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Problems and Prospects of Organic Farming in India

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Abstract: *Conventional farming not only helped India produce enough food for its own consumption but also generated surpluses for exports. However, the increasing population and income will lead to further increases in demand for food and for raw materials for industry. The modern system of farming, it is increasingly felt, is becoming unsustainable, as evidenced by declining crop productivities, damage to the environment, chemical contamination, etc. The necessity of having an alternative agriculture method that can function in a friendly eco-system while sustaining and increasing crop productivity is realized now. Organic farming is recognized as the best-known alternative to conventional agriculture. Organic farming is a system of cultivation of food grains that sustains the health of the soil and ecosystem. It is the system that avoids or largely excludes the use of artificial chemical inputs such as fertilizers, pesticides, hormones and feed additives in the field of agriculture. The major weaknesses of organic agriculture in the country are the absence of linkages between farmers and markets and the absence of financial support from governments. In this article, an attempt was made to highlight different issues resulting from recent developments, problems, and prospects in organic farming in India.*

Keywords: *Organic farming, conventional farming, advantages, disadvantages, prospects*

I.INTRODUCTION

For more than a decade, sustainable development has attracted creativity and action around the world. Unfavourable effects of modern farming practices have been recorded worldwide, not just on farming but also on the health of all living beings and the environment (Bhujel and Joshi, 2023). The continuous use of unbalanced fertilizers has resulted in the deterioration of soil health and the stagnation of crop productivity (Das et al., 2015). The green revolution technologies, viz. Higher uses of chemical fertilizers and pesticides with the adoption of nutrient-responsive and high-yielding varieties of crops have increased the productivity of almost all crops. However, during recent decades, the compounded growth rates for the production and productivity of major crops have generally declined or stagnated compared to the 1995s (Kumari et al., 2020). There are reports that farmers have to add higher quantities of fertilizers every year to obtain the same yield level as obtained in the previous year (Antil and Raj, 2020). The declining trend may be due to a decline in the soil organic matter content (Antil et al., 2022). Several of the various approaches to accomplish the objectives of environmentally friendly agriculture are organic farming. Organic farming is one of the most frequently used ways to prevent the adverse effects of chemical agriculture. It is the safest option. In recent years, organic farming as a cultivation process has gained increasing popularity (Das et al., 2020; Kumar et al., 2021). Organically grown foods have become one of the best choices for both consumers and farmers. Organically grown foods are part of a green lifestyle. The government takes special initiatives to alleviate farmers' problems. The government launched the Paramparagat Krishi Vikas Yojna (PKVY) program to revolutionize the agricultural sector, and farmers are becoming excited about organic farming. This paper attempts to highlight different issues resulting from recent developments, problems, and prospects in organic farming in India.

A. Definition of Organic Farming

- 1) According to the FAO, a “unique production management system is built as organic farming that promotes and improves the health of agroecosystems, including soil biological activity, biodiversity and biological cycles, and this is achieved through the use of agronomic, mechanical and biological methods of the farm to the avoidance of all non-agricultural synthetic inputs”.
- 2) “Organic farming is the system of production that supports soil, ecosystem and human health. It is based on ecological processes, biodiversity and cycles adapted to local conditions and not on the use of negative impact inputs. Organic farming combines tradition, innovation and science for the benefit of the shared environment, promoting fair relationships and a good quality of life for all involved” (IFOAM, 2008).
- 3) Organic farming is a method of farming systems that primarily aims at cultivating the land and raising crops in such a way as to keep the soil alive and in good health by using organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (fertilizers) to release nutrients to crops for increased sustainable production in an eco-friendly pollution-free environment (Makadia and Patel, 2015).

- 4) According to the United States Department of Agriculture, “Organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives, etc.) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection”.

B. Need for Organic Farming

Sustainability has become a buzzword in every sector globally, with organic farming being a proponent of agriculture. Organic lifestyle is gradually becoming the core concern in the 21st century (Bhujel and Joshi, 2023; Das et al., 2020). Organic farming aims to positively impact human health and the planet. Elayaraja and Vijay (2020) highlight that adopting organic farming is crucial to avoiding chemical-based pesticides and fertilizers. The process emphasizes natural methods to eliminate weeds and pests. At the same time, chemicals could leave residues in foods and products that could have deleterious implications for our health and the planet. Additionally, as Kumari and Raj (2020) argue, adopting organic farming is suitable for protecting the environment. The larger global issue of climate change depicts the harm looming on our environment, calling for interventions to ensure that nature stays rich and clean, such as organic farming in the agricultural sector. In that light, ecological production practices significantly sustain the proliferation of biodiversity as opposed to conventional production processes. In addition, Karunakaran (2021) emphasizes that organic farming could enrich the nutritional content of foods and food products instead of conventional farming. A recent study found that organic ingredients contain significantly higher levels of antioxidants and other essential compounds that benefit consumers, such as those with anti-inflammatory impacts (Madhavi et al., 2021). Moreover, organic farming contributes to the empowerment of local producers and protects their environment from toxic chemicals (Narmadha, 2022). Demand for organic foods means that farmers producing foods organically get to supply and benefit from the market. In that light, procuring organic food products assures that the overall production could not harm the local communities and their surroundings. Nonetheless, organic farming could be suitable for avoiding genetically modified organism (GMO) products (Kumari and Raj, 2020; Madhavi et al., 2021). Organic farming uses organic practices rather than GMOs, eliminating the likelihood of contracting health and ecological consequences associated with GMOs. Therefore, organic farming has more to offer to people and the planet. Thus, it should be widely adopted to boost sustainable existence.

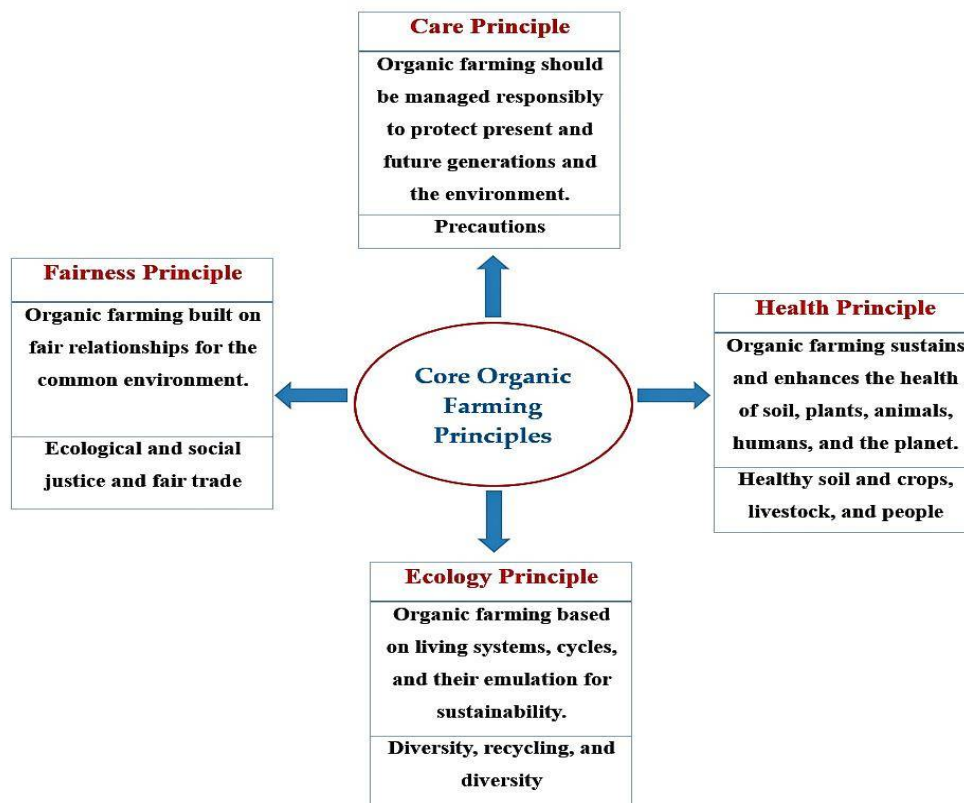


Figure 1. Principles of organic farming (Source: Extracted and modified from IFOAM, 1998).



C. Historical background of India in organic farming

In India, the idea of organic farming is not new. In reality, the ancient Vedic period Vedas are where the first organized systematic approach to organic agriculture originated. The heart of the Vedas is to live in peace with Mother Earth rather than taking advantage of her. Several organic ingredients are briefly mentioned in our ancient texts, such as Ramayana, Kautilya Arthasashthra, Mahabharata, and Rigveda. Traditional farming methods that have been used for millennia in innumerable farming and village communities are the foundation of organic agriculture. Through his positive programmes, Mahatma Gandhi helped establish organic farming as a pioneer in various Indian states. Evidence suggests that small farmers, particularly those in developing nations, are more inclined to use agricultural techniques such as mixed cropping and crop rotation, which are fundamental components of organic farming.

II. WHY DO ORGANIC PRODUCTS PREFER OVER NONORGANIC PRODUCTS?

The following is the reason behind the preference for organic products over nonorganic products:

- 1) *Quality of Yields:* Many existing research papers show that nonorganic agricultural methods produce high yields compared to organic methods. However, in terms of the quality of yield, nonorganic products are always provided with a low quality of product compared to organic products. Organic foods have fewer pesticides and are healthier than conventional foods.
- 2) *Rich in Nutrients:* Many studies have proven that organic food is more wholesome and richer in vitamins than nonorganic food. Normally, all organic foods contain a good amount of vitamin C, zinc and iron (Brantsæter et al., 2017). Organic foods also have a higher level of antioxidants (almost up to 69%) and micronutrients (zinc and iron).
- 3) *Nitrate Levels in Organic Crops:* Nitrate levels in organic crops are less than 30%. According to previous studies, high nitrate levels increase the risk of certain types of cancer. Nitrate levels are also connected with some of the diseases that have been observed in infants. These diseases are conditions called "methemoglobinemia", which disturbs the body's ability to carry oxygen.
- 4) *Health Benefits:* According to laboratory studies, organic crops are rich in antioxidants. Antioxidants play a vital role in protecting cells from damage. People who consume organic food in their daily routine have a lower risk of allergies, eczema, a good reproductive system, and strong immunity. Nonorganic food is grown and cultivated by using chemicals and pesticides and carries a high risk of deadly death. Organically grown and cultivated food minimizes the risk of diseases such as cancer.
- 5) *Protection from Disease:* Apart from the presence of pesticides in conventional crop yield, some dietary intervention and epidemiological studies have observed higher amounts of some bioactive compounds in organic crops. It could be linked to decreasing the risk factors for chronic diseases, including cardiovascular and neurodegenerative diseases and certain cancers.

III. GOVERNMENT CONTRIBUTION AND INITIATIVES

The Agricultural and Processed Food Export Development Authority (APEDA) of the Ministry of Commerce and Industries (MOCI) has been given a special cell by the Indian government. In 2000, the MOCI released the "National Program of Organic Products (NPOP)", and in 2002, the "India Organic" symbol was released. The Department of Agriculture and Cooperation has developed a "National Project on Organic Farming" to encourage organic farming as part of an effort to reduce the use of chemical pesticides and start making agricultural production more environmentally friendly. These actions were taken to promote the trade of Indian natural foods.

Shifting to organic farming, even if it promises higher returns in terms of better prices and international acceptability in the long run, may not be preferred by the majority of farmers, as they are dependent on the farm for livelihood, and any departure would affect them immediately.

To make the majority of small farmers shift to organic farming, several subsidies have to be given for organic inputs. Although these initiatives are a positive move, they should be compared to the significant subsidies that the National Government has been offering for the manufacture and importation of pesticides and chemical fertilizers. With the proper policy and institutional framework, it should not be too difficult to elevate the current "de facto organic" fields towards the level of certified organic fields. This country has a tremendous potential for organic agriculture to succeed. Small farmers would be able to benefit from the profitable market for products that are certified organic in developed nations, which might immediately improve their economic health (Musa et al., 2015).

A. Indian Government Initiative in Lockdown

During the darkness of the COVID-19 lockdown, Indian farmers witnessed 3.4% growth in agriculture because of heavy rainfall during the best period when crops were needed. However, the farmer was not able to take advantage of the high yield production of crops due to the national lockdown and low moment allow in the country. To deal with this pain situation of farmers, the Government of India has taken many initiatives and launched schemes to handle it. Few of the are mentioned in following:

- 1) *Farmer Produces Trade and Commerce (promotion and facilitation) ordinance 2020*: Allow liberal trade, increasing competition in buyer, removing barrier in trade and offering more options to sell and buy.
- 2) *The Farmer (Empowerment and protection) Agreement on Price Assurance and farm Services Ordinance 2020*: Facilitating visibility and assurance of price to farmer at time of showing, minimizing the market risks, solving issues of erratic food pricing and encouraging contract farming.
- 3) *The Essential Commodities (Abetment) Ordinance 2020*: Boosting private investments in agree culture supply chains, food processing industries, and export infrastructure.

The specific impact of these ordinances on organic farming and the organic market has yet to be assessed.

B. Accreditation boards in India

According to the APEDA report in 2022, India has 32 accredited certification (**Table 1**) bodies under the NPOP that are efficiently working to certify organic good products. The list of accreditation boards and the certification marks are given below:

Table 1. Published list of accredited certification bodies under NPOP by APEDA in the year 2022. Source: https://apeda.gov.in/apedawebsite/organic/organic_products.htm#

S. No.	Name of accreditation agency	of Certification Mark	S. No.	Name of accreditation agency	Certification Mark
1.	Bureau Veritas (India) Pvt. Limited		2.	ECOCERT India Pvt. Ltd	
3.	IMO Control Pvt. Ltd.		4.	Indian Organic Certification Agency (INDOCERT)	
5.	Lacon Quality Certification Pvt. Ltd.		6.	OneCert International Private Limited	
7.	SGS India Pvt. Ltd.		8.	CU Inspections India Pvt Ltd. (w.e.f. 19/12/2018)	
9.	Uttarakhand State Organic Certification Agency (USOCA)		10.	APOF Organic Certification Agency (AOCA)	
11.	Rajasthan State Organic Certification Agency (RSOCA)		12.	Vedic Organic Certification Agency	
13.	ISCOP (Indian Society for Certification of Organic Products)		14.	Aditi Organic Certifications Pvt. Ltd	

15. TQ Cert Services Private Limited (formerly FoodCert India Private Limited)		16. Tamil Nadu Organic Certification Department (TNOCD)	
17. Chhattisgarh Certification Society, India (CGCERT)		18. Madhya Pradesh State Organic Certification Agency	
19. Intertek India Pvt. Ltd.		20. Natural Organic Certification Agro Pvt. Ltd	
21. Odisha State Organic Certification Agency (OSOCA)		22. Gujarat Organic Products Certification Agency (GOPCA)	
23. Fair Cert Certification Services Pvt.Ltd.		24. Karnataka State Organic Certification Agency	
25. Uttar Pradesh State Organic Certification Agency		26. Sikkim State Organic Certification Agency (SSOCA)	
27. Global Certification Society		28. GreenCert Biosolutions Pvt. Ltd	
29. Telangana State Organic Certification Authority		30. Bihar State Seed and Organic Certification Agency (BSSOCA)	
31. Reliable Organic Certification Organization		32. Bhumaatha Organic Certification Bureau (BOCB)	

C. State Wise Contribution of Organic Food Production in India

According to a report of APEDA published in 2020-21, “Approximately 3.5 million Metric tonnes of organically grown goods were produced by organic form including conversion Production in India. These products include all types of food products, such as edible oil, fibre, cotton, sugarcane, cereal grains and millets, coffee, tea, pulses, aromatics, fruits, dry fruits, medicinal plants, vegetables, spices, and processed foods. Functional foods, organic cotton fibre, and other items are produced in addition to the edible industry. Madhya Pradesh is the main form producer among the several states, followed by Maharashtra as 2nd, Karnataka as 3rd, Rajasthan as 4th, and Uttar Pradesh as 5th states (**Figure 2**). Oil seeds are the most common type of commodity, followed by sugar crops, millets and cereals, coffee and tea, fibre crops, pulses, fodder, aromatic plants and herbal/medicinal, spices, and condiments.”

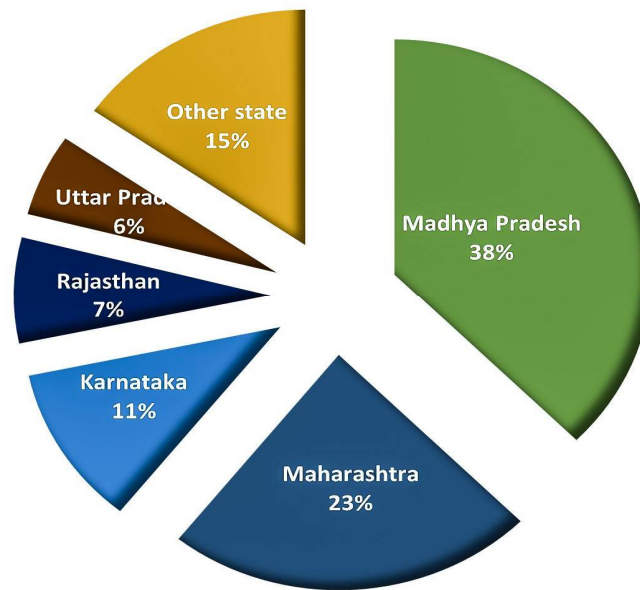


Figure 2. Top five Indian state shares of organic food production; Source: https://apeda.gov.in/apedawebsite/organic/organic_products.htm#

D. Indian Organic Food Export Market

A total of 8888179.68 MT worth of exports was made between 2020 and 21 (**Figure 3**). Approximately INR 70784.95 million was generated through the export of organic foods (1040.95 million USD). Currently, India has started to export organic products from 68 countries around the globe. Exports of organic goods go to countries including the United Kingdom, the United States, Ecuador, Canada, the European Union, Vietnam, Switzerland, Israel, Australia, and more. In terms of achieving export value, processed foods, such as soy meal, account for the majority of items (57%), followed by oil seeds (9%), millets and cereals (7%), organic plantation crop products including coffee and tea (6%), medicinal plants (5%), condiments and spices (5%), sugar (3%), dry fruits (3%), and miscellaneous products (3%).

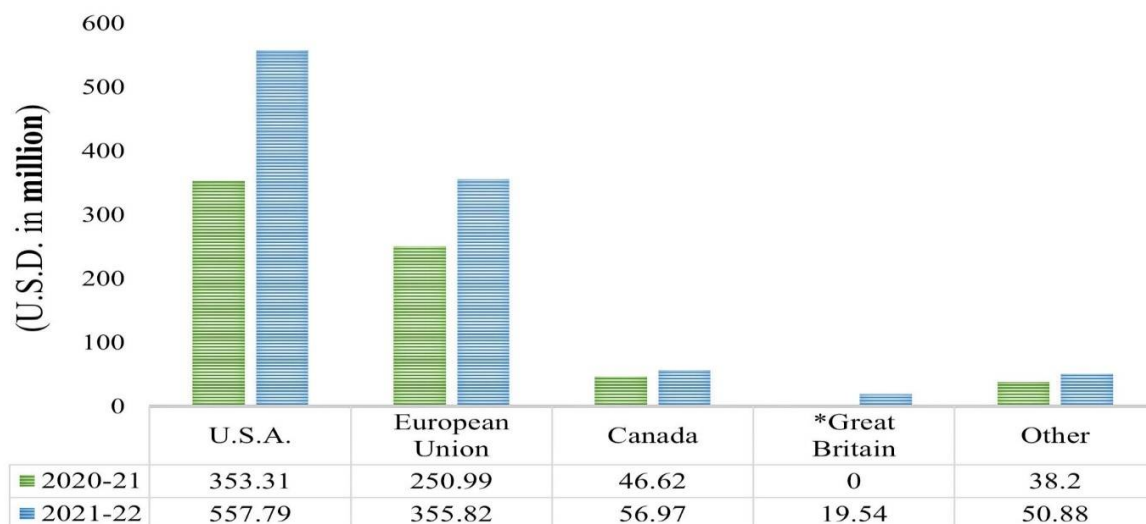


Figure 3. India's largest organic product export of country by value (\$ million). Source: https://apeda.gov.in/apedawebsite/organic/organic_products.htm#

Note: Exports to Great Britain for 2020/2021 are covered within the export of the European Union.

E. Indian State Shareholding in Total Organic Area

Madhya Pradesh, Maharashtra, Rajasthan, Gujrat, and Karnataka are the top five Indian states that hold approx. 1.9 million hectares (57%) of organic area. India has one state that is a full-fledged organic state, Sikkim, which has a total 75729.66-hectare organic area.

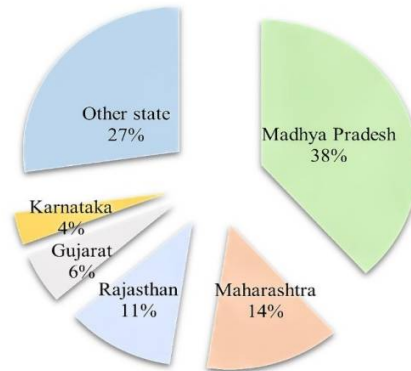


Figure 4. Top 5 state wise share of organic agricultural land in India. Source:

https://apeda.gov.in/apedawebsite/organic/organic_products.htm#

F. Where Indian Organic Forming Stands in the World

Currently, Australia leads the world, with a total of 12,29,290 hectares under organic farming. Italy takes the top spot with 9% of all agricultural land covered by organic farming, and even with 17,557 organic farms, Germany has the most organic farms per capita in the world. India is ranked 14th inside the world, with 528,171 hectares of land used for organic farming, which accounts for 0.3% of all agricultural land in the nation. There are also 44,926 organic farms in India. Only 7% of the world's organic farmland is currently made up of Asian nations, with India and China playing a large role (Diwaker et al., 2020). According to the FiBL survey 2021 (Figure 5), India ranks 5th with 2,299,222 hectares of land in the world and 1st in Asia in terms of total area use under organic farming and certification. In terms of increasing organic-forming land nations, India has topped the list and has been reported to be the number one fastest growing country (16%; 0.36 million hectares) globally between 2018 and 2019. Due to the SARS-CoV-2 pandemic, 2020 data are not available to compare the performance of our nation. According to the APEDA report 2020-21, India has a total of 4,339,184.93 hectares of organic area, of which 2,657,889.33 hectares belong to agricultural land and the remaining 1,681,295.61 hectares belong to wild areas. In terms of total organic area, India is the 5th largest country in the world, followed by Australia, Finland, China and Argentina. India has reported 194.8% (1,519,222 hectares) growth in the last 10 years. In 2019, India had the 2nd largest growing area of organic agricultural land nation, followed by Argentina.

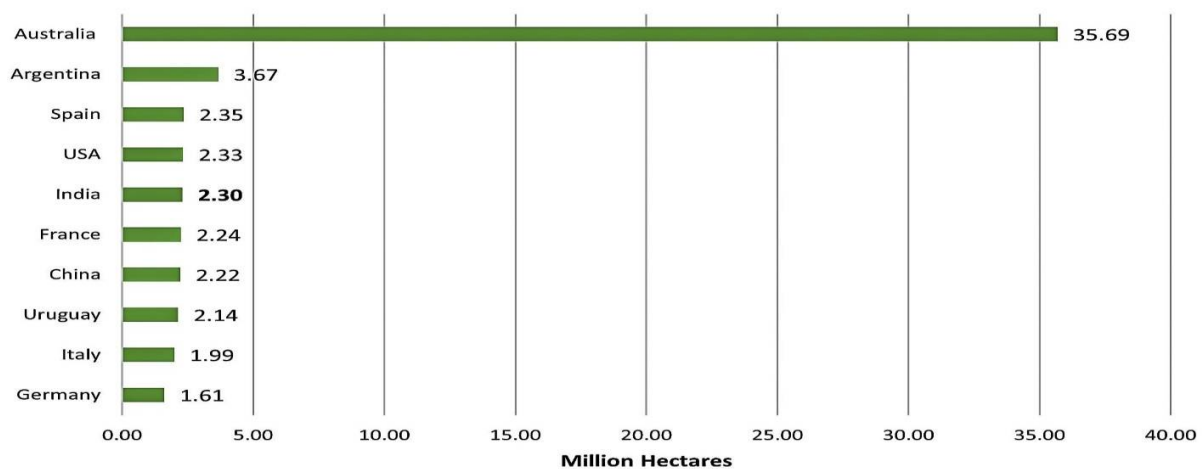


Figure 5. Total area under organic agriculture (hectares); Source: <https://www.fibl.org/fileadmin/documents/shop/1150-organic-world-2021.pdf>



According to the FiBL survey report 2021, there are 3.1 million organic food producers in the world. A total of 51% of producers belong to Asia, and with no. 1,366,226 producers, India topped the table in the world, followed by Uganda (210,353) and Ethiopia (203,602). Global producer no. increased by 12.5% by comparing data available between 2018 and 2019. According to the Indian Ministry of Agriculture and Farmer Welfare Report 2020, India has 1,078,535 PGS certified producers and 614,504 hectares of land, which increased by 120% and 65%, respectively, compared to the previous year, 2019. Approximately 5,553 farmers participate in governmental PGS civil initiative society organizations; thus, the final number of certified farmers in India has increased by 1,083,456, which is very impressive for a developing nation.

IV. CHALLENGES/CONSTRAINTS OF ORGANIC FARMING

- 1) *Can Organic Food Feed the World?* The major challenge for organic farming is to feed the world because undoubtedly if it is required too much land for production, organic farming in the front of an increasing population of the world and the necessity of land for the lives of humans will be questionable. In studies of grain, meta-statistics showed 25% less yield compared to the conventional method based on the 316 comparisons (Seufert et al., 2012). Another 362 comparisons showed 20% less crop yield in comparison to the conventional method (De Ponti et al., 2012).
- 2) *Lack of Biomass:* Many specialists and knowledgeable farmers are unsure as to whether organic materials can also provide all the nutrients in the required proportions. Whether or not this problem is surmounted, they're of the view that the available organic matter is not simply enough to satisfy the necessities.
- 3) *Financially unfit of Organic Food thanks to high Production Costs:* The tiny and marginal farmers in India are practicing a type of organic farming within the fashion of the quality farming system. They carry out farming techniques in an atmosphere that is kind to the environment and uses local or farm-owned renewable resources. However, the prices of organic inputs are now in addition to those of commercially available chemical fertilizers and pesticides, as well as other inputs used in the conventional farming method.
- 4) *Lack of Special Infrastructures for Organic Farming:* State governments have been unable to develop policies and a reliable mechanism to apply them, despite the NPOP being adopted in 2000. Only four organizations can be accredited, and they only have knowledge of vegetables, fruits, coffee, tea, coffee, and spices. The certifying organizations are insufficient.
- 5) *Marketing Problems Related to Organic Food:* Biofertilizers and biopesticides have not yet gained widespread acceptance in the nation. Due to the low demand for these products, shops are not eager to deal with them; hence, they lack a distribution and marketing network. The issue is additionally raised by the unpredictable supplies and resulting poor level of education among the cultivators. Other significant issues affecting the markets of the organic product within India include higher profit margins for chemical pesticides and fertilizers used in retail, as well as extensive advertising campaigns by producers and dealers.
- 6) *Lack of Awareness Government Schemes:* Despite historically being an agriculturist nation, India faced many suicidal cases of farmers, and the government has failed to provide educational farming to the farmers. According to the NSO survey, 26.5% of people in rural areas of our nation are still illiterate. Perhaps the illiteracy rate among rural farmers is higher. In addition, that's what biggest challenge spread awareness of new scheme among the farmers provided by either the government or the any other authorities. However, the government launched many schemes in recent years to promote organic farming and to reduce the financial burden of the farmers.
- 7) *Distance Gap Between the Demand and Supply:* Nonperishable cereals can be produced anywhere and sent anywhere, but this is not always true of vegetables and fruits. It must be locally produced, meaning there must be willing businesses, aggregators, and farmers in the vicinity of the area where the demand comes. However, typically, the metro areas in which there are no farms to offer organic vegetables and fruits are where the demand originates. The best ways to address the current imbalance are through intelligent transportation and focused supply chains.
- 8) *Inadequate Certification Policies and Agencies:* According to a report published by The Economics Times newspaper in July 2017, the Indian organic farming sector was hampered by the two-policy certification i) by the Participatory Guarantee Systems (PGS) and ii) by the third-party systems.
- 9) *High MRP:* It is practical that the outputs of organic farming will be retained at a high price due to the meticulous care necessary to travel with them. The majority of the space is devoted to selling organic vegetables and fruits after they have been brought to market. Because of this, the general population is trying to accept organic products. The market's offerings are worth only 50% as much as nonorganic goods. Therefore, we will state that organic products are pricey and that not all consumers are prepared to pay the price for them.



- 10) *Need for Skilled Workers/Farmers:* Organic agriculture requires trained, organized skilled workers to work in the field. To obtain maximum crop yield outcomes, the farmer requires providing organic fertilizer or organic waste in a specific ratio at a specific time for a specific type of crop. Sometimes the field workers are required to work the whole day without rest, or sometimes it requires sitting on chair for the whole day or driving the truck to deliver the organic product with their best quality in the market to obtain the best price value.
- 11) *Regular Observation and Time Consumption:* In fact, organic farming calls for more engagement between a producer and his or her crop, such as for weed control, early intervention, and observation. Because it requires more labour than mechanical or chemical agriculture, a single farmer may logically produce more crops with industrial techniques than they could with only organic ones.
- 12) *Weather as Challenge for Organic Farming:* Organic farming as a scientific approach for sustained organic variety and weather alternate variation through manufacturing control, minimizing power randomization of non-renewable assets; and carbon sequestration is a feasible alternative. The purpose of capability natural farming is consequently to attempt a gradual reversal of the effects of climate trade to build resilience and usual sustainability by addressing important problems. Studies are needed on yields and institutional surroundings for natural farming as a mitigation and sequestration potential.

V.ADVANTAGES OF ORGANIC FARMING

Indian organic farming mostly produces coffee and tea, black pepper, basmati rice, cardamom, turmeric, ginger, cashew, mango, herbal extracts, and other products. In addition to the variety of goods and the benefits of the seasons, India holds the following competitive advantages regarding organic agriculture:

- 1) India excels at producing high-quality crops such as tea, specialty rice, some spices, and ayurvedic herbs.
- 2) Developing organic production systems can benefit from the rich agricultural traditions of India. The control of pests, infections, and nutrient recycling is made easier by mixed cropping patterns or sophisticated crop rotation, such as the well-known Western Ghats agro-forestry systems. Botanical remedies are a valuable source for regionally adjusted disease and pest management strategies, with some of them deriving from ancient Vedic texts. Legume crops are widely cultivated, which facilitates the release of biological nitrogen fixation.
- 3) Agriculture is not extremely intense in some parts of our nation in terms of the usage of agrochemicals. Agrochemical use is often minimal, particularly in tribal and mountainous areas, which makes the transition to organic cultivation easier. Organic cultivation methods have been shown to provide equivalent or, in certain situations (particularly in humid tropics), even greater outputs than conventional agriculture on such marginal lands.
- 4) Provided they produce appropriate yields, India's labour costs are relatively low compared with input costs, thus supporting the transformation to less input-dependent but labour-intensive production technologies.
- 5) In India, the NGO sector has been well developed and has developed strong connections with many marginal farmers. Numerous NGOs work to promote organic farming and offer training, information about extension services, and marketing services to rural communities.
- 6) The Indian government has recently begun to promote organic agriculture on a wide scale and at various levels after realizing the potential importance of the industry for the nation. In 2000, a nationwide regulatory framework (standards, requirements for certification) was already enacted. There are several programs and initiatives to encourage and assist the export of organic goods (such as the sizable conference "Indian Organic Products - Global Markets" held in December 2002 in the national capital of Delhi and primely supported by the government of India). The current five-year plan will feature a variety of supports for organic growers, processors, and merchants, according to the Agriculture Ministry of the Indian Government.

VI.PROSPECTS OF ORGANIC FARMING IN INDIA

India has historically been a nation with ecofriendly farming; however, the development of scientific agriculture, the use of excessive amounts of agrochemicals, and intensive agriculture have driven it to the edge. However, as people's concerns about the quality and safety of food, the health of the soil, the system's long-term viability, and the accumulation of evidence that it is correspondingly productive have grown, organic farming has emerged as a substitute farming system that not only addresses these issues but also ensures a debt-free, more lucrative way of life. Marketing organic farming is a great opportunity in India. Through conscious management of agricultural systems and structural improvements, it could produce environmental and agronomic advantages.



Farmers have been encouraged by new techniques for increased productivity that eliminate the use of sneaky tactics/strategies in organic agriculture. New agricultural practices are exclusively connected with the health of the land, plants, and food. Beyond these causes, it is evident that people are moving toward organic farming due to the discovery of several new ailments caused by the artificial production of vegetables, food and fruits. Another crucial element for this enormous shift is being health conscious. All organic product use essentially spreads from one individual to another. To be clear, people have transformed health together into lifestyle. With an enormous customer response, this provides potential for several new owners of businesses in India. Since no artificial agricultural materials are used in the approach, the setup and maintenance expenses are incredibly minimal.

VII.CONCLUSIONS

While the Green Revolution was a landmark event in India's agricultural history, organic farming is the future of its agro-economy. The ill effects of the conventional farming system are felt in India in terms of the unsustainability of agricultural production, environmental degradation, health and sanitation problems, etc. Organic farming is recognized as the best-known alternative to conventional agriculture. The growth of any crop depends on the quality and health of the soil, and the heavy usage of chemicals and other pesticides over the decades has caused unwanted damage to the soil. Organic farming is a holistic production management system that promotes and enhances agroecosystem health, including biodiversity, biological cycles, and soil biological activity. The popularity of organic food is growing dramatically as consumers seek organic foods that are thought to be healthier and safer. Organic farming keeps soil healthy and maintains environmental integrity, thereby promoting the health of consumers.

REFERENCES

- [1] Antil, R.S. and Raj, D. 2020. Integrated nutrient management for sustainable crop production and improving soil health, In Nutrient Dynamics for Sustainable Crop Production, ed. R.S. Meena Meena et al.02. Springer Nature Singapore Pte Ltd. Singapore.
- [2] Antil, R.S., Singh, B. R. and Narwal, R.P. 2022. Raising soil organic matter for improvement in productivity and nutritional quality of food crops. In: Lal, R. et al. (eds.), Soil Organic Carbon and Feeding the Future: Crop Yield and Nutritional Quality, Lewis Publishers, A CRC Press Company, New York (USA), pp. 235-257.
- [3] Bhujel, R.R. and Joshi, H.G. 2023. Organic Agriculture in India: A Review of Current Status, Challenges, and Future Prospects. Universal Journal of Agricultural Research **11(2)**, 306-313,
- [4] Brantsæter, A.L., Ydersbond, T., Hoppin, J., Haugen, M. and Meltzer, H.M. 2017. Organic Food in the Diet: Exposure and Health Implications. Annual Review of Public Health. **38**, annurev-publhealth-031816-044437.
- [5] Das, D., Dwivedi, B.S., Meena, M.C. and Singh, V.K. 2015. Integrated nutrient management for improving soil health and crop productivity. Indian Journal of Fertilizers **11**, 64-83.
- [6] Das, S., Chatterjee, A. and Pal, T.K. 2020. Organic farming in India: a vision towards a healthy nation. Food Quality and Safety. **4**, 69-76.
- [7] De Ponti T, Rijk B and Van Ittersum, M.K. (2012) The crop yield gap between organic and conventional agriculture. Agriculture System **108**, 1-9.
- [8] Diwaker, P., Dhagavath, S., Sai, B.S., Naik, S., Bamboriya, J.S., Meena, V.K., Rupesh, T., Meena, R.S. and Ramakrishna, A. 2020. Best Organic Management Practices: A Better Viable Option for Mitigating Hazards of Pollution, an Enhancing Higher Crop Productivity under Concept of Conservation Agriculture. International Journal of Current Microbiology and Applied Sciences Special Issue **11**, 3413-3436.
- [9] Elayaraja, M. and Vijai, C. 2020. Organic farming in India: Benefits and challenges, European Journal of Molecular and Clinical Medicine **7(1)**, 3021-3029.
- [10] International Federation of Organic Agriculture Movements (IFOAM). 1998. The IFOAM basic standards for organic production and processing. General Assembly, Argentina, November, IFOAM, Germany. Organic Food Production Act of 1990 (U.S.C).
- [11] Karunakaran, N. 2021. Status, benefits, and future prospects of organic farming in India: A review. Journal of Management Research and Analysis **8(3)**, 103-111.
- [12] Kumar, D.K., Misra, S. and Gurusamy, M. 2021. Organic Farming in India: Problems and Prospects - Its future. Indian Journal of Natural Sciences **12 (65)**, 30125-30133.
- [13] Kumari, N., Mehta, V.P. and Bhatia, J.K. 2020. Foodgrains production in India: trend and decompositions analysis. Economic Affairs **65 (3)**, 333-342.
- [14] Kumari, S.V. and Raj, S. 2020. Organic Farming: Path for Sustainable Ecosystem, Discussion Paper 17, National Institute of Agricultural Extension Management (MANAGE), pp. 1-102. https://www.manage.gov.in/publications/discussion%20papers/MANAGE_Discussion%20Paper%2017.pdf
- [15] Madhavi, R., Vijaya, G.S. and Malathi, H. 2021. A Paper on Sustainable Organic Farming in India. International Journal of Modern Agriculture **10(2)**, 1080-1088.
- [16] Makadia, J.J. and Patel, K.S. 2015. Prospects, status and marketing of organic products in India-A Review. Agricultural Reviews **36(1)**, DOI:10.5958/0976-0741.2015.00009.4
- [17] Musa, M., Bokhtiar, S.M. and Gurung, T.R. (Eds.). 2015. Status and future prospect of organic agriculture for safe food security in SAARC countries.
- [18] Narmadha, R. 2022. A study on problems and prospects of organic farming in India. Journal of Emerging Technologies and Innovative Research **9 (10)**, www.jetir.org (ISSN-2349-5162).
- [19] Seufert V, Ramankutty N. and Foley, J.A. 2012. Comparing the yields of organic and conventional agriculture. Nature **485**, 229-232.



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