



GREEN REVOLUTION 2.0: INDIA'S ORGANIC FARMING REVOLUTION

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ABSTRACT

In India, over 4.7 million hectares are dedicated to organic farming, where crops and animals are grown without artificial chemicals. Institutions like ICAR and KVKs have helped this growth. The focus is now on local production instead of relying on imports, which is crucial for the global organic market. Millions of people and groups are part of this sector. Organic farming keeps soil healthy by using methods like crop rotation and composting, and it supports biodiversity. Government schemes like PKVY and NMSA back organic farming, showing India's move towards sustainable agriculture. This method helps the environment by keeping soil stable, conserving water, and preserving biodiversity, helped by programs like NPOP. The Conference on Organic and Natural Farming aims to make plans for promoting sustainable agriculture.

Keywords: Organic farming expansion, Market trends, Benefits, Government support

Introduction:

Organic farming emphasizes natural methods, steering clear of synthetic substances such as pesticides and fertilizers. Farmers focus on maintaining soil health through practices like crop rotation and composting, while also promoting biodiversity. They employ organic fertilizers and pest controls derived from natural sources, ensuring ethical treatment of livestock (Assembly, 2008). Organic farming rules exist in over 188 countries worldwide, especially in places like

Oceania, Europe, Latin America, Asia, Northern America, and Africa. There are more than 96.4 million hectares of land being used for organic farming globally, and Australia leads with 53 million hectares. In India, people are worried about regular farming hurting the environment, so they're doing more organic farming. India has over 4.7 million hectares used for organic farming now, which is growing fast. Last year, organic farming in India grew by 78%, and the number of people doing it went up by 25.6%. Supported by

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institutions like ICAR and KVKs, India prioritizes local production, experiencing substantial expansion in its organic sector. With millions actively involved and numerous organizations associated with IFOAM, India is recognized as a top global producer. Organic and natural farming provide safer food options and contribute to addressing climate change. (Willer *et al.*, 2024)

India's Organic Farming: Key Metrics Highlight Growth and Market Trends

1. Expanding Organic Agricultural Land:

Description: The total area dedicated to organic farming in India.

Key Stats: From 2.7 million hectares in 2021 to nearly 4.7 million hectares in 2022, a 78% increase.

2. Producers:

Description: Number of individuals and groups practicing organic farming.

Key Stats: Approximately 2.5 million people and groups are involved in chemical-free farming.

3. Support from IFOAM Affiliates:

Description: Collaborative efforts to promote organic agriculture.

Key Insight: Organics International, with 49 affiliated organizations, advocates for organic farming alongside IFOAM.

4. Decline in Imports of Organic Products:

Description: Reduction in imported organic goods.

Key Stats: A significant drop of 73,590 metric tons, indicating potential shifts in market preferences or increased domestic production.

5. Organic Share of Farmland:

Description: Percentage of farmland used for organic cultivation.

Key Insight: Around 2.60% of all farmland in India is dedicated to organic farming, highlighting its growing significance.

6. Organic Retail Sales:

Description: Sales revenue generated from organic products.

Key Stats: Total sales amounted to 186 million Euros, reflecting increasing consumer interest in chemical-free produce.

Exploring India's Organic Farming: Highlights and Trends (2022-23)

1. Organic Farming Across India: State-wise Overview

Madhya Pradesh: Cultivated area of 686,208.31 hectares out of 831,168.8 hectares. 1,517,377.11 hectares dedicated to organic farming.

Maharashtra: Utilizes 258,638.55 hectares of 1,025,675.6 hectares. 1,284,314.15 hectares dedicated to organic farming.

Gujarat, Rajasthan, and Odisha: Significant contributions to agriculture with cultivated areas of 84,404.36 hectares, 216,440.36 hectares, and 77,950.82 hectares respectively.

Other Active States: Uttarakhand, Telangana, Karnataka, and Sikkim, among others, also actively engaged in organic agriculture.

2. Wild Collection of Organic Resources Across Indian States

Chhattisgarh: Leads with a substantial organic area of 3,235,754.28 hectares.

Madhya Pradesh: Follows with 804,864.98 hectares dedicated to wild collection.

Significant Contributors: Rajasthan, Himachal Pradesh, Punjab, and several other states participate actively.

3. Organic Crop Production Across India

Madhya Pradesh: Leads with 738,201.84 metric tons of organic produce.

Maharashtra: Follows closely with 724,946.90 metric tons of organic production.

Substantial Contributions: Rajasthan, Karnataka, and Uttar Pradesh also significantly contribute to organic farming.

4. Organic Yield from Wild Areas Across States

Goa: Leads with a production of 4,820.01 metric tons from wild areas.

Andaman & Nicobar Islands: Follows with 3,624.00 metric tons.

Wide Participation: Several states like Rajasthan, Madhya Pradesh, and Jammu & Kashmir actively participate in organic

Table 1: Overview of India's Organic Agriculture

Category	Description	Key Stats
Expanding Organic Agricultural Land	Total area (ha)	4.7 million (78% increase)
Producers	Individuals/groups involved	2480859
IFOAM	Affiliated organizations	49
Decline in Imports of Organic Products	Reduction in imports (metric tons)	73,590
Organic Share of Farmland	Percentage of farmland (%)	2.6
Organic Retail Sales	Total sales (million Euros)	186
Organic Farming Across India	Total cultivated area (ha)	53,91,792.97
Wild Collection of Organic Resources	Total Organic area collected (ha)	4780130.56
Organic Crop Production Across India	Total Organic produce (metric tons)	2952926.29
Organic Yield from Wild Areas	Organic produce from wild areas (metric tons)	19468.21
Export Trends of Organic Products	Exported quantity (metric tons)	312800.506
	Value (crore)	708.3562

Source : (Apeda, 2024; Willer *et al.*, 2024)

production from wild areas.

5. Export Trends of Organic Products by Country

European Union: Top importer, receiving 117,369.847 metric tons, valued at 2726.304 crore rupees.

USA: Follows closely, importing 126,804.570 metric tons worth 2040.561 crore rupees.

Diverse Export Destinations: India exports to Canada, Great Britain, Switzerland, Australia, Vietnam, and many other countries, totaling 312,800.506 metric tons.

The Benefits of Organic Agriculture-

1. Soil Stability and Nutrient Recycling in Organic Farming:

In organic farming, soil stability and protection are top priorities. Practices like minimal tilling, cover cropping, and the addition of natural materials strengthen soil resilience. By boosting soil organic matter and encouraging beneficial microbial activity, organic methods promote a healthy soil ecosystem. This not only prevents erosion but also improves soil structure, water retention, and nutrient absorption. Furthermore, organic farming recycles organic matter and nutrients through techniques like composting and green manuring, reducing reliance on external nutrient sources and ensuring sustainable agriculture practices.

2. Water Conservation and Quality in Organic Farming:

Organic farming excels in conserving water and maintaining its purity. Through practices like planting cover crops and incorporating organic matter into the soil, organic farmers enhance water retention, ensuring plants have access to moisture even in dry conditions. This approach promotes sustainable food production while safeguarding water resources. Additionally, by avoiding synthetic chemicals, organic farming prevents water contamination, preserving clean water for ecological and human needs.

3. Biodiversity

Organic farming promotes biodiversity by cultivating diverse plants and animals together. Farmers grow various crops side by side and protect natural areas, which naturally repel pests without chemicals. Additionally, organic practices enrich the soil with natural amendments, fostering plant growth and supporting vital creatures like bees. With an array of plants and animals, organic farms become resilient against weather changes and pests, creating a balanced and healthy environment for all to thrive.

4. Environmental Benefits of Organic Farming:

➔ **Beneficial Associations:** Organic practices enhance soil microorganisms, improve soil structure, nutrient cycling, and disease

suppression. They also promote mycorrhizal fungi, aiding in better water and nutrient absorption and pathogen resistance in plants.

➔ **Pollination:** Organic farming creates diverse habitats for pollinators like bees and butterflies, crucial for plant reproduction and biodiversity. Reduced chemical pesticide use protects pollinators, leading to strong plant growth and a sustainable agricultural system.

➔ **Carbon Sequestration:** Organic farming captures and stores carbon in trees and plants, mitigating climate change effects.

➔ **Habitat Preservation:** Organic farming preserves natural habitats, providing shelter and sustenance for various species, contributing to pest control and biodiversity conservation.

➔ **Regulation of Climate and Weather Events:** Organic farming traps carbon in the soil, making it healthier and contributing to climate regulation.

➔ **Lower Environmental Impacts:** Banning chemical fertilizers and pesticides in organic farming reduces environmental damage, including nitrogen leaching and nutrient overuse.

Government Initiatives in Organic Agriculture

1. Paramparagat Krishi Vikas Yojana (PKVY) - 2015:

Objective:

- ➔ Encourage small farmers to practice organic farming.
- ➔ Improve farm income and soil health.

Group Approach:

- ➔ Facilitates collaboration among groups of farmers.
- ➔ Promotes collective adoption of organic methods.

Supported Practices:

- ➔ Adoption of organic methods such as composting and seed procurement.

Benefits:

- ➔ Enhances farm income through organic farming practices.
- ➔ Promotes soil health and fertility.

2. National Mission for Sustainable Agriculture (NMSA) - 2010:

Objective:

- ➔ Promotion of sustainable agriculture practices, including organic farming.
- ➔ Support farmers with training and financial aid.

Focus Areas:

- ➔ Addressing environmental concerns like climate change and soil degradation.
- ➔ Encouraging adoption of techniques beneficial for the environment.

Support Mechanisms:

- ➔ Provides training and financial assistance to farmers.

➔ Aims to mitigate environmental challenges through sustainable practices..

3. Mission Organic Value Chain Development for North Eastern Region (MOVCDNER) 2015:

- ➔ Promotes third-party certified organic farming in northeastern states, with a focus on niche crops and exports.
- ➔ Provides financial assistance for organic inputs and supports the formation of Farmer Producer Organizations (FPOs).

4. National Programme on Organic Production (NPOP) 2000:

i. Introduction:

Establishes standards, accreditation procedures, and regulations for organic farming in India.

Objectives:

- ➔ Evaluation and accreditation of certification programs.
- ➔ Accreditation of Certification Bodies.
- ➔ Facilitation of organic product certification.
- ➔ Ensuring conformity with importing countries' standards.
- ➔ Encouraging growth of organic farming and processing.

ii. Organizational Structure:

➔ Overseen by the Department of Commerce, Ministry of Commerce and Industry.

➔ The National Steering Committee (NSC) implements and administers NPOP.

➔ The National Accreditation Body (NAB) accredits certification programs.

➔ Agricultural and Processed Food Products Export Development Authority (APEDA) serves as the Secretariat for NSC and NAB.

iii. Certification Process:

➔ Adoption of National Standards of Organic Production (NSOP) on farms.

➔ Registration with accredited certification bodies.

➔ Various scope categories for certification.

➔ Engagement in compliance, documentation, planning, inspection, and fee payment.

iv. Inspection Procedure:

➔ Follows ISO19011 standards.

➔ Includes qualified inspector assignment, information sharing, and risk assessment.

➔ Covers inspection of farms, processing units, handling stages, and more.

➔ Addresses detection of genetically engineered products.

- ➔ Determines inspection frequency based on factors like production intensity and risk assessment.

v. Conclusion:

- ➔ NPOP regulates and sets standards, provides certification, and ensures quality and authenticity.
- ➔ Facilitates market access and trade, and conducts capacity building in organic farming.
- ➔ Crucial for promoting and regulating organic farming in India. (APEDA, 2018)

5. Conference on Organic and Natural Farming: Fostering Sustainable Agriculture (2024)

A. Thematic Areas:

- ➔ **Organic Farming for Sustainable Agriculture:** Discussing benefits, challenges, and promotion strategies.
- ➔ **Extension Strategies for Natural Farming:** Building capacity and models for natural farming promotion.
- ➔ **Policy and Institutional Approaches:** Examining frameworks for upscaling organic farming.
- ➔ **Government Initiatives and Policy Support:** Showcasing successful cases and policy initiatives.
- ➔ **ICT and Social Media for Farming Extension:** Exploring technology's role in promotion.

- ➔ **Community Involvement and Group Approaches:** Discussing community roles in farming promotion.

- ➔ **Market and Value Chain Development:** Identifying opportunities and marketing strategies.

➔ **Expected Outcome:**

The conference aims to unite experts, policymakers, farmers, and stakeholders to strategic organic and natural farming promotion. It seeks to formulate implementation frameworks enhancing awareness, skills, and policies in the field. (Anonymous, 2024)

India has witnessed a significant surge in organic farming, driven by environmental concerns and governmental support. With the total area dedicated to organic farming reaching nearly 4.7 million hectares and a notable increase in organic producers, the country showcases substantial growth in this sector. Various states like Madhya Pradesh, Maharashtra, and others actively participate in organic cultivation, contributing significantly to agricultural output. Moreover, government schemes play pivotal roles in promoting organic farming practices and supporting farmers. The decline in imports of organic products and the rise in domestic sales highlight a shift towards healthier food choices among consumers. Additionally, latest events

like the Conference on Organic and Natural Farming aim to further advance organic farming through enhanced awareness, policy frameworks, and market development. Overall, India's organic farming sector demonstrates promising growth prospects, fostering a greener and more sustainable agricultural landscape.

References:

1. Anonymous (2024) National Conference on Next Generation Agriculture- Organic and Natural Farming Pathways: Extension Strategies & Approaches. International Society of Extension Education (INSEE), Nagpur.
2. APEDA (2018) National Programme for Organic Production: A Training Manual, Ministry of Commerce and Industry, Government of India, New Delhi.
3. APEDA (2024) National Programme for Organic Production, Ministry of Commerce and Industry, available at: www.apeda.gov.in.
4. Assembly, I. G. (2008). Definition of organic agriculture. *Bonn-Germany: IFOAM-Organics International*.
5. Gupta, N., Pradhan, S., Jain, A., and Patel, N. (2021). Sustainable Agriculture in India 2021. *Council on Energy, Environment and Water*.
6. Willer, H., Trávníček, J., and Schlatter, S. (2024). The World of Organic Agriculture. Statistics and Emerging Trends 2024.