trade, and providing more selling and purchasing possibilities.
- The Farmers' (Empowerment and Protection) Agreement on Price Assurance and Farm Services (2020): Providing visibility and price guarantee to farmers at the time of planting, mitigating market risks, resolving concerns with volatile food prices, and promoting contract farming.
- The Essential Commodities (Amendment) Ordinance of 2020: Increasing private investments in agricultural supply chains, food processing companies, and export infrastructure.

It remains to be seen what effect these rules will have on organic farming and organic markets.

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