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Study on Market Dynamics and Trends in India's Organic Crop Sector

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ABSTRACT: The organic farming sector in India has emerged as a pivotal area of interest due to its potential to address environmental sustainability, health consciousness, and consumer demand for chemical-free produce. The COVID-19 pandemic has significantly impacted the organic product market, leading to a surge in demand and reshaping the landscape for organic farmers. With conventional grocers and online vendors gaining strength in organic food retailing, organic products have found increased market access, especially through direct-to-consumer channels. The pandemic has accelerated the shift towards online sales of organic products. This study delves into the market dynamics and trends within India's organic crop sector, focusing on the interplay between government policies, technological advancements, and consumer preferences. Through a comprehensive analysis, the research aims to understand how these factors collectively influence the growth, adoption rates, and marketability of organic crops in India. The study also seeks to identify the challenges and opportunities within the sector, providing insights that could inform future policy decisions, technological investments, and strategic planning for stakeholders involved in organic farming. By shedding light on the current state and future prospects of the organic farming sector in India, this research contributes to the broader discourse on sustainable agriculture and its role in achieving environmental and economic sustainability.

KEY WORDS: organic farming, Market dynamics, Consumer Preferences, Technological Advancements, covid-19 pandemic.

I. INTRODUCTION

The organic crop sector in India has experienced remarkable growth, transitioning from a niche market to a significant contributor to the country's agricultural economy. This transformation is underpinned by a growing global consciousness regarding the environmental and health implications of conventional farming practices, coupled with a rising consumer demand for organic, chemical-free produce. As of 2023, the organic farming industry in India was valued at approximately INR 131.41 billion, with projections indicating a substantial expansion to INR 625.69 billion by 2028, reflecting a compound annual growth rate (CAGR) of 37.01% over the 2024–2028 period.

Key drivers of this growth include government initiatives such as the Paramparagat Krishi Vikas Yojana (PKVY) and the National Programme for Organic Production (NPOP), which have provided critical financial support and certification assistance to farmers transitioning to organic farming. Additionally, the integration of advanced technologies like precision farming and blockchain for traceability has enhanced the credibility and marketability of organic products, fostering consumer trust and expanding market reach through strategic collaborations between farmers, retailers, and e-commerce platforms.

However, the sector faces challenges such as limited awareness among farmers, the complexity of transitioning from conventional to organic farming, and the absence of standardized certification processes. Overcoming these hurdles requires concerted efforts from various stakeholders, including the government, non-governmental organizations, and industry players, to create a supportive ecosystem for organic farmers.

This research paper aims to explore the market dynamics and trends shaping the organic crop sector in India, focusing on the interplay between government policies, technological advancements, and consumer preferences. By examining these factors, the study seeks to provide insights into the future trajectory of the organic crop sector in India, contributing to a deeper understanding of the challenges and opportunities within this rapidly evolving sector.



II. NEED AND SIGNIFICANCE OF THE STUDY

The need and significance of the study on market dynamics and trends in India's organic crop sector are:

Economic Impact: By investigating the growth and value of India's organic agriculture sector, the study contributes to the understanding of its economic significance, informing policy decisions and investment strategies.

Consumer Insights: The exploration of consumer demand and preferences provides valuable insights into the factors driving the organic food market, aiding businesses in tailoring their offerings to meet consumer needs.

Certification and Export Challenges: Identifying and assessing the challenges in organic certification and export helps stakeholders understand the barriers to growth and develop strategies to overcome them, enhancing the sector's competitiveness in both domestic and international markets.

Future Prospects: Formulating predictions for the future of the organic agriculture sector in India offers stakeholders a roadmap for navigating the sector's evolution, enabling them to capitalize on emerging opportunities and mitigate potential risk.

III. LITERATURE REVIEW

Gupta and Verma (1997) conducted a study comparing grain production in organic versus conventional methods, highlighting that as farm size increases, the advantages of organic farming become more pronounced. This underscores the scalability and efficiency of organic practices in larger agricultural settings.

Ramesh et al. (2010) examined the status of organic farming in India, emphasizing the relevance of organic practices within the Indian context. Their research delved into the current challenges and opportunities present in the organic agriculture sector, providing insights into the factors affecting the adoption and success of organic farming methods.

Roychowdhury et al. (2013) conducted a comprehensive review of the status, trends, and prospects of organic farming in India. Their study highlighted the importance of organic farming for crop improvement and sustainable agriculture, especially in the context of climate change. By analyzing the market opportunities and challenges for Indian organic products, the researchers emphasized the potential for growth and innovation within the organic crop sector.

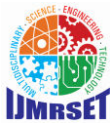
Sahu et al. (2010) focused on the knowledge gap about organic farming practices among farmers in the Bageshwar District of Uttarakhand. Their study underscored the importance of education and awareness initiatives to bridge the gap and promote the adoption of organic farming methods among farmers. This highlights the need for targeted interventions to enhance knowledge dissemination and promote sustainable agricultural practices.

Singh and Singh (2015) explored the consumer perception and preferences towards organic food products in India. Their study highlighted the increasing awareness and demand for organic produce among Indian consumers, indicating a growing market for organic crops in the country.

Kumar et al. (2018) conducted a study on the economic viability of organic farming in India, focusing on the cost-benefit analysis and profitability of organic crop production. Their research provided insights into the financial aspects of organic farming and its potential as a sustainable agricultural practice in India.

Sharma and Sharma (2020) investigated the role of certification in promoting organic farming in India. Their study examined the impact of organic certification on market access, consumer trust, and price premiums for organic products. The findings underscored the significance of certification in enhancing the credibility and marketability of organic crops in India.

Patil et al. (2017) analyzed the challenges and opportunities for organic farming in India's horticulture sector. Their research focused on the specific constraints faced by horticultural farmers in adopting organic practices and proposed strategies to overcome these challenges. The study highlighted the potential for growth and diversification in organic horticulture production in India.



Mishra et al. (2019) studied the impact of climate change on organic crop production in India. Their research examined the resilience of organic farming systems to climate variability and identified adaptation strategies for organic farmers. The study emphasized the importance of sustainable agricultural practices in mitigating the effects of climate change on crop yields and food security.

OBJECTIVES OF THE RESEARCH

- 1.To access market size and growth
- 2.To identify consumer preference and trends
- 3.To evaluate government initiatives and their impact

HYPOTHESIS

H₀: The market size of the organic crop sector in India will remain stable over the next five years.

H₁: The market size of the organic crop sector in India will experience significant growth over the next five years, driven by increasing consumer demand and government support.

H₀: There will be no significant variation in consumer preferences for different types of organic products in India.

H₁: There will be a significant variation in consumer preferences for different types of organic products in India, with certain products experiencing higher demand due to health and environmental considerations.

H₀: Government initiatives aimed at promoting organic farming and enhancing market access for organic products have no significant impact on the organic crop market in India.

H₁: Government initiatives aimed at promoting organic farming and enhancing market access for organic products have a significant positive impact on the organic crop market in India, contributing to its growth and development.

SCOPE OF THE STUDY

1. Market Size and Growth Analysis: Investigate the current market size of the organic crop sector in India, including the value of organic products sold and the volume of organic crops produced.
2. Consumer Behavior and Preferences: Examine the preferences and behaviors of Indian consumers towards organic crops, including the types of organic products they prefer and the factors influencing their purchasing decisions. This focus area will shed light on the consumer dynamics driving the market and how these preferences are evolving over time.
3. Government Initiatives and Their Impact: Assess the impact of government initiatives, such as the Paramparagat Krishi Vikas Yojana (PKVY) and the National Programme for Organic Production (NPOP), on the organic crop market. Evaluate how these initiatives have facilitated the adoption of organic farming practices and enhanced market access for organic products. This analysis will reveal the role of government policies in shaping the market and identify areas for policy improvement.
- 4.Challenges and Opportunities: Identify the key challenges facing the organic crop market, such as limited awareness among farmers, the transition from conventional to organic farming, and certification processes. Also, explore the opportunities for growth and innovation in the sector. This focus area will help in understanding the barriers to market growth and the avenues for overcoming these challenges.

IV. RESEARCH METHODOLOGY

RESEARCH DESIGN

This project will use a simple methodological approach to study market dynamics and trends in india organic production sector. It will combine quantitative and qualitative research methods. This approach will facilitate a comprehensive understanding of the topic and provide triangulation of data to support the validity and reliability of the results. The research design will have the subsequent components

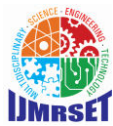
TYPES OF DATA COLLECTION

Primary data: primary data are those, which were collected afresh and for the first time and thus happen to be original in character.

Secondary data: Secondary data is collected from previous research and literature to fill in the respective project. the secondary data was collected through:

Sample Source: College & LinkedIn Group, Agri Sellers

Sample size: 50



Analysis technique

Data Analysis Tools: Utilizing statistical tools such as SPSS & Excel for quantitative analysis of survey data, including descriptive statistics.

V. DATA ANALYSIS AND INTERPRETATION

Q 1. What has been the market size (value) of India's organic crop market over, and what is its annual growth rate?

Market Size (Value):

- 2018: The market was valued at approximately INR 57 billion.
- 2023: The market reached around INR 131.41 billion.
- 2028 (Forecast): The market is expected to grow to approximately INR 625.69 billion.

Annual Growth Rate:

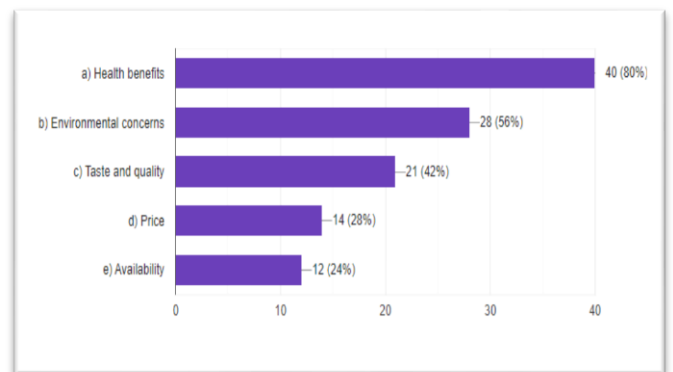
- The organic crop market in India has been growing at a compound annual growth rate (CAGR) of approximately 20-25%.

ANALYSIS: The organic crop market in India is expanding at a notable compound annual growth rate (CAGR) of 20-25% over recent years, driven by increased health consciousness, environmental awareness, and supportive government initiatives. Projections indicate even more rapid growth, with the market expected to reach INR 625.69 billion by 2028, demonstrating a projected CAGR of 37.01% from 2024 to 2028.

INTERPRETATION: The market size of India's organic crop market has shown significant growth, rising from approximately INR 57 billion in 2018 to INR 131.41 billion in 2023. This expansion reflects a strong consumer shift towards organic products driven by health and environmental concerns.

What factors influence your decision to purchase organic crops in India?

Responses	Frequency	percentage
Health benefits	40	80%
Environmental concerns	28	56%
Taste and quality	21	42%
Price	14	28%
Availability	12	24%
Total	50	100%



ANALYSIS

The data highlights that health benefits strongly influence purchasing decisions for organic crops in India, with 80% of respondents citing this factor. Environmental concerns follow closely at 56%, emphasizing a growing awareness of sustainability. Taste and quality (42%) also play a significant role, while price (28%) and availability (24%) are comparatively less influential factors.

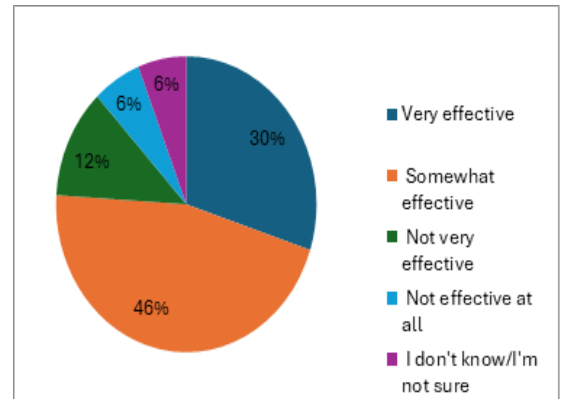
INTERPRETATION

The data reveals that health benefits are the primary driver behind purchasing organic crops in India, with 80% of respondents prioritizing this factor. Environmental concerns follow closely at 56%, reflecting a growing awareness of sustainability. Taste and quality also play a significant role (42%), while price (28%) and availability (24%) are less influential.



In your opinion, how effective have these government initiatives been in fostering the growth of India's organic crop market?

Responses	Percentage	frequency
Very effective	30%	15
Somewhat effective	46%	23
Not very effective	12%	6
Not effective at all	6%	3
I don't know/I'm not sure	6%	3
Total	100%	50



ANALYSIS

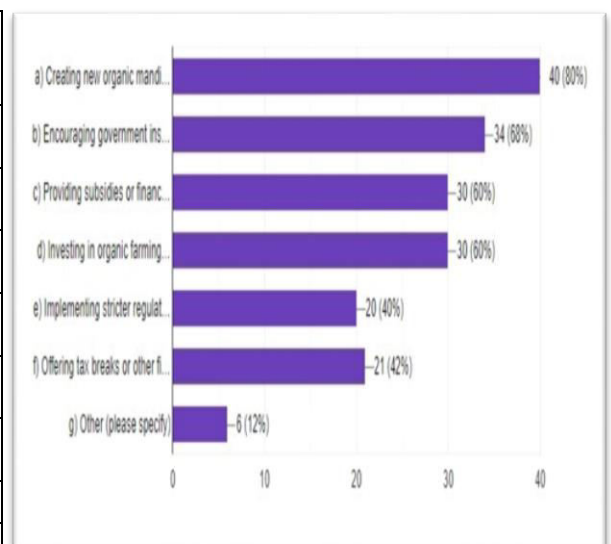
The data suggests that government initiatives have been perceived as somewhat effective in fostering the growth of India's organic crop market, with 46% of respondents expressing this view. Additionally, 30% consider these initiatives very effective. However, a notable portion (18%) either perceives them as not very effective or not effective at all. This indicates mixed opinions regarding the impact of government efforts in promoting the organic crop market.

INTERPRETATION

The data indicates mixed perceptions regarding the effectiveness of government initiatives in fostering India's organic crop market. While 30% view them as very effective and 46% as somewhat effective, 18% express doubts, considering them either not very effective or ineffective. This suggests varying degrees of confidence in the impact of governmental efforts.

12. What additional measures or policies do you believe the government could implement to further support the development of India's organic crop market? (Select all that apply)

Responses	Percentage	Frequency
Creating new organic mandis (markets) for better distribution and sale	80%	40
Encouraging government institutions like Food Corporation of India (FCI) to procure organic crops	68%	34
Providing subsidies or financial incentives to organic farmers	60%	30
Investing in organic farming research and development	60%	30
Implementing stricter regulations and certification processes for organic products	40%	20
Offering tax breaks or other fiscal incentives for businesses involved in the organic crop market	42%	21
Other (please specify)	12%	6
Total	100%	50



ANALYSIS

Respondents advocate for creating new organic markets (80%), encouraging government procurement (68%), providing subsidies to farmers (60%), and investing in research (60%). Stricter regulations (40%) and fiscal incentives (42%) are also suggested. These measures aim to bolster India's organic crop market development.



INTERPRETATION

The data reveals strong support for various measures to enhance India's organic crop market. Key strategies include establishing new organic markets, government procurement, farmer subsidies, and research investment. Additionally, suggestions for stricter regulations and fiscal incentives highlight diverse approaches to stimulate market growth and sustainability.

VI. FINDINGS

- 1. Market Size and Annual Growth Rate:** The market size of India's organic crop market grew from INR 57 billion in 2018 to INR 131.41 billion in 2023, with a projected increase to INR 625.69 billion by 2028, reflecting a CAGR of 20-25% historically and an expected 37.01% from 2024 to 2028.
- 2. Factors Influencing Purchase Decisions:** Health benefits (80%) and environmental concerns (56%) are the primary factors influencing the purchase of organic crops, followed by taste and quality (42%), price (28%), and availability (24%).
- 3. Effectiveness of Government Initiatives:** Government initiatives are viewed as somewhat effective by 46% of respondents, very effective by 30%, and not very effective or ineffective by 18%.
- 4. Suggested Government Measures:** Key suggested measures include creating new organic markets (80%), government procurement of organic crops (68%), subsidies for farmers and investment in research (60% each), stricter regulations (40%), and fiscal incentives (42%).

VII. LIMITATIONS OF RESEARCH

1. Sample Size and Demographics

The survey data is based on responses from a relatively small sample size of 50 individuals, which may not be representative of the entire population of India. This limitation could impact the generalizability of the findings across different regions, age groups, and socio-economic backgrounds.

2. Geographical Bias

The data may be influenced by geographical bias if the respondents are concentrated in specific regions where organic farming is more prevalent or where consumer awareness is higher. This could skew the results and not accurately reflect national trends.

3. Self-Reported Data

The reliance on self-reported data can introduce biases such as social desirability bias, where respondents may overstate positive behaviors like purchasing organic products due to perceived social norms, leading to overestimation of factors like health benefits and environmental concerns.

4. Lack of Longitudinal Data

The research provides a snapshot of current perceptions and behaviors but does not account for changes over time. Longitudinal studies would be necessary to understand how attitudes and behaviors evolve in response to market and policy changes.

5. Government Initiatives Evaluation

The assessment of government initiatives is based on subjective perceptions, which can vary widely among respondents. Objective measures of the effectiveness of these initiatives, such as actual increases in organic farming practices and sales data, are not provided.

6. Market Projections

The market size projections for 2028 are based on current growth rates and assumptions that may not account for potential market disruptions, changes in consumer behavior, or economic fluctuations, making these projections inherently uncertain.

7. Limited Scope of Factors

The survey focuses on a limited set of factors influencing purchasing decisions. Other potential factors, such as cultural preferences, education level, and influence of social media, are not explored, which could provide a more comprehensive understanding of consumer behavior.

8. Effectiveness Measures

The effectiveness of government initiatives is measured through subjective responses without detailed criteria or benchmarks, leading to a potential lack of depth in evaluating the true impact of these policies on the organic crop market.



VIII. SUGGESTIONS AND RECOMMENDATIONS

1. Increase Awareness and Education:

- Suggestion: Launch nationwide campaigns to educate consumers on the benefits of organic products.
- Recommendation: Collaborate with educational institutions and media to spread awareness about organic farming's health and environmental benefits. This can drive demand further and support the projected market growth.

2. Strengthen Supply Chain Infrastructure:

- Suggestion: Invest in robust supply chain logistics to support the anticipated market expansion.
- Recommendation: Develop cold storage facilities and efficient transportation networks to reduce spoilage and ensure fresh organic produce reaches markets quickly.

Factors Influencing Purchase Decisions

1. Enhance Availability and Accessibility:

- Suggestion: Increase the availability of organic products in various retail channels, especially in rural and semi-urban areas.
- Recommendation: Establish more organic markets (mandis) and encourage supermarkets and local stores to stock organic products to improve accessibility and consumer reach.

2. Price Regulation and Subsidies:

- Suggestion: Implement policies to make organic products more affordable.
- Recommendation: Provide subsidies or financial incentives to organic farmers to reduce production costs, which can help lower market prices and make organic products more competitive with conventional ones.

Effectiveness of Government Initiatives

1. Continuous Evaluation and Improvement:

- Suggestion: Regularly assess and refine government initiatives based on feedback from farmers and consumers.
- Recommendation: Conduct periodic reviews of existing policies and initiatives to identify areas for improvement and ensure they are effectively fostering market growth. Engage stakeholders in policy formulation and implementation processes.

2. Increase Transparency and Certification:

- Suggestion: Implement stricter regulations and more transparent certification processes.
- Recommendation: Standardize certification procedures to ensure credibility and trust in organic labels. This can help address consumer skepticism and enhance market growth.

Suggested Government Measures

1. Expand Financial Support:

- Suggestion: Increase financial incentives for organic farmers and businesses involved in the organic supply chain.
- Recommendation: Introduce more comprehensive subsidy programs and low-interest loans for organic farmers to support their transition and operational costs. Provide tax breaks for businesses investing in the organic market.

2. Invest in Research and Development:

- Suggestion: Allocate more funds towards research and development in organic farming techniques.
- Recommendation: Establish dedicated research institutes focusing on organic farming to innovate and improve farming practices, pest control, and yield optimization. Promote public-private partnerships to foster technological advancements.

IX. CONCLUSION

The analysis of India's organic crop market over the past five years reveals a robust and accelerating growth trend. The market size has increased significantly from INR 57 billion in 2018 to INR 131.41 billion in 2023, with forecasts projecting it to reach INR 625.69 billion by 2028. This substantial growth is driven by a compound annual growth rate (CAGR) of 20-25% in recent years, expected to rise to 37.01% in the coming years, underscoring the increasing consumer demand for organic products.

Health benefits and environmental concerns are the primary factors influencing consumers' decisions to purchase organic crops, highlighting a shift towards more health-conscious and environmentally sustainable consumption patterns. Despite the growth, there are mixed perceptions about the effectiveness of government initiatives, indicating a need for ongoing assessment and enhancement of policies to better support the market.



Key recommendations include increasing awareness and education about organic products, enhancing supply chain infrastructure, providing financial incentives and subsidies to organic farmers, and investing in research and development. Additionally, strengthening market linkages and implementing stricter certification processes can further bolster consumer confidence and market growth.

In conclusion, while the organic crop market in India is on a promising trajectory, addressing current limitations through targeted measures and continuous improvement of government initiatives will be crucial in sustaining and accelerating its growth.

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