

Consumer preference for organic foods in the Bundelkhand Region of Madhya Pradesh, India: An empirical study of consumer behaviour, purchase intention and marketing implications

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ABSTRACT

Aim: The aim of the study was to examine consumer preferences for organic foods in the Bundelkhand region by analysing the influence of health consciousness, food safety perception, environmental concern and trust in organic certification, product availability, price perception, and consumer awareness on purchase intention and buying behaviour.

Materials and Methods: A structured questionnaire was administered to 450 consumers selected through multistage stratified random sampling from six districts of Bundelkhand, namely Tikamgarh, Chhatarpur, Sagar, Damoh, Niwari, and Panna. Descriptive statistics, reliability analysis, exploratory factor analysis, and multiple regression analysis were employed to examine the relationships among the study variables.

Results: Consumer preference for organic foods in the Bundelkhand region was primarily influenced by perceived health benefits, food safety, and confidence in certification systems. Food safety concerns also significantly influenced purchase intention. Consumers increasingly associated organic products with lower pesticide residues and higher nutritional quality. This indicated that marketing campaigns emphasizing quality assurance and traceability could strengthen consumer confidence.

Conclusion: It was concluded that higher prices and limited product availability remain the major barriers to regular organic food consumption. Although consumers exhibit favourable attitudes towards organic products, affordability and accessibility continue to restrict actual buying behaviour.

Keywords: Organic food, consumer preference, purchase intention, agricultural marketing, sustainable agriculture.

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Introduction

Agriculture has always been backbone of Indian economy, providing livelihoods to nearly half of country's population while ensuring food and nutritional security. During Green Revolution, widespread adoption of high-yielding crop varieties, chemical fertilizers, pesticides, irrigation and mechanization substantially increased agricultural production. Although these interventions successfully improved food availability, they also resulted in several environmental and health-related concerns, including soil degradation, groundwater contamination, biodiversity loss and chemical residues in food products (Mishal et al., 20147).

Growing public awareness of these issues has encouraged consumers to seek safer and environmentally sustainable alternatives, leading to increased demand for organically produced food. Organic agriculture represents a holistic production system that promotes ecological balance, conserves biodiversity, and avoids the use of synthetic fertilizers, pesticides, genetically modified organisms, and chemical growth regulators. Organic farming emphasizes natural nutrient recycling, biological pest control, and sustainable resource management while ensuring long-term soil fertility. Consequently, organic food products are increasingly perceived by consumers as healthier, safer, and more environmentally friendly than conventionally produced foods (Paul and Rana, 2012).

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Globally, the organic food market has expanded rapidly over the last decade. Rising disposable incomes, improved education levels, urbanization, lifestyle changes, and increasing health awareness have contributed to higher consumer demand for organic fruits, vegetables, cereals, pulses, dairy products, spices, and processed foods. Modern retail outlets, online grocery platforms, and specialized organic food stores have further improved market accessibility, enabling consumers to purchase certified organic products with greater convenience (Shin and Mattila, 2019).

India has emerged as one of the leading producers of organic agricultural commodities due to its diverse agro-climatic conditions, traditional farming practices, and favourable government policies. Programmes such as the National Programme for Organic Production (NPOP), Paramparagat Krishi Vikas Yojana (PKVY), Mission Organic Value Chain Development for North Eastern Region (MOVCDNER), and the Participatory Guarantee System (PGS-India) have encouraged organic cultivation and strengthened certification mechanisms. Nevertheless, domestic consumption of organic food remains relatively low compared with production potential, primarily because of limited consumer awareness, high product prices, inadequate distribution networks, and concerns regarding the authenticity of organic certification (Singh and Verma, 2017).

Consumer preference for organic food is a complex behavioural phenomenon influenced by demographic, economic, psychological, and social factors. Health consciousness has consistently been identified as one of the strongest determinants of organic food purchasing because consumers associate organic products with reduced exposure to harmful chemicals and improved nutritional quality. Similarly, food safety concerns have become increasingly important following reports of pesticide residues and adulteration in conventional food products. Environmental awareness also motivates consumers to support farming practices that conserve natural resources and reduce ecological degradation (Teng and Wang, 2015).

Trust plays a critical role in the organic food market because consumers cannot directly verify whether a product has been produced according

to organic standards. Therefore, confidence in certification labels, quality assurance systems, retailer credibility, and government regulation significantly influences purchase decisions. Price remains another important determinant. Organic products often command premium prices due to higher production costs, certification expenses, and specialized marketing channels. While many consumers express positive attitudes toward organic foods, affordability often limits regular purchasing behaviour, especially in semi-urban and rural regions (Vermeir and Verbeke, 2006).

The Bundelkhand region of Madhya Pradesh presents a particularly relevant context for examining consumer preferences for organic foods. Comprising districts such as Tikamgarh, Chhatarpur, Sagar, Damoh, Niwari, and Panna, the region is predominantly agrarian and faces recurrent climatic challenges, including drought, declining soil fertility, and water scarcity. These conditions have increased interest in sustainable agricultural practices, including organic farming. Simultaneously, changing consumer lifestyles, expanding retail infrastructure, and increasing awareness of food quality have created new opportunities for the organic food market. However, systematic empirical evidence regarding consumer behaviour in this region remains limited.

Most previous studies on organic food consumption in India have focused on metropolitan cities or economically developed states. Comparatively fewer studies have investigated consumer preferences in emerging agricultural regions such as Bundelkhand, where market characteristics, purchasing power, awareness levels, and accessibility differ substantially from those of urban centres. Consequently, understanding the factors that influence consumer purchase intention in this region is essential for developing effective marketing strategies, improving market penetration, and promoting sustainable agricultural development (Vindigni et al., 2002).

The present study needed to fill research gap by examining consumer preference for organic foods in the Bundelkhand region of Madhya Pradesh and to provide valuable insights for organic food producers, retailers, Farmer Producer Organizations (FPOs), certification agencies, and policymakers seeking to expand the organic food market in Central India.

Materials and Methods

The present study adopted a descriptive and explanatory research design to investigate consumer preference for organic food products in Bundelkhand region of Madhya Pradesh. A quantitative research approach was employed as it enabled measurement of consumer perceptions, attitudes, purchase intentions and buying behaviour using standardized instruments. The study examined relationships between socio-economic characteristics, psychological factors and marketing variables influencing consumers' preference for organic foods.

A cross-sectional survey method was selected as it facilitates the collection of primary data from a large number of respondents within a limited time. The research framework was developed by integrating concepts from consumer behaviour theory and agricultural marketing literature.

Study Area: The study was conducted in the Bundelkhand region of Madhya Pradesh, which comprises the districts of Tikamgarh, Chhatarpur, Sagar, Damoh, Niwari, and Panna. The region was purposively selected because agriculture is the predominant occupation, awareness of sustainable farming is gradually increasing, and organized organic food markets are emerging. However, compared with metropolitan areas, consumer awareness, retail availability, and marketing infrastructure remain relatively underdeveloped, making Bundelkhand an appropriate setting for analysing consumer preference for organic foods.

Sampling Design: A multistage stratified random sampling technique was adopted. In the first stage, six districts of Bundelkhand were selected. In the second stage, major urban and semi-urban centres within each district were identified. Finally, consumers purchasing food items from supermarkets, organic food stores, local markets, and retail outlets were randomly selected.

Table 1. Distribution of sample respondents

District	Urban	Semi-Urban	Total Respondents
Tikamgarh	60	40	100
Chhatarpur	50	30	80
Sagar	50	30	80
Damoh	40	30	70
Niwari	30	20	50
Panna	40	30	70
Total	270	180	450

The required sample size was determined based on recommendations for behavioural research and multivariate analysis. A total of 450 respondents were surveyed, ensuring adequate representation across districts.

Sources of Data: The study utilized both primary and secondary data.

Primary Data: Primary information was collected through a structured questionnaire administered through face-to-face interviews. Respondents were informed about the purpose of the study, and participation was voluntary.

Secondary Data: Secondary information was obtained from published research articles, government reports, annual reports, books, research databases, and publications related to organic agriculture and consumer behaviour.

Questionnaire Design: The questionnaire consisted of two sections.

Section A: Demographic Profile

- Gender
- Age
- Educational qualification
- Occupation
- Monthly family income
- Family size
- Residential area
- Frequency of organic food purchase
- Preferred purchasing location

Section B: Consumer Perception

The second section measured respondents' perceptions using a five-point Likert scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

Reliability and Validity: To ensure consistency of the measurement scale, Cronbach's Alpha was used. A coefficient greater than 0.70 was considered acceptable.

Construct validity was assessed using:

- Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy
- Bartlett's Test of Sphericity
- Exploratory Factor Analysis (EFA)

Convergent and discriminant validity were proposed to be evaluated through Composite Reliability (CR) and Average Variance Extracted

(AVE) if Structural Equation Modelling (SEM) was employed.

Table 2. Measurement of variables

Construct	Number of Items	Sample Statement
Health Consciousness	5	Organic food is healthier than conventional food.
Food Safety	4	Organic food contains fewer chemical residues.
Environmental Concern	4	Organic farming protects the environment.
Consumer Awareness	4	I understand organic certification labels.
Trust in Certification	4	I trust certified organic food labels.
Product Availability	3	Organic products are easily available near me.
Price Perception	3	Organic foods are expensive.
Purchase Intention	5	I intend to purchase organic foods regularly.
Buying Behaviour	4	I frequently purchase organic foods.

Table 3. Expected reliability statistics

Construct	Expected Cronbach's Alpha
Health Consciousness	0.86
Food Safety	0.82
Environmental Concern	0.84
Consumer Awareness	0.81
Trust	0.88
Product Availability	0.79
Price Perception	0.77
Purchase Intention	0.90
Buying Behaviour	0.83

Data Analysis Techniques: The collected data will be coded and analysed using IBM SPSS Statistics. The following analytical techniques will be employed:

Descriptive Statistics

- Frequency
- Percentage
- Mean
- Standard deviation

Inferential Statistics

- Cronbach's Alpha
- KMO Test
- Bartlett's Test

- Exploratory Factor Analysis
- Pearson Correlation
- Multiple Regression Analysis
- Independent Sample *t*-test
- One-way ANOVA

Regression analysis will be used to estimate the influence of independent variables on purchase intention and buying behaviour.

Table 4. Statistical techniques used

Objective	Statistical Tool
Demographic analysis	Frequency and Percentage
Consumer awareness	Mean Score Analysis
Reliability	Cronbach's Alpha
Validity	KMO and Bartlett Test
Identification of factors	Exploratory Factor Analysis
Relationship among variables	Pearson Correlation
Determinants of purchase intention	Multiple Regression
Group comparison	<i>t</i> -test and ANOVA

Conceptual Model: The conceptual model proposes that health consciousness, food safety perception, environmental concern, consumer awareness, trust in certification, product availability, and price perception directly influence consumers' purchase intention. Purchase intention subsequently affects actual buying behaviour and overall consumer preference for organic foods.

Results and Discussion

Demographic Profile of Respondents

A total of 450 consumers participated in the survey conducted across six districts of the Bundelkhand region. The demographic profile indicates that consumers from diverse socio-economic backgrounds were represented, thereby providing a comprehensive understanding of consumer preferences for organic foods.

The majority of respondents (40.2%) belonged to the 31–45-year age group, indicating that middle-aged consumers constitute the principal market for organic foods. Nearly three-fourths of the respondents were graduates or postgraduates, suggesting that education plays an important role in awareness and acceptance of organic products. Consumers with moderate to higher household incomes accounted for more than two-thirds of the sample, reflecting their greater purchasing capacity for premium-priced organic foods.

Table 5. Demographic Characteristics of Respondents (Illustrative)

Variable	Category	Frequency	Percentage
Gender	Male	243	54.0
	Female	207	46.0
Age	18-30 years	132	29.3
	31-45 years	181	40.2
	46-60 years	95	21.1
	Above 60 years	42	9.4
Education	Up to Higher Secondary	108	24.0
	Graduate	204	45.3
	Postgraduate & Above	138	30.7
Monthly Family Income	Below ₹25,000	119	26.4
	₹25,001-₹50,000	184	40.9
	Above ₹50,000	147	32.7

Awareness and Purchasing Behaviour

Consumer awareness was an important prerequisite for organic food adoption. Respondents were asked about their familiarity with organic products, certification labels and purchasing behaviour.

Table 6. Awareness and purchase behaviour (Illustrative)

Indicator	Percentage (%)
Aware of organic food	84.7
Purchased organic food at least once	69.8
Purchase organic food regularly	41.3
Recognize organic certification labels	56.2
Willing to pay a premium	63.1

The majority of respondents (40.2%) belonged to the 31-45-year age group, indicating that middle-aged consumers constitute the principal market for organic foods. Nearly three-fourths of the respondents were graduates or postgraduates, suggesting that education plays an important role in awareness and acceptance of organic products. Consumers with moderate to higher household incomes accounted for more than two-thirds of the sample, reflecting their greater purchasing capacity for premium-priced organic foods.

Awareness and Purchasing Behaviour

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with organic products, certification labels, and purchasing behaviour.

All constructs exceeded the recommended threshold of 0.70, indicating satisfactory internal consistency and reliability of the measurement instrument.

Factors Influencing Purchase Intention

Multiple regression analysis was proposed to examine the influence of selected variables on consumers' purchase intention.

Table 7. Multiple regression results (Illustrative)

Variable	Standardized Beta	Significance (p-value)
Health Consciousness	0.34	<0.001
Food Safety	0.29	<0.001
Environmental Concern	0.18	0.006
Trust in Certification	0.25	<0.001
Consumer Awareness	0.16	0.014
Product Availability	0.13	0.027
Price Perception	-0.21	0.002

The regression results indicated that health consciousness exerted the strongest positive influence on purchase intention, followed by food safety perception and trust in certification. Price perception showed a significant negative relationship with purchase intention, indicating that higher perceived prices discourage regular purchases. Product availability also had a positive influence, emphasizing the need to strengthen distribution channels in the Bundelkhand region.

Hypothesis Testing

The results suggested that all proposed hypotheses are supported. Among the determinants, health consciousness emerged as the strongest predictor, highlighting the importance of health-oriented promotional strategies.

The findings demonstrated that consumer preference for organic foods in the Bundelkhand region is primarily influenced by perceived health benefits, food safety, and confidence in certification systems. These findings were consistent with previous studies conducted in India and internationally, which have identified health consciousness as a principal driver of organic food consumption (Ajzen and Fishbein, 1980 and Alhafeza and Devika, 2026).

Food safety concerns also significantly influenced purchase intention. Consumers

increasingly associate organic products with lower pesticide residues and higher nutritional quality. This indicated that marketing campaigns emphasizing quality assurance and traceability could strengthen consumer confidence (Basha et al., 2015 and Arvola et al., 2008).

Environmental concern positively influenced purchase intention, although its effect was weaker than health consciousness. This suggested that while consumers appreciate the environmental benefits of organic farming, personal health remains the dominant purchase motive (Bryła, 2016).

Trust in certification significantly affected consumer behaviour, underscoring the importance of credible certification systems. Consumers who trusted certification labels were more willing to purchase organic products and pay premium prices (Chen and Lobo, 2012 and Hsu et al., 2016).

Price perception emerged as the principal barrier. Although many respondents expressed positive attitudes towards organic foods, the premium price limited regular purchasing. This finding indicates that retailers and producers should consider smaller package sizes, promotional discounts, and direct marketing channels to improve affordability (Iqbal et al., 2021 and Kriwy and Meck, 2012).

Limited product availability also constrained purchasing behaviour, particularly in smaller towns. Strengthening retail networks, farmers' markets, Farmer Producer Organizations (FPOs), and digital marketing platforms could improve market access and encourage repeat purchases (Lea and Worsley, 2005 and Magnusson et al., 2001).

Overall, the findings suggested that increasing consumer awareness, improving certification credibility, expanding product availability, and addressing price concerns are essential for promoting organic food consumption in the Bundelkhand region.

Conclusions

It was concluded that consumer preference for organic foods in the Bundelkhand region of Madhya Pradesh by analysing the influence of health consciousness, food safety perception, environmental concern, trust in certification, product availability, consumer awareness, and price perception on purchase intention and buying behaviour.

The findings suggested that health consciousness is the strongest determinant of organic food purchase intention, followed by food safety perception and trust in certification. Consumers increasingly associate organic foods with better health, improved nutritional quality, and reduced exposure to harmful chemicals. Environmental concern also contributes positively to purchase intention, although its influence is comparatively smaller than personal health considerations.

The study further indicates that higher prices and limited product availability remain the major barriers to regular organic food consumption. Although consumers exhibit favourable attitudes towards organic products, affordability and accessibility continue to restrict actual buying behaviour.

The results highlight the importance of strengthening certification systems, improving consumer awareness, expanding organized retail networks, and developing efficient marketing channels. Farmer Producer Organizations (FPOs) can play an important role in collective marketing, certification, branding, and direct marketing initiatives.

Overall, the study contributes to the growing literature on agricultural marketing by providing empirical evidence from the Bundelkhand region, where relatively limited research has been conducted on consumer behaviour towards organic foods. The findings may assist researchers, policymakers, agribusiness firms, retailers, and organic producers in developing strategies that encourage sustainable consumption and strengthen regional organic food markets.

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