

## Consumer Awareness and Perception of Green Marketing in Urban and Rural India: A Sustainable Model

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### Abstract

The growing environmental crisis, characterized by climate change, pollution, biodiversity loss, and resource depletion, has intensified the need for sustainable consumption and responsible business practices. In this context, green marketing has emerged as an important strategic approach to promote environmentally friendly products and influence consumer behaviour. This study examines consumer awareness and perception of green marketing in urban and rural India and proposes a sustainable integrative model to explain adoption behaviour across diverse socio-economic contexts. Adopting a comparative analytical approach, the study identifies significant differences between urban and rural consumers in terms of awareness, attitudes, and purchasing behaviour. The findings indicate that urban consumers demonstrate higher environmental awareness, stronger ecological concern, and a greater willingness to pay for green products, primarily influenced by higher education, income levels, and digital exposure. In contrast, rural consumers exhibit moderate awareness and positive attitudes toward sustainability but are constrained by factors such as affordability, limited product availability, and restricted access to information. The study also reveals a persistent attitude-behaviour gap, wherein favourable perceptions of green products do not consistently translate into actual purchase decisions due to high costs, accessibility challenges, and concerns related to greenwashing. To address these issues, the study develops a multidimensional sustainable model integrating socio-economic, behavioural, technological, market, and policy factors. Furthermore, a fuzzy logic framework is incorporated to capture the uncertainty and complexity of consumer decision-making processes. The study contributes to the existing literature by providing a comprehensive framework for understanding green marketing adoption in India and offers practical implications for policymakers and marketers to design inclusive and sustainable strategies.

**Keywords:** Green marketing, Consumer awareness, Rural India, Urban India, Sustainable Model, Consumer perception

### 1. Introduction

The increasing severity of environmental challenges such as climate change, air and water pollution, biodiversity loss, and resource depletion has significantly influenced global production and consumption patterns. In response, businesses and policymakers are increasingly emphasizing sustainability-oriented strategies, among which green marketing has emerged as a critical approach. Green marketing refers to the promotion of products and services that are environmentally safe, resource-efficient, and socially responsible, thereby encouraging sustainable consumption behaviour

among consumers (Bhardwaj et al., 2023). It not only focuses on eco-friendly product attributes but also encompasses sustainable packaging, ethical advertising, and responsible supply chain practices. In the Indian context, the relevance of green marketing has grown rapidly due to heightened environmental awareness, government initiatives such as sustainability policies, and corporate social responsibility (CSR) practices. India's transition toward a greener economy is further supported by regulatory frameworks and global commitments to sustainable development goals (SDGs). However, the adoption of green products and practices varies considerably across different segments of society,

particularly between urban and rural populations (Darga, 2024).

Urban consumers in India are generally characterized by higher literacy levels, greater access to digital media, and increased exposure to global sustainability trends. These factors contribute to relatively higher awareness and acceptance of green products. Studies indicate that urban consumers are more likely to value eco-labels, organic certifications, and environmentally friendly packaging, and they often demonstrate a willingness to pay a premium for such products (Selvam & Sabitha, 2023). Moreover, rapid urbanization and rising disposable incomes have further strengthened the demand for sustainable consumption in metropolitan areas.

In contrast, rural consumers, who constitute a significant portion of India's population, exhibit different consumption patterns influenced by socio-economic constraints, traditional lifestyles, and limited access to information. While awareness of environmental issues is gradually increasing in rural areas, the adoption of green products remains relatively low due to factors such as affordability, accessibility, and lack of effective marketing communication (Celin & Francis, 2025). Rural markets are often price-sensitive, and consumers tend to prioritize basic needs over environmentally friendly alternatives, which are often perceived as expensive or non-essential. Despite these differences, recent trends suggest a growing convergence in consumer behavior, driven by improved connectivity, digital penetration, and government-led awareness campaigns. This evolving landscape presents significant opportunities for marketers to develop inclusive green marketing strategies that cater to both urban and rural consumers. However, a major challenge lies in addressing the "attitude-behavior gap," where consumers express positive attitudes toward sustainability but fail to translate these attitudes into actual purchasing decisions (Bhatia & Jain, 2014).

Given this context, there is a need for a comprehensive understanding of consumer awareness and perception of green marketing across diverse demographic segments in India. This

study aims to examine these aspects by comparing urban and rural consumers and identifying key determinants influencing their behavior. Furthermore, it proposes a sustainable integrative model that incorporates socio-economic, behavioral, technological, and policy-related factors to promote green consumption. Such an approach is essential for designing effective strategies that not only enhance market penetration of green products but also contribute to long-term environmental sustainability (Kokilapriya, 2025). Environmental degradation and unsustainable consumption patterns have become major global concerns, necessitating a shift toward environmentally responsible practices. Green marketing, defined as the promotion of products that are environmentally safe and sustainable, has gained prominence as a strategic response to these challenges (Bhardwaj et al., 2023). In India, increasing environmental awareness, regulatory initiatives, and corporate sustainability efforts have contributed to the growth of green marketing practices. However, the country's socio-economic diversity creates a significant divide between urban and rural consumers in terms of awareness, perception, and adoption of green products. Urban consumers generally have better access to information, higher education, and greater purchasing power, while rural consumers often face constraints related to affordability, accessibility, and awareness (Darga, 2024). Understanding these disparities is essential for designing inclusive and effective sustainable marketing strategies. This study aims to bridge this gap by analyzing consumer awareness and perception across urban and rural India and proposing a sustainable green marketing model.

## 2. Literature Review

### 2.1 Concept of Green Marketing

Green marketing refers to the strategic integration of environmental considerations into product development, promotion, pricing, and distribution processes to minimize ecological harm and promote sustainability. It encompasses practices such as eco-friendly product design, recyclable and biodegradable packaging, ethical advertising, and environmentally responsible supply chain

management (Bhatia & Jain, 2014). The primary objective of green marketing is not only to reduce environmental impact but also to enhance consumer trust, brand reputation, and long-term competitiveness.

In recent years, green marketing has evolved from a niche concept to a mainstream business strategy, driven by increasing environmental awareness and regulatory pressures. Empirical studies indicate that consumers are more likely to respond positively to brands that demonstrate genuine commitment to sustainability and transparency in their environmental claims (Bhardwaj et al., 2023). Authenticity plays a crucial role, as misleading or exaggerated claims—commonly referred to as greenwashing—can erode consumer trust and negatively impact brand equity. Furthermore, green marketing has the potential to influence consumer attitudes and purchasing behaviour by aligning environmental values with consumption patterns. As sustainability becomes a key determinant of consumer choice, organizations adopting credible green marketing practices can gain a competitive advantage while contributing to sustainable development (Bhatia & Jain, 2014; Bhardwaj et al., 2023).

## 2.2 Consumer Awareness of Green Marketing

Consumer awareness is a fundamental determinant in shaping the adoption of green products and sustainable consumption patterns. In the Indian context, awareness of green marketing has shown a gradual upward trend, particularly among urban consumers who benefit from higher education levels, digital exposure, and access to diversified information channels (Selvam & Sabitha, 2023). These consumers are more likely to recognize eco-labels, understand environmental claims, and associate green products with health and environmental benefits.

However, this awareness is not uniformly distributed across the country. Rural consumers often exhibit comparatively lower levels of awareness due to structural constraints such as limited literacy, inadequate digital infrastructure, and restricted access to formal communication channels (Celin & Francis, 2025). Additionally, the

lack of targeted promotional campaigns and localized marketing strategies further restricts the dissemination of green knowledge in rural areas. Despite these challenges, recent trends indicate a growing inclination among rural populations toward environmentally friendly practices, particularly when supported by government initiatives and community-based awareness programs. Therefore, bridging the awareness gap between urban and rural consumers is essential for fostering inclusive green marketing adoption and achieving sustainable development goals in India (Bhardwaj et al., 2023).

## 2.3 Consumer Perception and Behaviour

Consumer perception of green products in India is shaped by a complex interplay of environmental concern, perceived product quality, price sensitivity, and trust in sustainability claims. Empirical evidence suggests that consumers with higher environmental awareness are more likely to develop favourable attitudes toward eco-friendly products; however, such attitudes do not always translate into actual purchasing behaviour (Selvam & Sabitha, 2023). This discrepancy is particularly evident in developing economies like India, where affordability and accessibility significantly influence consumption decisions.

Price sensitivity remains a critical barrier, especially among rural consumers, who often prioritize cost over environmental benefits (Darga, 2024). Additionally, skepticism toward green claims and the prevalence of greenwashing reduce consumer trust, thereby limiting market adoption (Kokilapriya, 2025). Urban consumers, although more aware and receptive, also exhibit selective purchasing behaviour due to premium pricing and perceived lack of value differentiation.

This divergence between positive attitudes and actual behaviour is widely conceptualized as the “green attitude–behaviour gap,” which continues to challenge marketers and policymakers (Bhatia & Jain, 2014). Addressing this gap requires transparent communication, credible eco-labelling, and affordable pricing strategies to enhance consumer trust and encourage sustainable consumption practices across both urban and rural

segments. Consumer perception of green products is influenced by multiple factors, including environmental concern, perceived quality, price sensitivity, and trust. While consumers generally express positive attitudes toward eco-friendly products, actual purchase behaviour is often constrained by higher costs and skepticism regarding product claims (Kokilapriya, 2025). This gap between attitude and behaviour is widely recognized in green marketing literature and is commonly referred to as the “green attitude–behavior gap” (Bhatia & Jain, 2014).

## 2.4 Urban–Rural Differences

Urban consumers tend to exhibit higher environmental awareness, stronger pro-environmental attitudes, and greater adoption of green products due to better access to information and higher income levels (Darga, 2024). In contrast, rural consumers are more price-sensitive and rely on traditional consumption patterns. However, recent trends indicate increasing rural demand and gradual adoption of sustainable products, suggesting significant untapped potential in these markets (Celin & Francis, 2025).

The disparity between urban and rural consumers in India significantly influences the adoption of green marketing practices. Urban consumers generally demonstrate higher levels of environmental awareness, which can be attributed to better education, exposure to digital media, and access to sustainability-related information (Selvam & Sabitha, 2023). This awareness translates into stronger pro-environmental attitudes and a greater willingness to purchase eco-friendly products, even at premium prices (Darga, 2024). Additionally,

urban consumers are more influenced by branding, eco-labeling, and corporate social responsibility initiatives, which further enhance their perception of green products (Bhatia & Jain, 2014). In contrast, rural consumers tend to exhibit lower levels of awareness and are more price-sensitive due to limited income and accessibility constraints. Their consumption patterns are often shaped by traditional practices and immediate utility rather than environmental considerations (Celin & Francis, 2025). However, recent studies indicate a gradual shift in rural markets, driven by increased government initiatives, improved rural connectivity, and rising environmental consciousness. This transition suggests that rural consumers represent a growing segment with substantial potential for green marketing expansion. Therefore, tailored strategies focusing on affordability, awareness, and accessibility are essential to bridge the urban–rural divide and promote sustainable consumption across India (Kokilapriya, 2025).

## 3. Research Objectives

1. To examine consumer awareness of green marketing in urban and rural India
2. To analyze consumer perception and attitudes toward green products
3. To identify key determinants influencing green purchase behaviour
4. To develop a sustainable green marketing model for diverse consumer segments

**4. Research Methodology:** Flow-chart of the adapted methodology as follow.



**5. Results and Discussion**

**5.1 Consumer Awareness**

The findings of the study indicate a significant disparity in the level of consumer awareness of green marketing between urban and rural populations in India. Urban consumers demonstrate a relatively higher level of awareness regarding eco-friendly products, sustainability practices, and environmental issues. This can be attributed to higher educational attainment, increased access to digital platforms, and greater exposure to environmental campaigns through mass media and social networks. In contrast, rural consumers exhibit moderate to low awareness levels, primarily due to limited access to information, lower literacy rates, and inadequate dissemination of sustainability-related knowledge. These results are consistent with prior studies, which emphasize that education and information accessibility play a

critical role in shaping environmental awareness (Selvam & Sabitha, 2023).

**5.2 Consumer Perception**

Consumer perception toward green products varies significantly across urban and rural segments. Urban consumers generally perceive green products as superior in quality, environmentally responsible, and aligned with modern lifestyle values. They often associate such products with health benefits and ethical consumption, which positively influences their attitudes. Conversely, rural consumers tend to perceive green products as expensive and less essential compared to conventional alternatives. This perception is influenced by income constraints, limited product availability, and lack of awareness regarding long-term environmental and health benefits. As a result, rural consumers may prioritize price and utility over sustainability considerations. These findings align with Darga (2024), who reported that

perception gaps between urban and rural consumers are largely driven by socio-economic and informational differences.

### 5.3 Purchase Behaviour

Although both urban and rural consumers express positive attitudes toward environmental sustainability, this does not consistently translate into actual purchasing behaviour. The study identifies a persistent attitude-behaviour gap, where consumers acknowledge the importance of green products but fail to adopt them in practice. Several factors contribute to this gap. High prices of eco-friendly products act as a major deterrent, particularly for price-sensitive rural consumers. Additionally, limited availability and distribution challenges in rural markets restrict access to such products. Trust issues, including skepticism about environmental claims and concerns regarding greenwashing, further discourage consumers from making green purchases. These findings corroborate earlier research, which highlights that economic and psychological barriers significantly influence consumer behaviour in the context of green marketing (Kokilapriya, 2025; Bhatia & Jain, 2014).

### 5.4 Key Determinants

The study identifies several key determinants that influence green purchase behaviour across both urban and rural contexts. Environmental awareness emerges as a fundamental factor, as informed consumers are more likely to engage in sustainable consumption practices. Income and affordability also play a crucial role, particularly in rural areas where financial constraints limit the adoption of premium-priced green products. Education level significantly affects both awareness and perception, reinforcing the importance of knowledge dissemination. Furthermore, product accessibility

and availability are critical in determining purchase decisions, especially in geographically remote areas. Lastly, government policies and regulatory frameworks, including eco-labelling and incentives, are essential in promoting consumer trust and encouraging green consumption. These determinants collectively shape consumer behaviour and highlight the need for an integrated approach to sustainable marketing (Bhardwaj et al., 2023).

## 6. Proposed Sustainable Green Marketing Model

### 6.1 Model Components

#### 1. Socio-Economic Factors

Income, education, and occupation significantly influence consumer awareness and purchasing power.

#### 2. Behavioural Factors

Environmental concern, attitudes toward sustainability, and lifestyle choices shape consumer perception.

#### 3. Technological Factors

Digital platforms, e-commerce, and information accessibility enhance awareness and product availability.

#### 4. Policy and Institutional Support

Government regulations, eco-labelling, and incentives play a crucial role in promoting green consumption.

#### 5. Market Factors

Pricing strategies, distribution networks, and promotional activities determine product accessibility and acceptance.



The proposed model integrates multiple dimensions to provide a holistic understanding of green marketing adoption in India. It emphasizes the need for affordability, awareness, and accessibility, particularly in rural markets. While urban strategies should focus on innovation and transparency, rural strategies must prioritize cost-effectiveness and localized communication.

### 6.2 Fuzzy Approach

Green marketing adoption involves subjective human perceptions such as awareness, attitudes, affordability, and trust, which are inherently imprecise and uncertain. Traditional statistical models often fail to capture this ambiguity. Therefore, the application of fuzzy logic theory provides a robust framework to model such vagueness by converting qualitative judgments into quantitative outputs (Zadeh, 1965). In this study, a multi-input fuzzy inference system (FIS) is developed to evaluate the level of green marketing adoption based on five major components: socio-economic, behavioural, technological, policy, and market factors.

### 6.3 Structure of the Fuzzy Model

#### 6.3.1 Input Variables (Fuzzy Sets)

Each component is treated as a fuzzy input variable with three linguistic levels: Low (L), Medium (M), High (H).

#### (A) Socio-Economic Factors (SEF)

- Income
- Education
- Occupation

Fuzzy sets: Low, Medium, High

#### (B) Behavioural Factors (BF)

- Environmental concern
- Attitude toward sustainability
- Lifestyle

Fuzzy sets: Low, Medium, High

#### (C) Technological Factors (TF)

- Digital access
- E-commerce usage

- Information availability

Fuzzy sets: Low, Medium, High

**(D) Policy and Institutional Support (PIS)**

- Government regulations
- Eco-labeling awareness
- Incentives

Fuzzy sets: Weak, Moderate, Strong

**(E) Market Factors (MF)**

- Price affordability
- Distribution
- Promotion

Fuzzy sets: Poor, Average, Good

**6.4 Output Variable**

**Green Marketing Adoption Level (GMAL)**

Fuzzy output levels:

- Very Low
- Low
- Moderate
- High
- Very High

**6.5 Membership Functions**

Triangular or trapezoidal membership functions are used due to their simplicity and interpretability. For example:

- Income (SEF):
  - Low (0–3), Medium (2–7), High (6–10)
- Environmental Concern (BF):
  - Low (0–3), Medium (3–6), High (6–10)

This approach allows overlapping boundaries, reflecting real-world uncertainty (Ross, 2010).

**6.6 Fuzzy Rule Base**

A set of IF–THEN rules is constructed to model decision-making behaviour:

**Sample Rules**

1. IF SEF is High AND BF is High AND TF is High AND MF is Good  
THEN GMAL is Very High
2. IF SEF is Low AND MF is Poor  
THEN GMAL is Low
3. IF BF is High AND PIS is Strong  
THEN GMAL is High
4. IF TF is Low AND Awareness is Low  
THEN GMAL is Very Low
5. IF SEF is Medium AND MF is Average AND PIS is Moderate  
THEN GMAL is Moderate

These rules capture both urban scenarios (high SEF, TF) and rural scenarios (low SEF, MF constraints).

**6.7 Fuzzy Inference Mechanism**

The model uses the Mamdani Fuzzy Inference System, which involves:

1. Fuzzification – Converting crisp inputs into fuzzy values
2. Rule Evaluation – Applying fuzzy operators (AND/OR)
3. Aggregation – Combining rule outputs
4. Defuzzification – Converting fuzzy output into a crisp score

The centroid method is used for defuzzification to obtain the final adoption score (Mamdani, 1975).

**6.8 Model Interpretation in Urban–Rural Context**

**Urban Scenario**

- High SEF + High TF + Strong PIS  
→ High to Very High adoption

Urban consumers benefit from better infrastructure, awareness, and affordability, leading to stronger green product adoption.

## Rural Scenario

- Low SEF + Poor MF + Moderate BF

→ Low to Moderate adoption

Despite positive attitudes, limited affordability and access reduce adoption levels.

## 6.9 Model Implications

The fuzzy-based sustainable model demonstrates that green marketing adoption is not a binary phenomenon but rather exists along a continuum shaped by the dynamic interaction of socio-economic, behavioural, technological, policy, and market factors. This has several important implications for stakeholders. From a policy perspective, strengthening institutional frameworks, including eco-labeling standards, subsidies, and awareness campaigns, can significantly enhance adoption even among low-income and rural populations. In terms of market strategy, reducing product prices and improving distribution networks are essential to increase accessibility and acceptance in price-sensitive rural markets. Technological advancements, particularly digital platforms and e-commerce, play a crucial role in disseminating information and bridging the awareness gap. Furthermore, behavioural factors, especially environmental concern and pro-sustainability attitudes, act as key drivers influencing consumer decisions across both urban and rural segments, thereby reinforcing the need for integrated and inclusive green marketing strategies.

This study examined consumer awareness and perception of green marketing in urban and rural India and proposed a sustainable integrative model supported by a fuzzy logic framework. The findings reveal a clear urban–rural divide in awareness, attitudes, and purchasing behaviour toward green products. Urban consumers demonstrate higher levels of awareness, environmental concern, and willingness to pay for eco-friendly products due to better education, higher income, and greater digital exposure (Selvam & Sabitha, 2023; Darga, 2024). In contrast, rural consumers, although increasingly aware, remain constrained by affordability, limited accessibility, and inadequate information, which

restricts the adoption of green products (Celin & Francis, 2025).

A key insight of the study is the persistence of the attitude–behaviour gap across both segments. While consumers generally express positive attitudes toward sustainability, actual purchasing behaviour is influenced by economic and structural barriers such as high product prices, lack of trust in green claims, and limited availability (Bhatia & Jain, 2014; Kokilapriya, 2025). This highlights the need for a more inclusive and practical approach to green marketing that goes beyond awareness creation. The proposed sustainable model integrates socio-economic, behavioural, technological, market, and policy dimensions to provide a comprehensive understanding of green consumption patterns in India. The incorporation of a fuzzy logic framework further enhances the model by capturing the uncertainty and subjectivity inherent in consumer decision-making (Zadeh, 1965; Mamdani, 1975). The model demonstrates that green marketing adoption is a dynamic and multidimensional process influenced by the interaction of multiple factors rather than a single determinant. Overall, the study underscores that achieving sustainable consumption in India requires coordinated efforts focusing on affordability, accessibility, awareness, and regulatory support. Policymakers and marketers must adopt differentiated strategies tailored to urban and rural contexts to bridge the existing gap. The findings contribute to the growing body of literature on sustainable marketing and provide a practical framework for promoting inclusive green consumption in emerging economies.

## 7. Scope and Future recommendation

The study highlights several important policy implications for promoting sustainable consumption and strengthening green marketing practices in India. First, there is a need to enhance environmental education and awareness programs, particularly in rural areas. Integrating sustainability concepts into school curricula and community-based campaigns can significantly improve consumer understanding and acceptance of green products (Selvam & Sabitha, 2023). Second, policymakers and businesses should focus on

promoting affordable pricing strategies to make green products accessible to a wider population. Subsidies, tax incentives, and cost-reduction mechanisms can help bridge the affordability gap, especially in rural markets (Darga, 2024). Third, strengthening regulatory frameworks is essential to prevent greenwashing and build consumer trust. Clear guidelines, certification standards, and monitoring mechanisms can ensure the authenticity of green claims and enhance market credibility (Bhardwaj et al., 2023). Additionally, expanding digital infrastructure in rural areas can improve access to information and facilitate the promotion of green products through e-commerce platforms. Digital literacy programs can further empower rural consumers to make informed purchasing decisions (Celin & Francis, 2025). Finally, encouraging public-private partnerships can accelerate the adoption of sustainable practices by combining government support with private sector innovation. Collaborative efforts can enhance product distribution, awareness campaigns, and technological integration, thereby promoting inclusive and sustainable market growth (Kokilapriya, 2025).

## 8. Conclusion

Green marketing in India is evolving, with distinct differences between urban and rural consumer segments. Urban consumers exhibit higher awareness and adoption levels, while rural consumers present a growing but underdeveloped market. Bridging this gap requires integrated efforts focusing on education, affordability, accessibility, and policy support. The proposed sustainable model offers a comprehensive framework for marketers and policymakers to promote inclusive and effective green marketing

strategies. The fuzzy logic-based sustainable model provides a comprehensive and flexible framework for analysing green marketing adoption in India. It effectively captures the uncertainty and heterogeneity of consumer behaviour across urban and rural contexts. The model emphasizes that improving affordability, accessibility, and awareness simultaneously is essential for achieving sustainable consumption.

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