

THE STARTUP EDGE

Entrepreneurship Cell



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Industry Report

Organic Farming Industry

TABLE OF CONTENTS

01	INTRODUCTION TO ORGANIC FARMING
02	EVOLUTION AND HISTORICAL CONTEXT
03	MARKET OVERVIEW & SIZE
04	KEY GROWTH DRIVERS AND RESTRAINTS
05	REGULATORY LANDSCAPES
06	TECHNOLOGICAL INNOVATIONS IN ORGANIC FARMING
07	VALUE CHAIN ANALYSIS
08	BUSINESS MODELS IN ORGANIC FARMING
09	CONSUMER TRENDS & PREFERENCES
10	COMPETITIVE LANDSCAPE
11	IMPACT OF SUSTAINABILITY AND ESG
12	CHALLENGES & RISKS
13	FUTURE TRENDS AND OPPORTUNITIES
14	CONCLUSION AND STRATEGIC RECOMMENDATIONS

INTRODUCTION TO ORGANIC FARMING

A farming method that **avoids synthetic inputs** and emphasizes biodiversity, crop rotation, composting, and natural pest control to **enhance soil and environmental health**

WHY ORGANIC FARMING MATTERS



Quantitative Snapshot

- Sustainable farming system **focused on soil health**, biodiversity, and natural inputs.
- **Driven by consumer demand** for safe, pesticide-free, and nutritious food.
- Aligned with **goals of climate resilience**, carbon neutrality, and regenerative agriculture.
- **Supported by governments** and certification bodies (e.g., USDA Organic, NPOP, EU Organic).
- Linked to **rural employment**, sustainable supply chains, and environmental preservation.

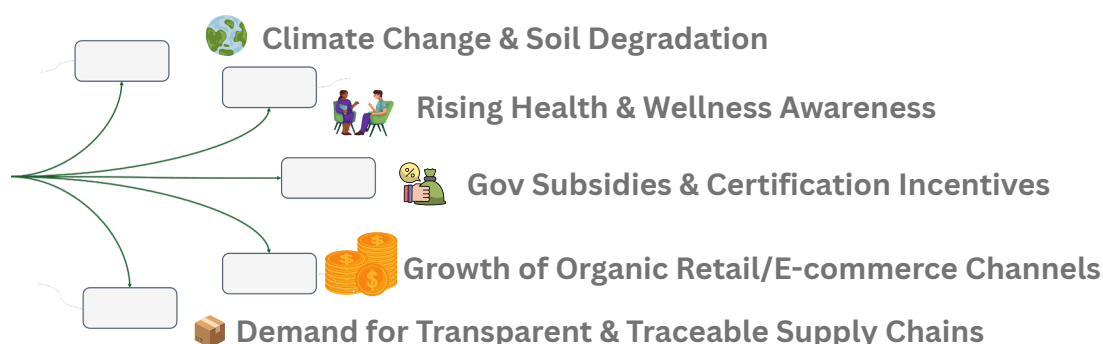
KEY GLOBAL STATS

- Market size: **\$227B (2023) → \$437B by 2030, CAGR: 11.5%**
- Organic farmland: **76M+ hectares worldwide**
- Top producers: **Australia, Argentina, India**

FOCUS ON INDIA

- **1.6M+ certified organic farmers** (highest globally)
- Projected market: **₹75,000 crore (\$9B) by 2030, CAGR: 20-22%**
- **Sikkim** – world's first 100% organic state
- Rapid policy support in **Kerala, Uttarakhand, Madhya Pradesh**

KEY DRIVERS ,forces fueling organic farming growth



INTRODUCTION TO ORGANIC FARMING

Regulatory & Certification Landscape

Organic farming operates within a highly regulated framework to ensure authenticity, transparency, and safety for consumers. These **regulations govern** what inputs can be used, how produce is grown and processed, and how it is labeled and marketed. **Certification** not only **assures consumers of quality** but also **helps farmers access premium markets**.

KEY CERTIFICATION BODIES & STANDARDS

1

Jaivik Bharat Logo –

A unified organic mark in India **introduced by FSSAI** to increase consumer trust and brand visibility.

2

NPOP (National Programme for Organic Production) – India's central certification system **governed by APEDA** under the **Ministry of Commerce**.

3

PGS-India (Participatory Guarantee System) – A decentralized, low-cost certification system for small & marginal farmers, **supported by Ministry of Agri.**



Market Trends & Consumer Behaviour

Urban Demand Surge

A majority of organic consumption is **concentrated in urban centers** like Delhi, Mumbai, Bangalore, and Hyderabad. **Young professionals** and **families** with children are the **primary buyers**.



Preference for Specific Product Categories

High-demand segments include fruits & vegetables, cereals & pulses, dairy, cold-pressed oils, herbal teas, and personal care products.



Digital Shift & E-commerce Growth

Online platforms and **organic-specific e-commerce startups** (e.g., Big Basket Organic, Nature's Basket) have **increased product accessibility**.



Health & Wellness Consciousness

Rising **concern over lifestyle diseases** and **pesticide residues** has led **consumers to prefer** chemical-free, nutrient-dense **organic foods**.



EVOLUTION AND HISTORICAL CONTEXT

Ancient & Traditional Roots (Pre-1900s)

INDIA & CHINA

Traditional farming methods based on natural composting, crop rotation, and community self-reliance.

Early Organic Movement (1900s–1940s)

UK AND USA

Thinkers like Sir **Albert Howard** and **J.I. Rodale** criticized chemical farming and advocated for soil health.

Formalization of Organic Principles (1970s)

GLOBAL

IFOAM founded in 1972 to unify and promote organic standards internationally.

Regulatory Framework Emergence (1990s)

USA AND EU

US Organic Foods Production Act (1990) and EU organic legislation (1991) introduced **certifications and regulation**.

India's Institutional Entry (2000s)

INDIA

Launched the **National Programme for Organic Production (NPOP)** and later PGS-India for smallholders.

Mainstreaming & Global Boom (2010s–2020s)

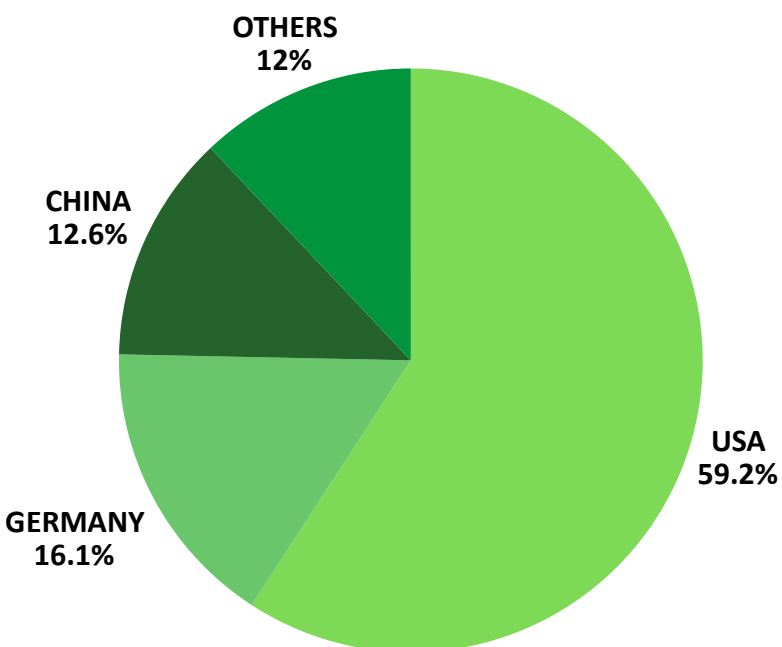
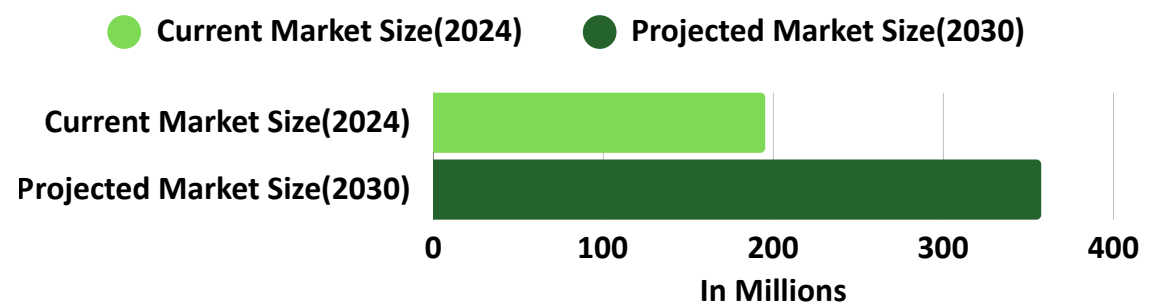
GLOBAL

Consumer demand for healthier, eco-conscious food fuels **massive growth in organic markets**.

MARKET OVERVIEW & SIZE (GLOBAL)



- **Market Size (2024): USD 195.2 billion**
- **Projected Size (2030): USD 357.5 billion**
- **CAGR (2024–2030): 10.4%**



Top Countries:

- U.S. (largest consumer)
- Germany, France (Europe)
- China, India (emerging markets)

Key Drivers:

- Increasing demand for chemical-free, sustainable food
- **Rising chronic health issues & lifestyle diseases**
- **Government support** for sustainable farming practices
- Expansion of organic food retail chains & e-commerce



Sources

- [Statista, 2024](#)
- IMARC Group, 2024

MARKET OVERVIEW & SIZE (INDIA)

Indian Market

- Market Size (2024): ~**INR 14,000 crore** (~USD 1.68 billion)
- Projected Market (2030): **USD 5 billion+**
- CAGR (2024–2030): ~**20.5%**



Key Drivers:



- Government subsidies & training programs
- **Increasing urban consumer demand** for organic produce
- Rise of direct-to-consumer (D2C) platforms & organic startups

Leading States by Area

- Madhya Pradesh (largest)
- Maharashtra
- Rajasthan
- Karnataka, Uttar Pradesh



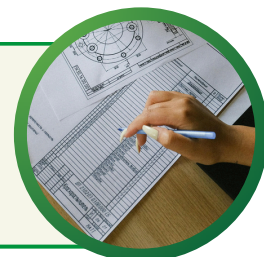
Export Value (2022–23)



- USD 837 million
- Top Exports: Oilseeds, cereals & millets, spices, tea, medicinal plants
- Export destinations: USA, EU, Canada, Australia

Key Programs & Policies:

- **PKVY** (Paramparagat Krishi Vikas Yojana)
- **MOVCDNER** (Mission Organic Value Chain for NE Region)
- Jaivik Bharat logo for organic certification (FSSAI)



Demographics & Consumer Behavior



- Urban millennials and Gen Z as primary buyers
- Shift toward plant-based, sustainable living
- Rise in home-grown organic gardens and kitchen farming

KEY GROWTH DRIVERS IN ORGANIC FARMING



1. Rising Health Consciousness

Consumers increasingly prefer chemical-free and pesticide-free produce



6. Awareness Campaigns & Certifications

Labels like **USDA Organic**, **India Organic** boost consumer trust and demand



3. Environmental Sustainability Push

Organic methods improve **soil health**, **biodiversity**, and **reduce pollution**



4. Growing Export Demand

Countries like the **US**, **Germany**, and **UAE** drive **global demand** for organic products



5. Expansion of Organic Retail Channels

Rise in organic-focused **supermarkets**, **e-commerce platforms**, and **farmer markets**



6. Awareness Campaigns & Certifications

Labels like **USDA Organic**, **India Organic** boost consumer trust and demand

KEY RESTRAINTS IN ORGANIC FARMING

- Several institutions and movements are making concerted efforts to **promote organic agriculture** in India and to bring changes in the **policies favoring ecological agriculture**.
- Organic farming, while promoting sustainability, faces **several restraints** given below



High Production Costs

Organic inputs and **labor-intensive practices** increase operational expenses

1

2

Limited Awareness in Rural Areas

Many farmers **lack training** and **exposure** to organic methods

Low Yields Compared to Conventional Farming
Organic crops **may take time** to match conventional **productivity** levels

3

4

Market Access Challenges

Fragmented supply chains and **poor** cold storage infrastructure

Lengthy Certification Process

Time-consuming and **costly procedures** deter small-scale farmers

5

6

Misinformation and Label Fraud

Lack of regulation in some markets leads to consumer distrust



Global Organic Certification Standards

International Federation of Organic Agriculture Movements (IFOAM)

- **Sets global rules** for organic farming and approves certification bodies.
- Provides guidelines (IFOAM Basic Standards) used worldwide for **organic certification**.
- Supports **low-cost certification** (Participatory Guarantee Systems) to help small farmers.
- Promotes **sustainability, biodiversity, and fair trade** through organic principles.

EU Organic Certification

- Regulation (EU) 2018/848 sets the **rules for organic farming and labeling** in the EU.
- EU Organic logo is required on all **pre-packaged organic products** sold in the EU.
- Imports must follow **EU organic standards** or have **approved equivalency agreements**.

United States Department of Agriculture (USDA) Organic

- **USDA Organic regulations** (7 CFR Part 205) set standards for organic farming, processing, and labeling in the U.S.
- Certification is required for farms and processors through **USDA-approved certifiers**.
- Labels:
 - “**100% Organic**” = **only organic ingredients**.
 - “**Organic**” = **at least 95% organic ingredients**.
- **SOE Rule (2024)**: Requires full supply chain traceability.
- **Certification** now extends to **importers, brokers, and traders**, not just farmers.

Other Notable Standards

- **GOTS** (Global Organic Textile Standard): Ensures textiles are made from **organic fibers** and meet **strict environmental and social standards**.
- **OEKO-TEX Standard 100**: Certifies textiles are free from harmful chemicals and safe for human health.

Indian Organic Certification Standards

Food Safety and Standards Authority of India (FSSAI) – Organic Foods Regulations, 2017

Regulation

The Food Safety and Standards (Organic Foods) Regulations, 2017, ensure the **integrity of organic products** and **help control unscrupulous practices in the market**

The "Jaivik Bharat" logo, introduced by FSSAI, distinguishes organic products in the domestic market

Certification Systems

- Participatory Guarantee System (**PGS**)
- Third-Party Certification (**TPC**)

National Programme for Organic Production (NPOP)

Implementing Agency

Agricultural and Processed Food Products Export Development Authority (**APEDA**),
Ministry of Commerce & Industry

About

- Scope: Applies to both **domestic** and **export markets**.
- International Recognition: Standards are recognized by the **European Union** and **Switzerland** for unprocessed plant products
- Coverage: As of March 2023, India has over **10 million hectares** under organic certification, including wild harvest areas

Key Takeaways

India's Leadership

India ranks **6th globally** in terms of organic agricultural land and 1st in the number of organic producers, highlighting its **significant role in the organic sector**



Global Standards

Adherence to international standards like **IFOAM**, **EU Organic**, and **USDA Organic** is crucial for accessing global markets



Certification Systems

NPOP is suitable for both domestic and export markets, while **PGS** is tailored for domestic markets and small-scale farmers



Consumer Trust

Clear labeling and **certification** enhance consumer confidence and prevent misleading claims



BUSINESS MODELS IN ORGANIC FARMING

Cooperative & Community Farming Models



- Widely adopted in the **EU (Germany, France) and Latin America**
- Farmer groups share land, resources, and certifications
- Focus on **sustainability** and local food systems

Contract Farming by Organic Brands



- Used by brands like **Whole Foods (US), Alnatura (Germany), and Nature's Path (Canada)**
- Guaranteed buy-back, training in organic methods
- Ensures traceability and quality assurance

Direct-to-Consumer (D2C) & Subscription Services

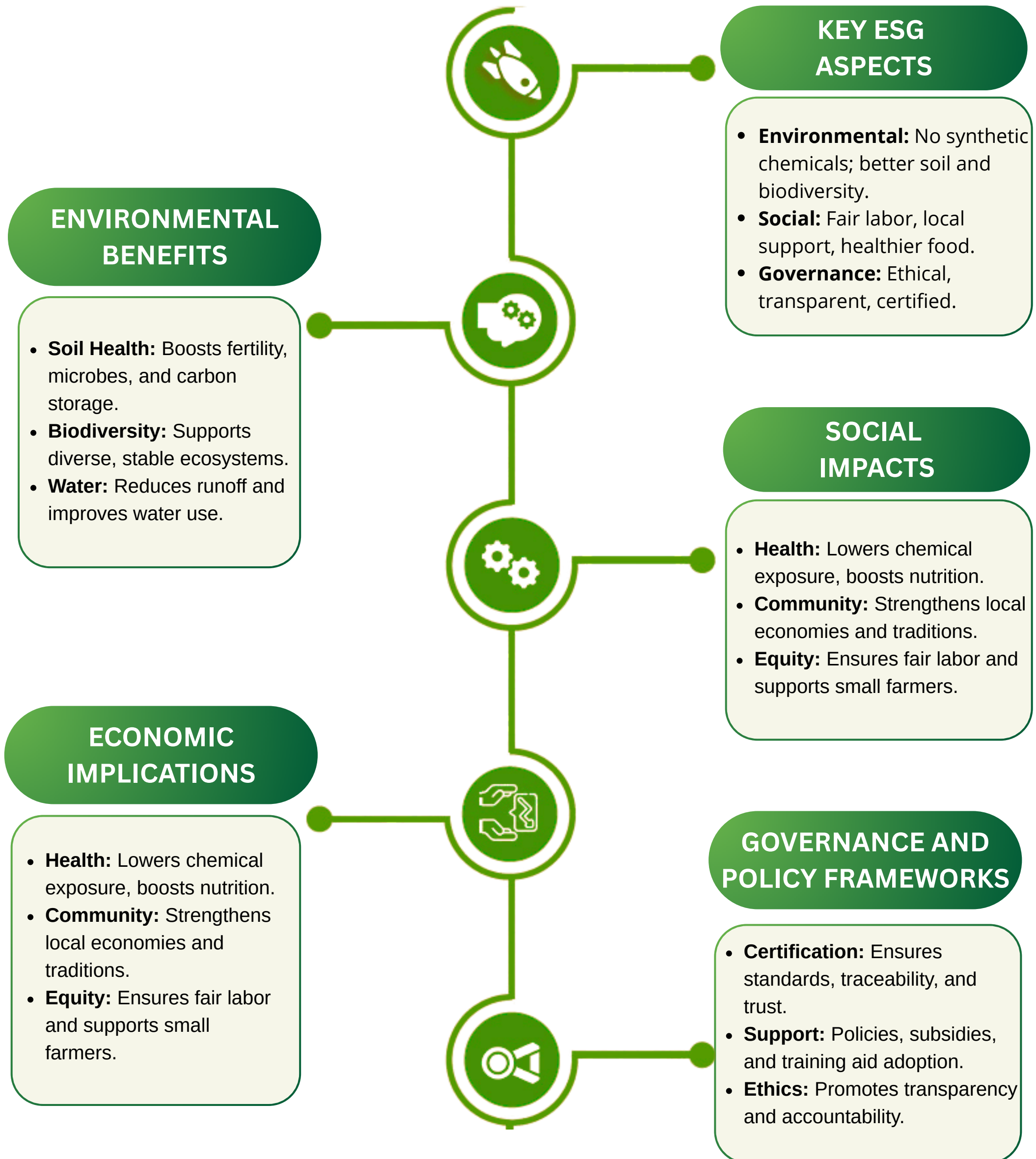


- Popular in **US, UK, and Australia** (e.g., Farmbox Direct, Abel & Cole)
- Organic produce delivered via **subscription apps**
- High transparency, storytelling, and eco-friendly packaging

Export-Focused Commercial Farms



- Large farms in countries like **India, Mexico, and Turkey produce for export**
- Compliance with **USDA Organic, EU Organic, and JAS (Japan) standards**
- Major markets: US, EU, Canada (**global organic food exports > \$120B**)





ECO-CONSCIOUS BUYING HABITS

Increasing demand for **traceability, eco-labels, and fair-trade practices**

Preference for certified labels: **USDA Organic, EU Leaf Logo, Fairtrade**

WILLINGNESS TO PAY MORE

Organic foods cost **20–50%** more globally

Consumers value sustainability, animal welfare, and non-GMO practices

TOP SELLING ORGANIC PRODUCTS

Dairy, fruits & vegetables, cereals, beverages, snacks

Growth in **organic baby food**, functional drinks, and superfoods

HEALTH AND WELLNESS FOCUS

73% of global organic consumers prioritize health (**IFOAM 2022**)

Spike in demand post-COVID for chemical-free, immune-boosting food

COMPETITIVE LANDSCAPE



Key Global Players

1

- Mainly **led by food corporations** and agri tech innovators.
- **Danone**- penetrating into organic dairy segment through horizon organic.
- **Infarm** and **Plenty** are deploying vertical farming models.

India: An Emerging Organic Powerhouse



- India is **Ranked 1** in number of organic producers.
- Organic market is expected to reach over **INR 75,000 crore** with a **20-25% CAGR**.
- Exported organic products worth USD **1 Billion** in FY23, mainly to US, EU & Middle East.

2



Leading Indian Companies

3

- 24 Mantra organic, with its 200 certified products from 40,000 Farmers across 15 states.
- Organic India, with an **export specialisation to 30+ countries**.

Trends and Opportunities



- Indian startups are incorporating **AI-based soil analysis**, IoT for crop monitoring, and **QR-based traceability**.
- The Paramparagat Krishi Vikas Yojana (**PKVY**) are **promoting organic clusters and supply chains**.
- Exports remain a massive opportunity, especially for Indian-grown **organic tea, pulses, millets, and spices**, which are in strong demand internationally.

4



Indian Startups to Watch

5

- **Zama Organics (Mumbai)** runs a D2C and B2B platform that connects consumers to certified organic farms with complete traceability.
- **Agrowave (Gurgaon)** provides tech-enabled farm-to-mandi logistics that include organic produce.
- **Living Greens Organics (Jaipur)** is leading rooftop organic farming for urban homes and institutions.

Organic farming was originally focused on the use of natural methods; however, the current farmer incorporates both practices with modern technology. New technologies in organic farming are **reducing environmental impacts, conserving resources, and keeping crops free from synthetic inputs**. As these new methods are being introduced, organic agriculture is changing to meet the global food market demands sustainably.

KEY INNOVATIONS

ROBOTICS

Organic farms employ robots to **plant, weed, and harvest**. The machines can work for a long time, repeat tasks with precision, and save on human labor. Robotics also **saves on soil compaction** since it allows smaller and lighter machinery.

DRONES

Checking the crop health through drones and **handling vast farmland** can be done with the aid of drones. The captured high-resolution images by drones help farmers **decide the health status of plants** and track their growth.

AUTOMATED MACHINERY

Machines are fitted with GPS and AI capabilities. Thus, **accurate application** of water, organic manures, and pesticides is possible with the usage of tractors.

Strategic Recommendations

Strengthen Farmer Cooperatives: Enhance collective bargaining power and access to resources.

Improve Certification Processes: Simplify and subsidize certification procedures to reduce barriers.

Develop Infrastructure: Invest in storage, transportation, and processing facilities to minimize losses.

Enhance Market Linkages: Establish direct connections between producers and consumers through digital platforms.

Promote Research & Development: Encourage innovation in organic farming techniques and pest management.

BENEFITS OF SMART TECHNOLOGY

Better decision making

Optimised Production process

Increased efficiency of enterprise

Meeting demands of market effectively

Maintenance of Organic standards

Improved Resource management

Use of technology in organic farming 2019-2023

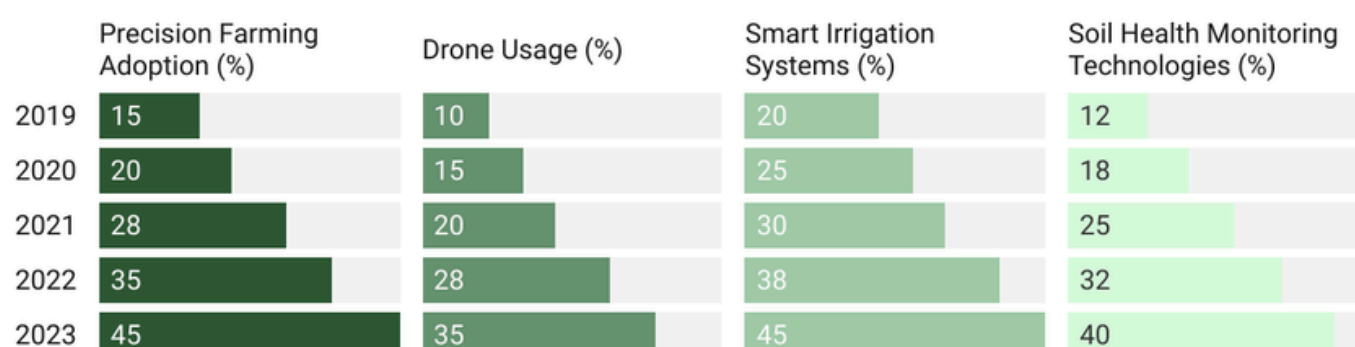
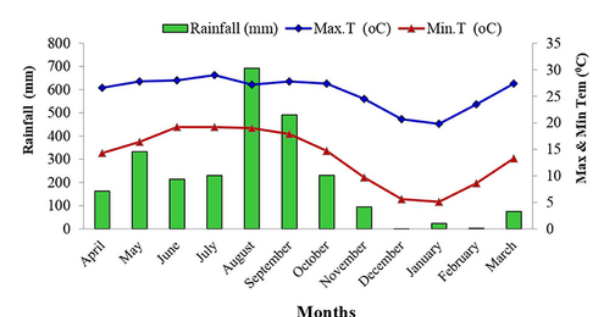


Chart: Global Launch Base • Source: TraceX • Created with Datawrapper

CASE ANALYSIS

Monthly average data of experimental site (2015-16 to 2019-20), Meghalaya,



VALUE CHAIN ANALYSIS



The term value chain refers to the various business activities and processes involved in creating a product or performing a service. The analysis examines the sequence of activities a company undertakes, from raw materials to the final product or service, to identify how each stage contributes to value creation.

PRIMARY ACTIVITIES

Operations

Soil preparation using minimal tillage and **organic amendments**.
Cultivation using crop rotation .

Service

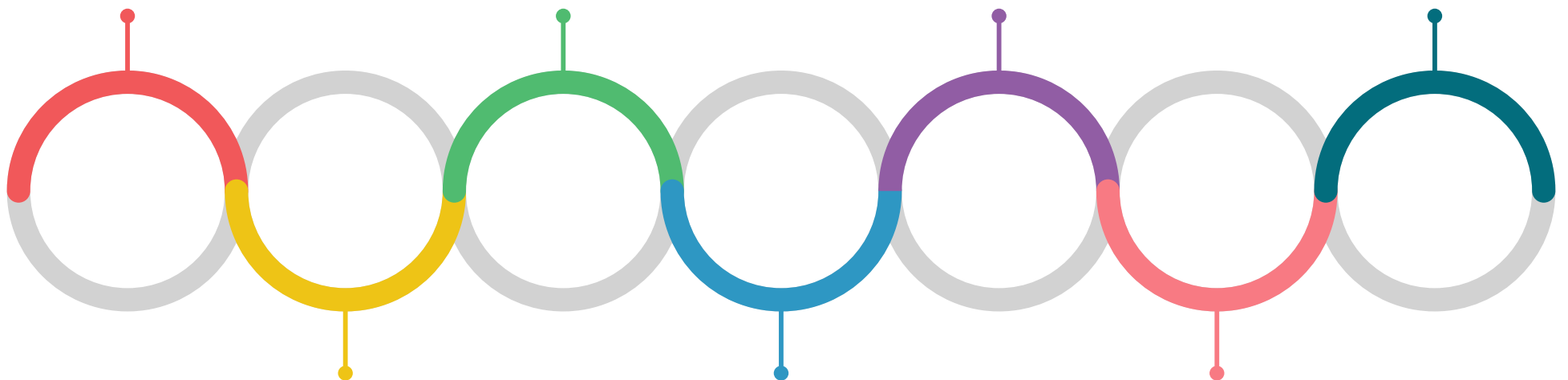
Providing **customer education** on product use and benefits.
Addressing consumer queries and feedback

Inbound Logistics

Sourcing organic-certified seeds and planting materials.
Procuring natural inputs like compost, green manure.

Marketing and Sales

Promoting the health and environmental benefits of organic products. **Leveraging certification logos**.



Procurement

Selecting **certified suppliers** for organic inputs and equipment.
Building long-term relationships with eco-conscious partners.

Technological Development

Using **precision farming tools** like soil sensors and organic farm management apps.

Human Resource Management

Training farmers in organic farming techniques. **Promoting labor welfare** and safe working conditions.

Infrastructure

Establishing **organic certification** and compliance systems.
Developing facilities for composting, storage, processing.

SECONDARY ACTIVITIES

CHALLENGES AND RISKS

It offers **long-term sustainability**, but faces significant challenges and risks that affect its **profitability, scalability, and consistency**.

- Sensitive to weather changes
- Vulnerable to temperatures
- Soil erosion risk
- Increased pest pressure

CLIMATE IMPACT



LOWER YIELD

- 15–30% lower yields
- Costly organic inputs
- Labor-intensive practices
- Thin profit margins



LOGISTIC CHALLENGES

- Needs separate storage
- Requires cold chain transport
- Poor rural infrastructure
- Strict traceability requirements



TECHNOLOGICAL LIMITATIONS

- No GMOs or synthetic aids
- Slow tech adoption
- Seasonal employment
- Limited R&D support

01



Booming Domestic and Export Demand

The urban market share in organic consumption is expected to grow by 30% annually due to increased awareness and disposable income.

02



Expansion into New Product Categories

New Market Segments like Organic textiles, Organic skincare & wellness as well as Organic dairy and poultry

03



Circular Economy & Zero-Waste Potential

Over 65 million tonnes of agricultural waste generated annually—ideal for composting in organic farms.

04



Youth Entrepreneurship and D2C Opportunities

India has 1,200+ organic startups, including Farm2Kitchen, Organic Mandya, and KrishiCress, with a rising trend of D2C platforms offering farm-traceable organic produce.

05



Climate Resilience and Environmental Sustainability

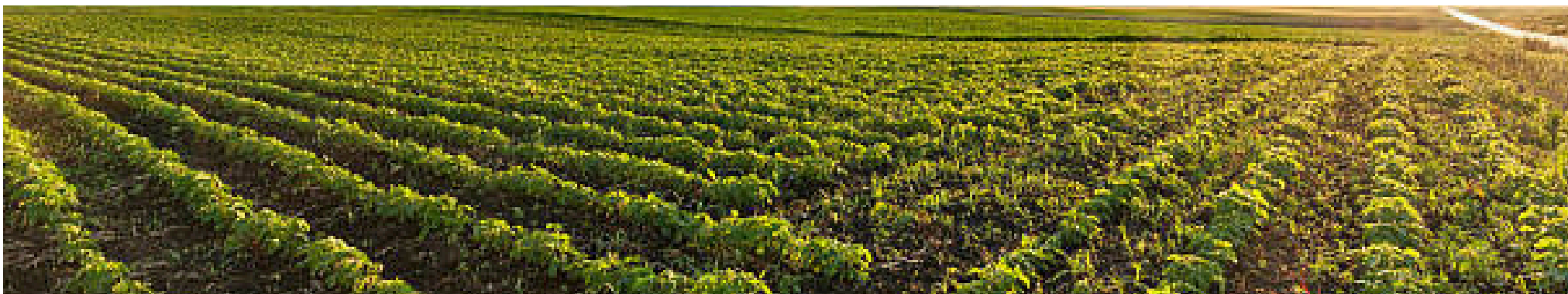
Organic farming cuts GHG emissions by 20–35% and boosts soil organic matter by 30–40% versus chemical farming.

FUTURE
OPPORTUNITIES



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STRATEGIC RECOMMENDATION



1

CERTIFICATION & TRACEABILITY

Digitize and democratize the process using blockchain-backed **QR code systems** for low-cost, tamper-proof certification. **Collaborate** with FSSAI, APEDA, and agri-tech startups to develop a unified, pan-India **traceability** system.

INCLUSIVE ORGANIC ECOSYSTEMS

Promote **community-owned** organic clusters and FPOs for improved bargaining power, knowledge sharing, and risk reduction. Deploy last-mile extension services for real-time soil health **analytics**, pest alerts, and input access via **mobile apps**.

2

3

DIVERSIFICATION

Tap into the **rising** demand for organic textiles (GOTS), herbal cosmetics, pet food, and wellness supplements. **Encourage startups** to bundle lifestyle products to **expand** average consumer spend and retention.

EXPORT

Establish export-oriented organic parks near ports (like Suez Canal/West Coast zones) with specialized **logistics, cold chains**, and regulatory units. **Target niche markets**. eg, organic millets to Europe, Ayurvedic herbs to the US, and spices to the Middle East.

4

5

PPP IN R&D

Fund climate-resilient organic varieties and **bio-input** startups (e.g., natural pesticides, compost enhancers). **Set up** Centre of Excellence for Organic Agri-Tech in collaboration with IITs, ICAR, and IFOAM.

“Organic farming is the future of food security—but only if we reimagine scale with sustainability.”



1. A Transformative Movement, Not Just a Market

Organic farming is no longer a niche—it is a global ***agricultural transformation*** reshaping how we grow, trade, and consume food.

The ***CAGR of - 10–11% globally*** and ***~20–22% in India*** highlights both ***consumer conviction and systemic policy support***.



2. India's Pivotal Role in the Global Organic Ecosystem

With over 1.6 million organic farmers and status as the top organic producer by count, India is uniquely positioned to be the organic engine of the Global South. However, it must balance scaling with integrity—ensuring traceability, transparency, and farmer viability.



3. Organic's Impact Extends Beyond Agriculture

Organic systems are deeply linked to ***climate goals (carbon sequestration), rural employment, water efficiency, and public health outcomes***.

This makes it not only a food trend but a multi-sectoral policy priority in line with ***SDG 2 (Zero Hunger), 12 (Responsible Consumption), and 13 (Climate Action)***.



4. Challenges Call for Collective Innovation

From yield gaps and high certification costs to consumer price sensitivity, the sector needs continuous innovation—not only in technology, but also in governance, logistics, and business models.



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