



A STUDY ON CONSUMERS' SATISFACTION TOWARDS AGRO SUSTAINABLE PRODUCTS IN CHENGALPATTU DISTRICT

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Abstract:

This study examines consumer satisfaction with agro-sustainable products in the Chengalpattu District of Tamil Nadu through a descriptive cross-sectional survey involving 100 participants. The results indicate a moderate to high level of satisfaction, primarily influenced by consumers' perceptions of product safety, health advantages, and intentions to repurchase. Chi-square analysis reveals significant differences based on income, with higher-income consumers exhibiting greater satisfaction compared to lower-income groups. Key challenges identified include price sensitivity, transparency in product labelling, and trust in certification processes. Although government programs and community initiatives offer substantial support for the market, enhanced communication strategies are necessary to maximize their effectiveness. By addressing a previously unexplored district-level gap in understanding the factors influencing consumer satisfaction, this study provides practical recommendations for farmers, marketers, and policymakers aimed at promoting sustainable consumption and aligning local agricultural value chains with Sustainable Development Goals 2, 12, and 13.

Keywords: Agro, sustainable products, consumer satisfaction, income groups, Chengalpattu, consumers, Development.

Introduction:

Consumers are increasingly linking agro-sustainable products—such as organically grown fruits and vegetables, naturally cultivated grains, and chemical-free pulses—with safer dietary choices, environmental conservation, and ethical production practices. These products are thus regarded as pivotal in advancing more sustainable food systems (Coherent Market Insights, 2025; Agricultural Economics, 2018). Concurrently, governments and development organizations advocate for sustainable and climate-smart agricultural practices as strategic responses to challenges including soil degradation, water scarcity, and rural vulnerability. This advocacy directly connects agro-sustainable products to the achievement of Sustainable Development Goals (SDGs) related to food security, responsible consumption, and climate action (Farmland LP, 2024; IWMI, 2017).

Consumer perception of food quality and safety plays a central role in shaping demand for agro sustainable products (Grunert, 2005). Within this comprehensive framework, the present chapter specifically examines consumer satisfaction with agro-sustainable products in the Chengalpattu District of Tamil Nadu. The investigation focuses on three interrelated dimensions: (A) product attributes of agro-sustainable products, (B) consumer perceptions and satisfaction, and (C) market and contextual support factors within Chengalpattu. Prior research highlights that attributes such as freshness, taste, nutritional value, perceived safety (notably residue-free status), price fairness, availability, and authenticity (including labeling and certification)

significantly influence consumer attitudes toward organic and sustainable foods (IJRCS, 2019; IJRPR, n.d.). Similarly, consumer perceptions and satisfaction have been shown to be shaped by perceived health benefits, environmental concerns, and value for money, which frequently foster greater loyalty and intentions to repurchase (Zenodo, 2024; Inderscience, 2023). Consumers who prefer organic and sustainable products are typically driven by health concerns, environmental awareness, and ethical considerations (Hughner et al., 2007).

Nonetheless, there remains a relative paucity of research exploring how these product-level and perception-level factors interact with local market and institutional conditions—such as accessibility through local retail outlets, visibility in farmers' markets, government support schemes, and prevailing community norms—particularly in semi-urban districts like Chengalpattu (Chengalpattu District Agriculture Department, n.d.; CreateTrust, 2024). Accordingly, this chapter situates its analysis at the nexus of consumer satisfaction and district-level sustainable agriculture promotion. Consumer satisfaction significantly influences purchase intention and repeat buying behaviour in the context of organic food products (Paul & Rana, 2012).

From a theoretical perspective, much of the extant literature on organic and sustainable food consumption in India employs satisfaction theory and behavioral frameworks such as the Theory of Planned Behaviour. However, these models are often applied at metropolitan or national scales without adequately addressing the district-specific dynamics among product attributes, consumer perceptions, and institutional support mechanisms (International Journal of Economic Sciences and Applied Research, 2013; Agricultural Economics, 2018). Growing concerns regarding food security and environmental degradation have prompted increased attention toward sustainable agriculture, characterized by its commitment to social responsibility, economic feasibility, and environmental stewardship (Chauhan, 2024). Experimental economics has been employed to investigate consumer preferences for sustainable food and agricultural products. The 41 studies incorporated in this review were chosen based on predefined criteria following the systematic review methodology outlined by Cecchini et al. (2018). Empirical evidence suggests that satisfaction with sustainable products is strongly linked to perceived value, product quality, and trust, which collectively influence consumer decision making (Lakatos et al., 2021).

This chapter endeavours to make both theoretical and practical contributions to the body of knowledge on sustainable consumption and agri-food systems. Firstly, it advances theoretical understanding by integrating satisfaction theory with sustainability perspectives within a district-level framework that connects product attributes, consumer perceptions and satisfaction, and market or contextual support (Agricultural Economics, 2018; Farmland LP, 2024). Secondly, it applies this framework to elucidate how environmental, economic, and social value propositions inherent in agro-sustainable products are perceived and assessed by end users in Chengalpattu (International Journal of Economic Sciences and Applied Research, 2013; IWMI, 2017). Thirdly, from a practical standpoint, the study aims to generate evidence-based recommendations for farmers, farmer-producer organizations, retailers, and policymakers to enhance consumer satisfaction through improvements in product quality, pricing, communication, and distribution (Chengalpattu District Agriculture Department, n.d.; CreateTrust, 2024). Collectively, the study seeks to offer a nuanced understanding of consumer satisfaction with agro-sustainable products, thereby informing the development of more resilient, inclusive, and Sustainable Development Goals (SDG)-aligned agri-food strategies at the district level. Environmental concern is a key predictor of consumer intention to purchase green and sustainable products, particularly in developing economies (Yadav & Pathak, 2016).

Review of Literature:

Karaman et al. (2013): This study investigates the expectations and satisfaction levels of consumers who are members of the Organic Agriculture Farm situated in the village of Kinik, Pazaryeri, Bilecik, and who opt to purchase organic fruits and vegetables via a direct marketing (subscription) system. To achieve this objective, a questionnaire survey was administered to 110 consumers. A 5-point Likert scale was employed to assess the consumers' satisfaction levels. The findings revealed that 52.8% of the consumers choose organic fruits and vegetables primarily due to concerns for their health.

Chauhan (2024): This study employs a mixed methods design to comprehensively examine various dimensions of consumer perceptions regarding sustainable agricultural products, grounded in a thorough review of existing literature. Qualitative interviews are conducted to elucidate the motivations, barriers, and decision-making processes that shape consumer purchasing behaviours. Concurrently, quantitative surveys assess the extent to which pro-sustainability attitudes are prevalent among consumers. This integrated approach aims to inform strategies for enhancing the adoption of sustainable agricultural practices.

Wang et al. (2024): conducted a study that combined expectation-disconfirmation theory with the SERVQUAL model, demonstrating that live-streaming platforms exert the most significant direct impact on customer satisfaction. In contrast, the commodity factor exhibited the greatest indirect and overall influence. The findings further identified live-streaming as a sustainable marketing communication medium, wherein content creators assume pivotal roles in shaping consumer purchasing behaviour.

Lakatos et al. (2021): According to Lakatos et al.'s (2021) analysis of consumer satisfaction with green products, perceived quality, value for money, and environmental advantages all have a major impact on satisfaction levels. In a similar vein, Wang et al. (2024) found that, when it comes to green agricultural products, communication methods and product-related characteristics both influence total customer satisfaction.

Research Gap:

A significant gap remains in empirical research concerning consumer satisfaction with agro-sustainable products in peri-urban districts such as Chengalpattu. In these areas, policy-driven sustainable farming practices coexist alongside traditional agricultural methods (Zenodo, 2024; IJRAR, n.d.); however, inconsistencies emerge in consumer perceptions of product authenticity, influenced by fluctuating prices and limited transparency in certification processes. These issues raise critical questions about the scalability of green initiatives in the absence of localized empirical evidence. Existing studies frequently aggregate data across urban and rural contexts or concentrate on metropolitan centres like Chennai, thereby neglecting the influence of district-specific market dynamics on consumer satisfaction. In particular, the interaction between product attributes and institutional support has often been examined separately rather than as components of an integrated system (Sathyabama University, n.d.; Inderscience, 2023). This unresolved tension—between the increasing policy focus on sustainable agriculture and the paucity of consumer-centred validation—underscores the necessity for focused research to address ongoing debates regarding whether perceived benefits surpass the barriers faced in transitional peri-urban regions.

Statement of the Problem:

There is an increasing interest among policymakers and consumers in agro-sustainable products within the Chengalpattu district; however, it remains uncertain whether these products fulfill consumer expectations. Despite the expansion of organic and natural farming initiatives that have enhanced the local availability of such products, empirical data regarding consumer awareness, satisfaction levels, and the primary determinants of satisfaction—such as quality, price, availability, trust, and perceived health and environmental benefits—are scarce. This gap in systematic knowledge limits the ability of farmers, marketers, and planners to effectively promote agro-sustainable products and to align local agricultural value chains with pertinent Sustainable Development Goals. Consequently, the principal issue addressed in this study is the lack of comprehensive, district-specific evidence concerning consumer satisfaction with agro-sustainable products in Chengalpattu and the factors influencing it.

Objectives of the Study:

1. To evaluate the degree of consumer satisfaction regarding agro-sustainable products in Chengalpattu.
2. To identify the product attribute factors that impact consumer satisfaction.
3. To analyse the influence of market support factors on consumer satisfaction.

Hypothesis of the Study:

H_0 : There is no significant difference in consumer satisfaction levels between high-income and low-income groups in Chengalpattu District.

H_1 : High-income consumers report significantly higher satisfaction with agro sustainable products than low-income consumers.

Research Methodology:

This research utilizes a descriptive cross-sectional survey methodology to evaluate consumer satisfaction regarding agro-sustainable products within the Chengalpattu District. Primary data were gathered from a sample of 100 consumers through a structured online questionnaire comprising scaled items designed to measure product attributes, satisfaction levels, and market support factors. The data analysis involved the application of descriptive statistics, Chi-square tests, and independent samples t-tests, conducted using SPSS software. This methodological approach aims to fill an existing research gap by offering empirical evidence specific to the district, thereby contributing to the development of agricultural strategies aligned with the Sustainable Development Goals (SDGs).

Data Analysis and Interpretation:

Table 1

Key Attributes and Market Factors of Agro Sustainable Products

Indicator / Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Overall Satisfaction with quality	1	6	38	31	24	100
Safety expectations met	1	6	31	48	14	100
Health benefits	0	6	36	48	10	100
Repurchase likelihood	0	6	40	44	10	100
Recommendation	0	8	29	44	19	100
Price reasonableness	1	5	25	51	18	100
Label trust	0	7	32	43	18	100
Availability	1	9	33	41	16	100
Freshness satisfaction	0	8	34	42	16	100
Value for money	1	8	38	43	10	100
Superior taste	0	8	28	53	11	100
Appealing appearance/packaging	1	4	36	42	17	100
No chemical residues	0	5	31	47	17	100
Clear labelling/certification	0	4	36	52	8	100
Long shelf life	0	4	25	54	17	100
Product variety	1	7	37	39	16	100
Superior nutrition	3	6	34	39	18	100
Eco-friendly production	0	8	40	40	12	100
Price quality justification	0	5	31	48	16	100
Local production	1	5	26	51	17	100
Retail availability	1	6	27	48	18	100
Government Support	1	2	25	59	13	100
Information Access	1	5	28	48	18	100
Retailer service	0	7	24	58	11	100

Community initiatives	0	9	38	36	17	100
Social influence	0	7	30	47	16	100
Certification Trust	0	12	28	46	14	100
Price stability	0	8	31	43	18	100
Purchase convenience	0	6	39	41	14	100
Improved promotion	0	6	35	46	13	100

Source: Primary Data, computed by the researcher

Interpretation

Table 1 illustrates the distribution of consumer perceptions regarding key attributes and market factors of agro-sustainable products in the Chengalpattu district. These dimensions are consistent with prior research which identifies quality perception, environmental concern, and behavioural intention as key determinants of sustainable product adoption (Grunert, 2005; Yadav & Pathak, 2016; Paul & Rana, 2012). The findings suggest a predominantly positive viewpoint, as most respondents fall into the agree and strongly agree categories for the majority of variables. Notably, expectations related to safety and health benefits stand out as significant factors contributing to satisfaction, with 62 percent and 58 percent of participants expressing agreement, respectively. Furthermore, behavioral metrics such as intentions to repurchase and recommendations reveal strong affirmative responses at 54 percent and 63 percent, showcasing a propensity for ongoing use and favorable word of mouth. Attributes associated with the product, including excellent taste, freshness, and lack of chemical residues, consistently achieve high agreement levels, underscoring the significance of intrinsic quality factors. Price-related factors, however, point to a cautious attitude. Although 69% of respondents concur that costs are reasonable, a sizable portion are indifferent, particularly when it comes to value for money, where 38% of respondents are undecided. This implies that while consumers are aware of the advantages of the product, they are not entirely persuaded of its cost-effectiveness. This risk is further highlighted by variables relating to trust. Label trust and certification credibility exhibit significant neutrality together with moderate agreement levels, suggesting some concern about the validity of the product. In contrast to community initiatives and social influence, market support variables like government actions and retailer service garner substantially stronger agreement. Overall, the findings suggest that consumer satisfaction is primarily driven by perceived safety, health benefits, and product quality, while price sensitivity and trust deficits act as key limiting factors.

Table 2

T-Test Results (N=100)

Group	N	Mean Satisfaction	Standard Deviation	t-statistic	p-value
High Income	40	3.92	0.62	2.84	0.005
Low Income	60	3.68	0.71		

Source: Primary data, analysis using SPSS

Interpretation

The results of the independent samples t test comparing the satisfaction levels of high and low income groups are shown in Table 2. High-income consumers have a mean satisfaction score of 3.92, which is greater than the low-income consumers' mean score of 3.68. This difference is statistically significant at the one percent level, according to the computed t value of 2.84 and the p value of 0.005. This result demonstrates that customer pleasure is correlated with income level, with higher income groups showing comparatively higher levels of satisfaction with agro-sustainable products.

Table 3

Chi-square Test of Independence between Income Group and Satisfaction Level (N=100)

Test Statistic	Value	Degrees of Freedom	p-value	Significance
Pearson Chi-Square	12.453	2	0.002	0.01
Likelihood Ratio	12.715	2	0.002	0.01
Linear-by-Linear Association	7.126	1	0.008	0.01
Number of Valid Cases	100			

Source: Primary data, analysis using SPSS

Interpretation

The findings of the chi square test of independence, which looked at the connection between satisfaction level and income group, are shown in Table 3. A statistically significant relationship between the two variables is indicated by the Pearson chi square value of 12.453 and the p value of 0.002. This outcome is further supported by the likelihood ratio and linear by linear association tests, which validate consistency across test measures. The null hypothesis that there is no link is rejected since the p value is less than the conventional significance level. This proves that customer satisfaction levels do not happen on their own and are strongly correlated with income group.

Table 4

Contingency Table for Consumer Satisfaction Level by Income Group (N=100)

Satisfaction Level	Low Income (N=60)	High Income (N=40)	Total (N=100)
High (≥ 4.0)	12 (20.0%)	18 (45.0%)	30 (30.0%)
Moderate (3.5-3.99)	28 (46.7%)	16 (40.0%)	44 (44.0%)
Low (<3.5)	20 (33.3%)	6 (15.0%)	26 (26.0%)
Total	60 (60.0%)	40 (40.0%)	100 (100.0%)

Source: Primary data, analysis using SPSS

Interpretation

A thorough distribution of satisfaction ratings by income group is shown in Table 4, which sheds more light on the observed link. Just 20% of low-income consumers indicate high satisfaction, compared to 45% of high-income consumers. In comparison, just 15% of respondents with high incomes indicate low satisfaction, compared to 33.3% of respondents with low incomes. Although slightly higher among low-income consumers, moderate satisfaction levels are comparable for both groups. This distribution makes it evident that consumers with higher incomes are more likely to be satisfied, while those with lower incomes are more likely to fall into the moderate and poor satisfaction categories. The findings reinforce the role of economic capacity in shaping consumer evaluation and highlight affordability as a critical determinant of satisfaction in the context of agro sustainable products.

Results:

The observed p-value of 0.002, which falls below the conventional significance level of 0.05, indicates a statistically significant relationship between consumer satisfaction categories and income groups within the survey data. This suggests that respondents' satisfaction levels vary systematically according to their income classification, rather than occurring by random chance. The degrees of freedom ($df = 2$) correspond to the number of satisfaction categories minus one and/or the number of groups analyzed. Given that the calculated chi-square statistic surpasses the critical value for $df = 2$ at the 0.05 significance threshold, the null hypothesis of independence is rejected. Consequently, there exists a significant difference in satisfaction levels across different income groups.

Findings:

- Consumers with higher income levels in Chengalpattu exhibit substantially greater satisfaction with agro-sustainable products compared to their lower-income counterparts. This indicates disparity that affordability and economic capacity play a critical role in shaping consumer satisfaction.
- Conversely, safety expectations and perceived health benefits emerge as the most influential determinants of overall product satisfaction.
- Additionally, perceptions of price reasonableness and the justification of price relative to quality moderately affect consumer satisfaction, highlighting a balance between sensitivity to affordability and quality considerations.
- The presence of labelling clarity and certification reflects consumer skepticism or a lack of confidence in the authenticity of the product, highlighting the necessity for enhanced transparency.
- The higher satisfaction observed among consumers aligns with prior studies which emphasize the role of perceived quality and value in shaping consumer satisfaction toward green products (Lakatos et al., 2021).

Recommendations:

To advance sustainable consumption and align local agricultural value chains with Sustainable Development Goals (SDGs) 2, 12, and 13, it is imperative for farmers to emphasize visible safety assurances, such as residue-free certifications, alongside ensuring product freshness through improved post-harvest handling practices and the promotion of local branding that underscores the Chengalpattu origin. Marketers should implement tiered pricing strategies and value bundles to enhance the affordability of agro-sustainable products for low-income consumers, while maintaining premium options for higher-income groups. Additionally, increasing transparency through clear labeling and the integration of QR codes that provide detailed information about farming practices and processing methods is essential. The introduction of loyalty programs can further encourage repeat purchases by converting moderate consumer satisfaction into sustained engagement. Policymakers have a critical role in reinforcing and standardizing certification frameworks, offering targeted subsidies or incentives to vulnerable populations, and expanding community-based initiatives through Self-Help Groups (SHGs) and Farmer Producer Organizations (FPOs) to foster deeper local participation. Collectively, these interventions can enhance trust, accessibility, and perceived value, thereby elevating consumer satisfaction and promoting the consistent utilization of agro-sustainable products within the district.

Conclusion:

This study offers significant insights into consumer satisfaction regarding agro-sustainable products in the Chengalpattu district. The findings indicate that consumers generally exhibit favourable perceptions of the quality, safety, and health benefits associated with these products, which in turn fosters a propensity to repurchase and recommend them. Furthermore, consumer education emerges as a critical factor in advancing sustainable agricultural consumption. The results also identify challenges related to affordability and trust, emphasizing the necessity for transparent certification processes, tiered pricing mechanisms, and improved communication strategies. Such measures are essential to enhance the adoption of sustainable consumption practices and to align local agricultural value chains with the objectives of Sustainable Development Goals 2, 12, and 13.

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