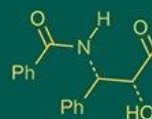


International Journal of Advanced Biochemistry Research



ISSN Print: 2617-4693
ISSN Online: 2617-4707
NAAS Rating (2026): 5.29
IJABR 2026; SP-10(6): 118-120
www.biochemjournal.com
Received: 15-03-2026
Accepted: 19-04-2026

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Study on consumer buying behaviour towards organic food products in Warangal district of Telangana

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DOI: <https://www.doi.org/10.33545/26174693.2026.v10.i6Sb.8570>

Abstract

The increasing awareness of health, environmental sustainability, and food safety has significantly influenced consumer preferences toward organic food products. This study aims to examine the consumer buying behaviour towards organic food products in Warangal District of Telangana. The research focuses on understanding consumers' level of awareness, attitudes, preferences, and factors influencing their purchasing decisions regarding organic food. Primary data for the study were collected through structured questionnaires distributed among consumers in different areas of Warangal District, while secondary data were gathered from journals, articles, reports, and online sources. The study analyses key determinants such as health consciousness, environmental concern, product quality, price, availability, and trust in organic labelling that affect consumers' purchase decisions. Descriptive statistics and analytical tools are used to interpret the collected data and identify patterns in consumer behaviour. The findings reveal that health benefits and chemical-free food are the primary motivations driving consumers to purchase organic products, whereas high price and limited availability remain major barriers.

Keywords: Organic food, consumer behaviour, health consciousness, environmental sustainability, purchase decision

Introduction

In recent years, the Indian food market has witnessed a paradigm shift as consumers increasingly prioritize health, wellness, and environmental sustainability, leading to a surge in the demand for organic food products (Chaturvedi *et al.*, 2021) ^[10]. Organic foods cultivated without the use of synthetic pesticides, chemical fertilizers, or genetically modified organisms are widely perceived as safer, more nutritious, and eco-friendly alternatives to conventional agricultural produce (Bhattacharya *et al.*, 2024) ^[11]. This transition is primarily driven by heightened health consciousness, rising disposable incomes, and a growing awareness of the detrimental impacts of chemical residues on human health and ecological balance (Aker *et al.*, 2023) ^[12]. Consequently, understanding the complex socio-economic and psychological variables that shape consumer purchasing decisions has become vital for producers, marketers, and policymakers. While metropolitan cities have historically been the primary hubs for organic consumption in India, this trend is rapidly permeating Tier-II cities and developing districts. The state of Telangana, characterized by its robust agricultural sector and rapid urbanization, presents a dynamic market for organic produce. Warangal, serving as a major educational, cultural, and economic center in the state, is experiencing significant lifestyle shifts, an expanding middle class, and evolving dietary habits. However, empirical literature specifically addressing local consumer behaviours in this region remains scarce. Variables such as price sensitivity, trust in organic certifications, local product availability, and subjective norms play a critical role in bridging the gap between consumers' positive attitudes and their actual purchasing behaviour (Chekima *et al.*, 2019) ^[13]. Therefore, this study aims to investigate consumer buying behaviour towards organic food products in the Warangal district of Telangana, seeking to identify the key determinants, awareness levels, and barriers influencing local purchasing patterns.

Objectives

1. To study the socio-economic profile of consumers purchasing organic food products.
2. To analyse factors influencing consumer buying decisions for organic foods.

Research methodology

- **Study Area:** Warangal district of Telangana, covering urban and semi-urban consumers.
- **Sampling Framework:** Random sampling of consumers across different localities and demographic groups.
- **Data Collection:** Primary data through structured questionnaires and secondary data from journals, reports, and online sources.

Analytical tools

$$\text{Mean: } \bar{X} = \frac{\sum X}{N}$$

$$\text{Percentage: } \% = \frac{f}{N} \times 100$$

$$\text{Standard Deviation: } \sigma = \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$$

$$\text{Chi-square Test: } \chi^2 = \sum \frac{(O - E)^2}{E}$$

$$\text{Correlation Coefficient: } r = \frac{\sum (X - \bar{X})(Y - \bar{Y})}{\sqrt{\sum (X - \bar{X})^2 \sum (Y - \bar{Y})^2}}$$

Results and discussion

To study the socio-economic profile of consumers purchasing organic food products.

Average Age of the Consumers (Simple Arithmetic Mean)

Age is a primary demographic indicator. Calculating the average age helps you understand the generational profile of the consumers purchasing organic products in your study area.

The Formula

$$\bar{x} = \frac{\sum x_i}{n}$$

- $\bar{x}$: Average age of the sample.
- x_i : The specific age of each individual respondent.
- n : Total number of consumers surveyed.

Average Monthly Income from Income Brackets (Mean of Grouped Data).

In surveys, respondents are rarely asked for their exact income; instead, they usually select from ranges (e.g., ₹20,000-₹40,000, ₹40,000-₹60,000). To find the average income from these brackets, you use the grouped data mean.

The Formula

$$\bar{x} = \frac{\sum f_i m_i}{\sum f_i}$$

- $\bar{x}$: Estimated average monthly income.
- f_i : Frequency (number of consumers in a specific income bracket).
- m_i : The midpoint of that specific income bracket (e.g., the midpoint of ₹20,000-₹40,000 is ₹30,000).
- k : The total number of income brackets.

Average Family Size (Simple Arithmetic Mean)

Family size directly impacts food consumption volume and budgeting. Finding the average household size helps build a complete economic picture of the typical organic food buyer.

The Formula

$$\bar{x} = \frac{\sum x_i}{n}$$

- $\bar{x}$: Average number of family members.
- x_i : The number of people in each respondent's household.
- n : Total number of consumers surveyed.

Average Monthly Expenditure on Groceries (Simple Arithmetic Mean)

Understanding baseline spending habits is crucial for an economic profile. You can calculate the average total amount a household spends on all groceries per month before drilling down into specific organic expenditures.

The Formula

$$\bar{x} = \frac{\sum x_i}{n}$$

- $\bar{x}$: Average monthly grocery expenditure.
- x_i : Total grocery expenditure reported by each individual consumer.
- n : Total number of consumers surveyed.

Education Level or Socio-Economic Status (SES) Score (Weighted Arithmetic Mean)

Often, researchers assign scores to categorical socio-economic data (e.g., High School = 1, Bachelor's = 2, Master's = 3) or combine education, occupation, and income into a single composite SES score. Since many respondents will share the same categorical score, a weighted mean is used to find the average status level.

The Formula

$$\bar{x}_w = \frac{\sum w_i x_i}{\sum w_i}$$

- $\bar{x}_w$: The average socio-economic or education score.
- x_i : The assigned numerical value of the category (e.g., 2 for a Bachelor's degree).
- w_i : The weight or frequency (number of consumers who fall into that specific category).

2. To analyse factors influencing consumer buying decisions for organic foods

- Likert Scale Format
- Use a standard 5-point scale like:
- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Interpretation Scale

Mean Score	Interpretation
4.1 - 5.0	Very High Influence
3.1 - 4.0	High Influence
2.1 - 3.0	Moderate
1.1 - 2.0	Low
1.0	Very Low

Calculation Methods

- Individual Score Calculation
- For each respondent:
- Total Score = Sum of all responses
- Example:
- If a respondent answers → 4, 5, 3, 4, 2...
- Total Score = 4 + 5 + 3 + 4 + 2 +...

Weighted Score (Optional Advanced Analysis)

Weighted Score = Σ (Frequency $\times$ Score) Example:

Response	Frequency	Score	Total
Strongly Agree	10	5	50
Agree	8	4	32
Neutral	5	3	15

Total = 50 + 32 + 15 = 97

Overall Mean = Total of all responses $\div$ (Number of respondents $\times$ Number of statements)

Calculation Methods

Individual Score Calculation

Description	Formula / Explanation
Total Score	Sum of all responses
Formula	Total Score = $Q1 + Q2 + Q3 + \dots + Qn$
Example Responses	4, 5, 3, 4, 2
Example Total Score	$4 + 5 + 3 + 4 + 2 = 18$

Mean Score Calculation

Description	Formula
Mean Score	Total Score $\div$ Number of Questions
Example	$18 \div 5 = 3.6$
Interpretation	Falls under High Influence

Weighted Score (Advanced Analysis)

Response	Frequency	Score	Total (Frequency $\times$ Score)
Strongly Agree	10	5	50
Agree	8	4	32
Neutral	5	3	15
Disagree	3	2	6
Strongly Disagree	2	1	2
Total	28		105

Conclusion

The analysis of the socio-economic profile of consumers purchasing organic food products in Warangal reveals that the majority of organic food buyers belong to educated, middle- and high-income groups, with greater awareness about health and environmental issues. Urban consumers, professionals, and younger age groups show a higher inclination toward organic products, indicating that income level, education, and lifestyle significantly influence purchasing behaviour. Further, the study of factors influencing consumer buying decisions shows that health

consciousness, concern for food safety, and preference for chemical-free products are the most dominant drivers. Environmental awareness and perceived product quality also positively affect consumer attitudes. However, factors such as high price, limited availability, and lack of trust in organic certification act as major constraints in purchase decisions. In conclusion, socio-economic characteristics play a crucial role in shaping awareness and accessibility, while psychological and product-related factors determine actual buying behaviour. Increasing affordability, improving availability, and building consumer trust are essential to expand the adoption of organic food products across a broader consumer base.

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