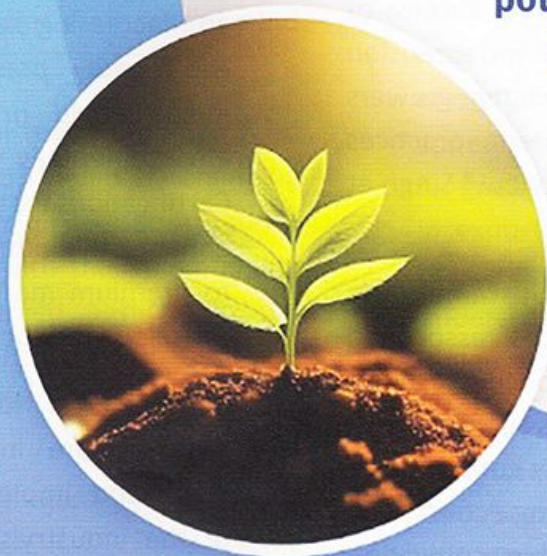


Organic Farming

Benefits, Present Status and Future Prospects

Organic farming in India has evolved from being a niche practice to a growing movement with significant potential for transforming the agricultural landscape. The benefits of environmental sustainability, healthier produce and soil health make organic farming a viable and attractive option for farmers and consumers alike. While the present status reflects positive growth, addressing challenges and focusing on future prospects, including technology integration, research, policy support and consumer awareness, is instrumental in realising the full potential of organic farming in the country. With concerted efforts from farmers, policy makers and the public, organic farming can contribute to a greener, more sustainable future for Indian agriculture.



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India has witnessed a remarkable progress in its agricultural sector over the course of seven decades of planned economic development. The country has witnessed significant growth in food grain production, soaring from 50.8 million tonnes in 1950-51 to an impressive level of 329.7 million tonnes in 2022-23. Notably, this surge in food grain production in India (with an

annual compound growth rate of 2.71 per cent) has outpaced the growth rate of the population (1.98 per cent) during the last 72 years, as per the latest United Nations projected population data. The unprecedented spurt in agriculture production in the country has been achieved mainly during the post Green Revolution period, through the increased use of high yield variety seeds, chemical fertilisers, pesticides, insecticides, and fungicides. While these inputs contributed to increased

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yields, they also raised concerns about their adverse impact on human health and the eco system. The indiscriminate and excessive application of chemical inputs during the post Green Revolution period has raised concerns about the sustainability of agriculture in the long run, prompting the adoption of sustainable agricultural practices, such as organic farming.

Organic Farming

Organic farming is an alternative to the conventional farming system. It involves sustainable and environment friendly agricultural practices that avoid synthetic pesticides, fertilisers and genetically modified organisms. It relies on achieving high crop yields without harming natural environment, disrupting eco system and posing no health hazards to the people who work on farm and use the produce. Organic farming is based on the application of non-synthetic farm inputs like vermi-compost, green manure, bio-fertilisers, crop residues, etc. to enhance soil fertility. For the pest and disease control, organic farming embraces eco-friendly methodologies, such as strategic crop rotation, trap crops, the use of bio-pesticides, biological control of insects, mechanical traps etc. This holistic approach not only fosters environmental harmony but also promotes long-term health and vitality of agricultural ecosystem.

Need and Benefits of Organic Farming

The adoption of organic farming in India is imperative for several reasons. It offers a multitude of benefits that contribute to the overall well-being of the environment, society and economy. First and foremost, organic farming promotes biodiversity, conserves soil health and reduces water pollution by avoiding the use of synthetic pesticides and fertilisers and thus ensuring the long-term sustainability of agriculture. Further, embracing organic farming practices contributes to the resilience and prosperity of farmers. It provides economic sustainability to the farmers by reducing input cost on one hand and simultaneously creating better market access on the other. The growing demand for eco-friendly and chemical-free products, fetches a premium price and thus provides better income and market access. The reduced dependence on chemical inputs improves the overall health of the farming community.

Organic farming brings significant benefits to consumers by providing them with healthier and safer food options. Organic produce is free from chemical residues and often contains higher nutritional value, contributing to better overall health of consumers. The cultivation practices emphasise natural inputs and sustainable methods, resulting in nutrient-rich crops that often have higher levels of vitamins, minerals, and antioxidants. Moreover, the absence of genetically modified organisms in organic products aligns with consumer preferences for natural and unmodified food products. By fostering environmentally friendly practices, organic farming not only safeguards the well-being of farmers and consumers but also contributes to India's overall ecological balance, supporting a resilient and sustainable agricultural future. At the governmental level, promoting organic farming aligns with environmental conservation goals and contributes to sustainable development. It potentially opens up international market for organic products, thereby significantly enhancing the country's agricultural export. The emphasis on organic farming can also address public health concerns related to chemical residues in food, leading to potential healthcare cost savings. Overall; the widespread adoption of organic farming in India presents a holistic solution that harmonises environmental, economic and public health interests.

Status of Organic Farming

The organic farming system in India has a rich historical foundation, dating back to ancient times. Its origin can be traced to the traditional agricultural practices that have thrived in numerous villages and farming communities over the course of millennia. The modern standards-based organic agriculture gained momentum only during the recent past with the growing demand for organic products in the western world.

The National Programme for Organic Production (NPOP) launched in 2001, laid the foundation for systematic development of organic agricultural sector in the country. NPOP is being implemented by APEDA under Ministry of Commerce and Industry, Government of India. The NPOP provides an institutional framework for accreditation and certification of various facets

of organic agriculture processes. Notably, the NPOP standards for production and accreditation have earned international recognition including the countries like USA, European Union and Switzerland. The NPOP was brought under the ambit of Foreign Trade Development and Regulation (FTDR) Act in 2004. As per this mandate, no organic products can be exported from India unless certified under NPOP.

The National Centre for Organic Farming, established in 2004, is a nodal organisation for promoting organic farming in the country. It was renamed as National Centre for Organic and Natural Farming (NCONF) in March 2022. The NCONF along with its five regional centres is committed to promote chemical free sustainable agricultural practices, including organic, natural and regenerative farming methods. It focuses on the capacity building of stakeholders by conducting training programmes, workshops, and disseminating information to them.

Area under Organic Farming

India is the sixth largest country in the world in terms of total area under organic farming. Currently, around 2.4 % of net cultivated area is either under certified or in conversion process of organic farming. As on March 31, 2023, total area under organic certification registered under the National Programme for Organic Production reached at 101.72 lakh hectares in the country. This encompasses 53.92 lakh hectares of cultivated and 47.80 lakh hectares of wild harvest collection area (Table 1). Among all states, Chhattisgarh (due to its large wild harvest collection area) emerged as a frontrunner, contributing nearly 32 per cent of country's total area under organic farming. (Fig. 1). It was followed by Madhya Pradesh (22.83 per cent), Maharashtra (12.63 per cent), Rajasthan (9.22 per cent), Gujarat (9.20 per cent), Himachal Pradesh (2.10 per cent) and Odisha (1.95 per cent). Sikkim became the first State in the world to become fully organic with effect from 2016, other States, including Tripura, Himachal Pradesh and Uttarakhand have also set similar targets. Historically, North-East India has adhered to organic practices, with significantly lower chemical consumption compared to the rest of the country. Likewise, efforts are underway to preserve and foster the organic narrative in tribal and island territories.

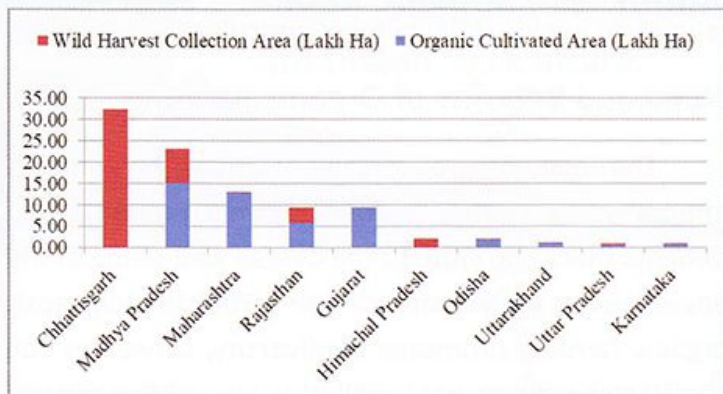
Table 1: Top Ten States of India with Largest Organic Area (NPOP 2022-23)

Sr. No	State	Organic Cultivated Area (Lakh Ha)	Wild Harvest Collection Area (Lakh Ha)	Total Organic Area (Lakh Ha)
1	Chhattisgarh	0.17	32.36	32.5
2	Madhya Pradesh	15.17	8.05	23.2
3	Maharashtra	12.84	0.00	12.8
4	Rajasthan	5.81	3.57	9.4
5	Gujarat	9.36	0.00	9.4
6	Himachal Pradesh	0.11	2.02	2.1
7	Odisha	1.95	0.04	2.0
8	Uttarakhand	0.98	0.06	1.0
9	Uttar Pradesh	0.68	0.30	0.98
10	Karnataka	0.82	0.03	0.8
	All Other States	6.02	1.38	7.4
	India	53.92	47.80	101.72

Source: APEDA, Statistics for the year 2022-23.

Note: Total organic area=cultivated organic area + cultivated area in conversion + wild harvest collection area.

Figure 1 : Top Ten States of India with Largest Organic Area (NPOP 2022-23)



Source: APEDA, Statistics for the year 2022-23.

India, with 15.99 lakh organic producers, has the honour of having highest number of organic farmers in the world. The country accounts for over 43 per cent of the world's certified organic producers as per the latest FiBL data for the year 2021. Thus, India has made significant strides in the field of organic farming, positioning itself among the top countries of the world. However, when compared to leading nations, the country still has untapped potential. Bridging this gap is imperative for the country to assert itself competently on the international level.

Organic Production

India, with its diverse agro-climatic conditions, is endowed with significant potential to cultivate a wide array of organic products. The presence of an inherent tradition of organic farming in various regions further enhances this potential.

Table 2: Top Ten States of India with Largest Organic Production (2022-23)

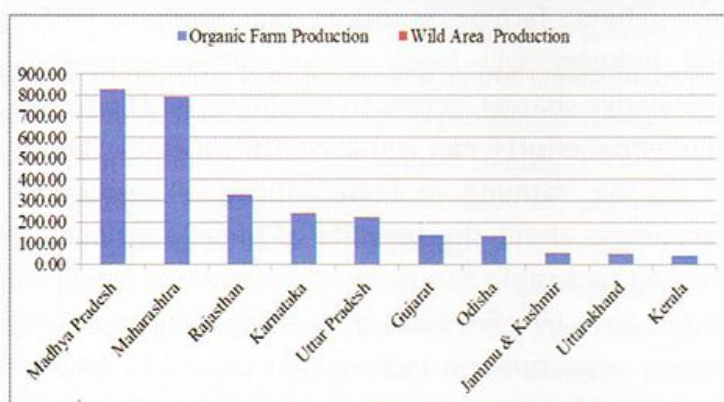
(Thousand Metric Tonnes)

Sr. No	State	Organic Farm Production	Wild Area Production	Total Organic Production
1	Madhya Pradesh	825.63	2.34	827.96
2	Maharashtra	790.33	0.02	790.35
3	Rajasthan	322.97	2.77	325.74
4	Karnataka	237.09	0.42	237.51
5	Uttar Pradesh	217.52	0.15	217.67
6	Gujarat	139.73		139.73
7	Odisha	130.08	0.32	130.39
8	Jammu & Kashmir	50.23	1.57	51.81
9	Uttarakhand	43.95	0.11	44.06
10	Kerala	42.73		42.73
	All Other States	152.66	11.77	164.44
	India	2,952.93	19.47	2,972.39

Source: APEDA, Statistics for the year 2022-23.

Figure 2: Top Ten States of India with Largest Organic Production (2022-23)

(Thousand Metric Tonnes)



Source: APEDA, Statistics for the year 2022-23.

This cultural legacy not only adds a unique dimension but also provides an advantageous foundation for organic producers. India achieved a commendable milestone by producing 2,972.39 thousand metric tonnes of organic products from both organic farms and wild areas during the fiscal year 2022-23 (Table 2). This substantial production encompasses a diverse array of food items, ranging from cereals, pulses, millets, oilseeds, tea, coffee, fruits, vegetables, spices, dry fruits, sugarcane, and processed food. The organic production is not limited to the edible sector but also extends its reach to include the cultivation of organic cotton, fiber, medicinal, herbal and aromatic plants. India's commitment to organic practices is evident not only in the sheer volume of output but also in the broad spectrum of product categories, reinforcing its pivotal role in promoting sustainable and eco-friendly agricultural practices. Among different states, Madhya Pradesh is the single largest producer of organic products. It accounts for nearly 28 per cent of the country's organic production (Fig.2). It is followed by Maharashtra (27 per cent), Rajasthan (11 per cent), Karnataka (8 per cent) and Uttar Pradesh (7 per cent). These top ranking five states collectively account for nearly 81 per cent of the country's organic production, underscoring a substantial opportunity for the widespread adoption of organic farming practices in other regions across the nation. In terms of commodities, fiber crops are the single largest category followed by oil seeds and sugar crops.

Exports of Organic Products

The rich tradition of organic farming at village level and diverse agro-climatic conditions enables India as a key player in meeting the escalating demand for organic products on a global scale. Organic farming in India is mainly export intensive. During the fiscal year 2022-23, the organic export volume of India reached an impressive 312,800.51 metric tonnes. The revenue generated from the export of organic products amounted to approximately Rs. 5,525.18 crore (USD 708.33 million). The high-quality organic exports of India, find their way to various international markets, including the USA, European Union, Canada, Great Britain, Switzerland, Turkey, Australia, Ecuador, Korea, Vietnam, Japan and more. The demand for organic products is growing in these countries due to their substantial purchasing power and prevalence of a considerable number of

health conscious consumers. The organic exports of India are expected to grow rapidly to reach a value of about USD 2,601 million by 2026.

Initiatives

In India, organic farming has been actively promoted through schemes, aiming to enhance sustainability and reduce the environmental impact of agriculture. In this direction, the National Mission for Sustainable Agriculture (NMSA) has been made operational from the year 2014-15. The NMSA focuses on increasing water-use efficiency, promoting organic nutrient management and adopting climate-resilient sustainable agricultural practices. It provides financial incentives, training programmes and technical support to farmers to encourage the adoption of organic and sustainable farming techniques. Furthermore, Paramparagat Krishi Vikas Yojana (launched in April 2015) encourages the adoption of organic farming practices by providing financial assistance to farmers. Under PKVY, groups of farmers are formed to cultivate organic crops and are supported with financial aid for inputs, seeds, and other essential resources. This scheme not only facilitates the transition to organic farming but also promotes community participation and cooperation. The aim of the implementation of these schemes is to create a more environmentally friendly and economically viable agricultural sector, addressing the challenges of soil degradation, water scarcity and promoting the overall well-being of farmers and the environment.

Challenges

Despite the positive trends, organic farming in India faces several challenges. Limited awareness and education among farmers about organic practices, high initial costs of certification and lack of a well-established market infrastructure for organic products are some of the hurdles that need to be addressed. During the transition period to organic farming, initially yields may temporarily decrease, which poses financial challenge to the growers. Farmers often encounter difficulties in managing pests and diseases by using natural methods and traditional farming practices which creates scepticism about the effectiveness of organic methods. The issues related to quality control & certifications coupled with the imperative to scale up operations while upholding stringent standards, further

complicate the organic farming landscape. Addressing these challenges requires a comprehensive approach involving education, policy support, research, and infrastructure development to ensure the sustainable growth of organic farming in India.

Way Forward

The demand for organic products has been rising rapidly due to increasing health consciousness and environmental concerns. To take the advantage of the potential of the country, strategic emphasis is imperative. First and foremost, addressing the issue of low productivity under organic farming necessitates increased research and development on farming techniques and better dissemination of knowledge to enhance the efficiency and profitability of organic farming. The integration of technology can play a pivotal role in the future of organic farming in the country. Precision farming techniques, IT-based monitoring system and data analytics can optimise resource utilisation, provide real-time information to the farmers, and improve crop yield. Further, investing in research and development is crucial to make organic farming more efficient and attractive to a new generation of farmers. Developing resilient crop varieties, exploring new organic pest control methods, and enhancing soil health through innovative techniques will contribute to the long-term sustainability of organic farming. Continued policy support from the Government is essential for the growth of organic farming. Strengthening existing schemes, providing financial incentives and addressing the challenges faced by farmers, will create environment conducive for the widespread adoption of organic practices. Encouraging collaboration and networking among the stakeholders including farmers, consumers, non-governmental organisations, researchers, farmer producer organizations (FPOs) and industry will foster a supportive ecosystem. Knowledge sharing, access to resources, and collective marketing efforts can enhance the overall viability of organic farming in India. Above all, educating consumers about the benefits of organic produce is the key to sustain the demand for organic products. In nutshell, by effectively addressing challenges and seizing opportunities, India stands poised to emerge as a global front runner in the realm of organic farming and sustainable agricultural practices. □