

Consumer Buying Behavior and Perceived Value of Locally Produced Vegetables in San Antonio, Nueva Ecija

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Abstract

This study evaluated consumer preferences, perceived value, and buying behavior toward locally produced vegetables in San Antonio, Nueva Ecija. It was guided by the view that consumer behavior is shaped by demographic characteristics, purchasing determinants, perceived product value, and market conditions, with the determinants examined through a SWOT perspective. The study used a descriptive research design and gathered data through a researcher-developed survey questionnaire and an interview guide. Respondents included 100 adult consumers who regularly purchased vegetables for household use, along with selected local vegetable producers and sellers who provided contextual insights on supply, pricing, quality, and demand. Quantitative data were analyzed using frequency, percentage, weighted mean, ranking, and descriptive analysis, while qualitative responses were interpreted thematically. Findings showed that consumers generally preferred locally produced vegetables because of freshness, quality, food safety, taste, health benefits, and support for local farmers. They also associated local vegetable purchasing with contribution to the local economy, environmental sustainability, and community welfare. However, seasonal shortages, inconsistent supply, limited availability, price fluctuations, market distance, and seller inconsistency remained challenges. The study concluded that favorable attitudes and high perceived value sustain consumer demand despite existing market constraints. It recommended that farmers and sellers maintain freshness, quality, food safety, and proper handling, while local government units and agricultural offices strengthen market support, supply chain efficiency, availability, and promotional initiatives. The study supports SDG 2, SDG 8, SDG 11, and SDG 12 through its focus on sustainable agriculture, local livelihood, community-based food systems, and responsible consumption. Its sustainability impact lies in promoting agricultural resilience, rural economic support, environmental responsibility, and stronger local food systems.

Keywords: Buying Behavior; Consumer Preferences; Local Food Systems; Locally Produced Vegetables; Market Challenges; Market Responsiveness; Perceived Value; San Antonio, Nueva Ecija; Sustainable Agriculture; SWOT Perspective

1. Introduction

Local food systems have become increasingly important in discussions of sustainable agriculture, food security, consumer welfare, and rural economic resilience. Consumers are becoming more attentive to freshness, safety, affordability, environmental impact, and support for local farmers, making buying behavior for vegetables a relevant area of inquiry. In the Philippine setting, and particularly in agricultural municipalities such as San Antonio, Nueva Ecija, understanding consumer preferences for locally produced vegetables is necessary to improve market responsiveness, strengthen farmer–consumer linkages, and support more sustainable local food systems. Feldmann and Hamm (2015) emphasized the appeal of local produce in terms of freshness and safety, while Montefrio (2020) and Reyes and Domingo (2022) showed that Filipino consumers also value affordability, proximity, and trust in producers. Martinez et al. (2010) further noted that efficient local food systems enhance economic resilience and reduce postharvest losses.

The growing preference for local agricultural goods reflects changing consumer priorities related to food quality, environmental responsibility, and community welfare. Locally produced vegetables are often perceived as fresher, safer, and more desirable than imported or commercially distributed alternatives, making them central to household purchasing decisions and local market demand. In the Philippines, where agriculture remains a major source of livelihood and food provision, these preferences are especially significant in rural provinces such as Nueva Ecija. However, despite the province's agricultural strength, limited research has specifically examined how consumers in San Antonio evaluate and purchase locally produced vegetables. This is a critical concern because consumer choices directly affect market demand,

farmer income, pricing strategies, and the efficiency of local supply chains (Feldmann and Hamm (2015); Montefrio (2020); Reyes and Domingo (2022); Martinez et al. (2010)).

Related literature consistently shows that consumer buying behavior for vegetables is influenced by both product-related and market-related factors. Freshness, quality, appearance, taste, and food safety remain among the most influential attributes in determining preference for local produce. Consumers also consider the buying experience itself, including service efficiency, cleanliness, responsiveness, and seller credibility. Feldmann and Hamm (2015) established that local vegetables are often perceived as fresher and safer than imported alternatives, while Adams and Salois (2019) emphasized freshness as a core indicator of quality and nutritional value. Cruz (2018) underscored the importance of service efficiency in building trust and loyalty, and Santos and De Leon (2024) reinforced the value of consumer profiling and product acceptability analysis in food-related market studies. The literature also identifies price sensitivity, trust, and perceived value as central to consumer choice. Clearfield and O'Rourke (2020) observed that consumers with limited disposable income often prioritize value for money, even when they prefer local produce. Thompson and Bristow (2019) found that support for local farmers and community welfare increases perceived value, while Montefrio (2020) noted that Filipino consumers often associate local vegetables with safety, freshness, and compatibility with traditional cooking practices. Nilsson (2019) further highlighted the importance of trust in producers and vendors, especially in markets where formal certification is limited. Beyond consumer perception, the literature situates local vegetable purchasing within broader questions of sustainability and agricultural resilience. Fronda (2024) emphasized that sustainable farming depends on timely and fair financial support systems, while Balaria et al. (2021) and Jacoba (2024) showed that environmental responsibility and resource efficiency are essential to sustainable food systems. Martinez et al. (2018) identified irregular supply, limited distribution channels, and inconsistent quality as barriers to local food access, while Jones and Hill (2020) and Dizon and Corpuz (2022) stressed that strong local food systems improve ecological sustainability, reduce waste, and support rural economic resilience.

At the global level, demand for local food has been linked to sustainability, shorter supply chains, and stronger producer-consumer relationships. Nationally, the Philippine agricultural sector remains a vital source of livelihood and economic stability, especially in rural communities where public markets and community stalls remain central to household food purchasing. Within Nueva Ecija, locally produced vegetables are embedded in an agricultural economy shaped by production conditions, labor realities, market structures, and innovation pressures. Studies conducted within Nueva Ecija strengthen the contextual relevance of the present inquiry. Fronda (2022) showed that vegetable production in Nueva Ecija is closely influenced by supply chain conditions, input requirements, and labor-related costs. Domingo (2023) found that local farmers face structural constraints such as rising input costs, labor shortages, trader dependence, and storage pressures, all of which affect the competitiveness of agricultural products. Pascual et al. (2018) emphasized the importance of sustainable agricultural innovations such as hydroponics and vertical farming, while Santos and De Leon (2024) demonstrated the usefulness of consumer profiling and acceptance analysis in understanding patronage for local food products. Taken together, these studies indicate that consumer buying behavior in San Antonio must be understood within interconnected local, national, and global food system realities.

The study is grounded in the view that consumer behavior is shaped by demographic characteristics, perceived product value, and market conditions. Its conceptual basis assumes that consumer decision-making is influenced by three major domains: demographic profile, determinants of purchasing decisions, and perceived value of locally produced vegetables. The determinants of purchasing decisions are examined through a SWOT perspective, encompassing strengths such as freshness, quality, taste, and safety; weaknesses such as price sensitivity, limited supply, and inconsistency; opportunities such as support for farmers, sustainability, and community value; and threats such as imported competition, seasonality, and market instability. These factors are assumed to shape the perceived value of locally produced vegetables in terms of price competitiveness, environmental sustainability, and support for local farmers and community welfare. In turn, perceived value influences actual buying behavior, reflected in purchase frequency, preferred buying location, quantity purchased, and preference for local versus imported vegetables. This conceptual flow provides the analytical structure for examining how consumers in San Antonio evaluate and choose locally produced vegetables.

Although the literature provides substantial discussion on vegetable purchasing behavior, important contextual gaps remain. Much of the existing research focuses on urban centers, regional markets, or broad food system trends, with limited attention given to rural municipalities such as San Antonio, Nueva Ecija. There is also insufficient empirical evidence on how consumers within a specific agricultural community perceive the value of vegetables grown in their own locality and how local producers and sellers can adapt their strategies to meet these preferences more effectively. This gap is significant because, without localized evidence, producers may struggle to optimize pricing, product quality, handling, and distribution in ways that reflect actual consumer expectations. The present study therefore responds to the need for community-specific data by examining consumer demographics, purchasing determinants, perceived value, encountered challenges, and adaptation strategies among local producers and sellers. In doing so, it aims to generate practical insights for agricultural

stakeholders, policymakers, and farmer groups in San Antonio (Adams and Salois (2019); Martinez et al. (2010); Fronda (2022); Domingo (2023); Santos and De Leon (2024)).

The study aligns with SDG 2 – Zero Hunger because it addresses local food systems, sustainable agriculture, and the conditions that influence community access to fresh vegetables. It also aligns with SDG 8 – Decent Work and Economic Growth through its relevance to farmer income, local trade, and agricultural market participation. In addition, the study supports SDG 11 – Sustainable Cities and Communities by strengthening community-based food systems, and SDG 12 – Responsible Consumption and Production through its focus on local sourcing, reduced supply-chain inefficiencies, and environmentally conscious consumption. These alignments are supported by the literature on sustainable local food systems, farmer resilience, environmental responsibility, and demand-responsive agricultural production (Adams and Salois (2019); Martinez et al. (2018); Jones and Hill (2020); Dizon and Corpuz (2022); Fronda (2024); Balaria et al. (2021); Jacoba (2024)).

The study contributes to multidisciplinary sustainability by linking consumer behavior with agricultural resilience, rural development, environmental responsibility, and community welfare. From a socio-economic perspective, it helps explain how consumer demand can support local farmers, vendors, and the broader municipal economy. From a community and institutional perspective, it provides evidence that can guide local government units and agricultural offices in designing market support programs, food security initiatives, and farmer development interventions. From an environmental perspective, the study reinforces the value of local sourcing, efficient resource use, and sustainable food systems. Overall, the research is important not only to agricultural marketing but also to sustainability studies, local governance, community development, and rural food system planning.

2. Material and methods

2.1 Research Design

The study utilized a descriptive research design because it was intended to identify and describe the existing characteristics, preferences, perceptions, and buying behaviors of consumers toward locally produced vegetables in San Antonio, Nueva Ecija. This design was appropriate because it allowed the researcher to capture the present conditions and viewpoints of respondents without manipulating any variables. It was considered suitable for the objectives of the study, which focused on describing demographic attributes, purchasing determinants, perceived value, and buying behavior through quantifiable and interpretable data.

2.2 Locale of the Study

The research was conducted in San Antonio, Nueva Ecija, a rural agricultural municipality in Central Luzon, Philippines. The locale is characterized by active vegetable cultivation, traditional public markets, talipapa stalls, and community-based selling points. Its strong agricultural identity, dependence on local vegetable trading, and regular consumer demand for fresh produce made it an appropriate setting for examining buying behavior related to locally produced vegetables. The selection of the municipality was further justified by its growing market activity and the need to understand how local residents perceive and support local food systems.

2.3 Respondents of the Study

The study involved three groups of respondents. The primary respondents were consumers residing in San Antonio, Nueva Ecija, aged 18 and above, who regularly purchased vegetables for household use. Their demographic characteristics, including age, gender, income, education, and household size, were considered relevant in describing buying behavior. The study also included selected local vegetable producers who grow and sell vegetables within the municipality, as well as vegetable sellers or vendors operating in public markets, talipapa stalls, and barangay outlets. These latter groups were included to provide contextual insights regarding supply, pricing, quality, and consumer demand.

2.4 Sample and Sampling Procedure

The population of the study consisted of adult consumers in San Antonio, Nueva Ecija, together with selected local vegetable producers and sellers. A total of 100 consumer respondents were included in the study. The sample size was determined on the basis of feasibility, accessibility, and the descriptive nature of the research. A purposive sampling technique was used to select individuals who actively purchase vegetables for household consumption, since the study required respondents with direct experience in buying locally produced vegetables. In addition, a small number of producers and sellers were purposively selected for interviews in order to provide supporting contextual information.

2.5 Research Instrument

The study used two main instruments: a researcher-developed survey questionnaire and an interview guide. The survey questionnaire was organized into four sections covering the demographic profile of respondents, determinants of purchasing decisions based on SWOT, perceived value of locally produced vegetables, and indicators of buying behavior. The instrument contained multiple-choice items and Likert-scale statements. To establish content validity, the

questionnaire was subjected to expert validation by faculty members specializing in research and consumer studies. A pilot test was also conducted among non-sample respondents in a nearby barangay to assess clarity, reliability, and internal consistency. The interview guide was used to collect additional insights from selected producers and sellers.

2.6 Data Gathering Procedure

Data gathering began with the preparation of the survey questionnaire and interview guide, which were reviewed by experts and revised based on their comments to ensure clarity and alignment with the objectives of the study. Formal permission was then obtained from the municipal office and market administrators prior to conducting the survey and interviews. The researcher personally administered the questionnaires to consumers in the public market, barangay talipapa, and neighborhood stores. Before participation, respondents were informed about the purpose of the study and were asked to provide informed consent. Semi-structured interviews were also conducted with selected producers and sellers at convenient times, with responses documented through written notes and, when allowed, audio recordings. After data collection, completed survey forms were checked, organized, and encoded for analysis, while interview responses were arranged and thematically coded. Confidentiality and voluntary participation were observed throughout the process, and all data were used solely for academic purposes.

2.7 Data Analysis Techniques

The quantitative data were organized, encoded, and analyzed using descriptive statistical techniques. Frequency counts and percentage distribution were used to summarize the demographic characteristics of respondents and other categorical responses. Weighted mean was employed to determine the level of agreement regarding consumer preferences, determinants of purchasing decisions, perceived value, and buying behavior. Ranking was used to identify the most and least influential factors affecting purchasing decisions. Descriptive analysis was further applied to interpret behavioral patterns and explain the findings in relation to the study objectives. For the qualitative component, interview responses from producers and sellers were analyzed through thematic analysis in order to identify recurring insights, contextual conditions, and market observations that supported the quantitative findings. The combined use of descriptive statistics and thematic interpretation enabled a more comprehensive understanding of consumer behavior toward locally produced vegetables in San Antonio, Nueva Ecija.

2.8 Ethical Considerations

The study observed ethical principles in research involving human participants. Respondents were informed of the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without penalty. An informed consent statement was included in the survey instrument to ensure that participants understood the research procedures. Confidentiality and anonymity were maintained, and no identifying information such as full names or contact details was collected. All responses were treated confidentially, stored securely, and accessed only by the researcher. The study did not involve procedures that could cause physical, psychological, or legal harm, and no human rights or intellectual property rights were violated. All secondary sources used in the study were properly cited to maintain academic integrity.

3. Results and Discussion

3.1 Demographic Profile of Respondents

3.1.1 Age of Respondents

Most respondents belonged to the 26–35 age group, followed by those aged 36–45, indicating that vegetable purchasing was concentrated among young and middle-aged adults who are commonly responsible for household food procurement. Smaller shares came from the 18–25, 46–55, and 56-and-above groups. This suggests that local vegetable buying behavior is largely driven by adults in their economically active and family-managing years. The finding is consistent with the view that consumers in these age groups tend to be more health-conscious and attentive to affordability and freshness (Feldmann & Hamm, 2015). It also aligns with Consumer Behavior Theory, which holds those personal characteristics shape purchase evaluation and choice.

3.1.2 Gender of Respondents

The respondents were predominantly female, comprising 62% of the sample, while males accounted for 38%. This indicates that women were more actively involved in the purchase of locally produced vegetables for household use. The result reflects traditional household roles in the Philippine setting, where women often manage food budgeting and market decisions. This supports the argument that women significantly influence food purchasing because of their central role in household nutrition planning (Schiffman & Wisenblit, 2019).

3.1.3 Educational Attainment of Respondents

A large portion of respondents had reached college level, followed by senior high school and junior high school. Only a small percentage had postgraduate education or elementary-level attainment. This indicates that many respondents were relatively well-informed consumers. The result suggests that respondents were generally capable of assessing product

quality, safety, and price competitiveness. This is consistent with studies showing that higher educational attainment is associated with greater preference for fresh, safe, and sustainably sourced food (Feldmann & Hamm, 2015), reinforcing the Expectancy–Value Theory that informed consumers evaluate food choices based on perceived benefits.

3.1.4 Monthly Household Income

Most respondents belonged to the lower- to middle-income brackets, particularly those earning between ₱10,001 and ₱30,000 monthly. Fewer respondents came from the higher income categories. This indicates that the sample largely represented budget-conscious household consumers. The result implies that income level is an important factor in vegetable purchasing, especially in relation to price sensitivity. This supports Kotler & Keller's (2016) view that economic capacity significantly shapes consumer decision-making and helps explain why price remains a practical consideration even when consumers favor local produce.

3.2 Determinants of Purchasing Decisions

3.2.1 Perceived Strengths of Locally Produced Vegetables

Among the positive attributes of locally produced vegetables, freshness and food safety received the highest ratings, followed closely by good quality, good taste, and appealing appearance. Overall, these indicators were strongly affirmed by respondents, showing that consumers generally viewed local vegetables favorably. These findings indicate that product-related qualities strongly influence preference for local vegetables. They support foreign studies showing that consumers prefer local vegetables because of their perceived quality and shorter handling time (Adams & Salois, 2019). The result also affirms the attitude component of the Theory of Planned Behavior, since positive product perceptions contribute to stronger buying intentions.

3.2.2 Perceived Weaknesses of Locally Produced Vegetables

Respondents also recognized several weaknesses associated with local vegetables. The most notable concerns were inconsistent supply and limited availability during off-season periods, followed by short shelf-life and higher price than expected. Visual non-uniformity was the least concerning among the listed weaknesses, though it was still acknowledged. These results show that consumers generally appreciate local vegetables but remain aware of structural limitations in supply and consistency. This supports existing literature identifying seasonality and supply instability as common issues in rural vegetable markets due to weather-related changes and limited cold-chain capacity (Reyes & Domingo, 2022).

3.2.3 Opportunities Influencing Consumer Choice

The opportunity indicators received very high ratings, with support for local farmers ranked highest, followed by contribution to the local economy, health and nutrition benefits, environmental sustainability, and community resilience. Overall, respondents strongly agreed that purchasing local vegetables creates broader social and economic benefits. This means that consumer choice is influenced not only by product quality but also by ethical and community-based considerations. The result is aligned with global findings that ethical motivations and support for local producers shape food purchasing behavior (Feldmann & Hamm, 2015). It also reflects the subjective norms component of the Theory of Planned Behavior, where perceived social value strengthens purchase preference.

3.2.4 Threats to Local Vegetable Purchasing

Respondents identified seasonal shortage as the greatest threat to local vegetable purchasing, followed by competition from cheaper imported alternatives. Supermarket competition, market distance, accessibility, and seller inconsistency were also recognized as threats, though at lower levels. These findings indicate that consumer preference for local vegetables operates within a market environment affected by seasonality and external competition. The result supports Philippine studies showing that local markets often struggle against lower cost imported vegetables and fluctuating supply conditions.

3.3 Perceived Value of Locally Produced Vegetables

3.3.1 Price, Sustainability, and Farmer Support

Respondents gave high ratings to the perceived value of locally produced vegetables, especially in terms of support for local farmers, freshness compared with imported alternatives, health benefits, environmental sustainability, and price fairness. Overall, the responses indicate that consumers see local vegetables as offering substantial value beyond simple affordability. This suggests that perceived value is a major driver of positive buying behavior. The result supports Expectancy–Value Theory, which holds that purchase intention increases when consumers perceive benefits to outweigh costs. In this case, consumers appear to associate local vegetables with both direct product advantages and broader community benefits.

3.4 Consumer Challenges in Purchasing Local Vegetables

3.4.1 Availability, Price, and Access Concerns

Consumers reported moderately high challenges in purchasing locally produced vegetables. Limited availability and high prices during certain months were the most common concerns, followed by distance to market, inconsistent quality from sellers, and lack of awareness about where local vegetables could be sourced. These findings suggest that the main issues affecting consumers are systemic rather than rooted in rejection of local produce. They indicate that even when consumers prefer local vegetables, access and information barriers can constrain purchasing. This is consistent with studies showing that rural consumers often face gaps in availability, accessibility, and market information.

3.5 Seller and Producer Adaptation Practices

3.5.1 Market Responsiveness of Local Sellers

Respondents perceived that local sellers were actively adapting to consumer needs. The most highly rated practices were improving freshness and handling, adjusting prices competitively, enhancing display and cleanliness, engaging with customers, and offering flexible quantities. These findings show that local vendors were responsive to market expectations. The result suggests that seller adaptation is an important factor in sustaining consumer support for local vegetables. It aligns with literature indicating that small-scale producers and sellers often rely on relational marketing practices such as trust, rapport, customer engagement, and consistent quality to maintain patronage. It also supports Cruz's (2018) discussion of efficient service as a driver of loyalty and trust.

3.6 Synthesis of Major Findings

3.6.1 Consumer Preference and Buying Behavior Toward Local Vegetables

Overall, the findings show that consumer preferences and buying behavior for locally produced vegetables in San Antonio, Nueva Ecija are shaped by demographic characteristics, favorable product attributes, and high perceived value. Consumers, who were mostly young to middle-aged and female, placed strong importance on freshness, quality, and food safety. They also strongly valued support for local farmers, sustainability, and community welfare. Although challenges such as seasonal availability and price fluctuations were present, respondents still expressed generally favorable attitudes toward local vegetables. These findings may be better understood in relation to related local studies. The issues of inconsistent supply, seasonality, and price concerns are consistent with Domingo (2023), who found that onion farmers in Bongabon, Nueva Ecija face structural constraints such as rising input costs, labor shortages, trader dependence, and weak bargaining power. The strong support for local farmers and sustainability also resonates with Pascual et al. (2018) and Jacoba (2024), while the importance of service responsiveness reflects Cruz's (2018) discussion of efficient service and trust. Fronda (2022, 2024), Balaria et al. (2021), and Santos and De Leon (2024) further reinforce the view that consumer preference for local vegetables is shaped not only by freshness, safety, and price, but also by agricultural resilience, environmental responsibility, and market responsiveness. Overall, the results confirm the study's conceptual framework that favorable attitudes and strong perceived value help sustain demand for locally produced vegetables despite existing market constraints.

4. Conclusion & Recommendations

The study concludes that consumer preference and buying behavior toward locally produced vegetables in San Antonio, Nueva Ecija are shaped by a combination of demographic characteristics, product-related attributes, and perceived value. The findings show that consumers, who were mostly young to middle-aged, female, and from lower- to middle-income households, strongly favored local vegetables because of their freshness, quality, food safety, and health benefits. These product strengths were reinforced by broader perceived advantages such as support for local farmers, contribution to the local economy, environmental sustainability, and community resilience. Although respondents acknowledged challenges such as seasonal shortages, inconsistent supply, limited availability, and price fluctuations, these concerns did not outweigh the positive value they attached to local produce. This means that consumers continue to support locally produced vegetables not only for practical reasons but also because of their social, ethical, and sustainability-related significance. The findings therefore confirm that favorable attitudes and high perceived value sustain demand for local vegetables despite market constraints. This conclusion is further supported by related studies showing that consumer behavior in agricultural markets is influenced by supply chain conditions, farmer resilience, sustainability practices, environmental responsibility, service quality, and market responsiveness, as emphasized by Fronda (2022, 2024), Domingo (2023), Pascual et al. (2018), Jacoba (2024), Balaria et al. (2021), Cruz (2018), and Santos and De Leon (2024).

Based on the findings, it is recommended that local farmers and sellers continue strengthening the qualities that consumers value most, particularly freshness, quality, food safety, and proper handling of vegetables. Since the findings revealed that these factors are the strongest drivers of consumer preference, maintaining consistency in production, display, and postharvest practices may help preserve consumer trust and encourage repeat purchases. It is also recommended that local government units, agricultural offices, and related agencies provide stronger support for market improvement, supply chain efficiency, and promotional activities that highlight the benefits of buying locally produced vegetables. Such actions are important because the study showed that consumers respond positively not only to product quality but also to the idea of supporting local farmers and community welfare. Efforts to improve availability, reduce supply instability, and strengthen

linkages between farmers and consumers may help address the challenges identified in the study, particularly those related to seasonality, accessibility, and price variability. Future studies may also expand this line of inquiry to other municipalities or include additional variables such as pricing strategies, supply chain efficiency, and consumer awareness in order to deepen understanding of local agricultural buying behavior.

The study is limited by several conditions that may have influenced the scope and depth of its findings. First, it relied heavily on self-reported responses from consumers, which means that some answers may have been affected by memory lapses, personal bias, or the tendency to give socially desirable responses. Second, the study was conducted within a specific period in which seasonal changes in vegetable supply and price may have influenced consumer perceptions and buying behavior, particularly on issues such as availability, affordability, and consistency of quality. Third, the research was limited to respondents who were accessible and willing to participate, which may have restricted the breadth of views gathered from the municipality. Logistical concerns such as time, transportation, and market schedules also posed constraints during data collection and may have affected the comprehensiveness of the interviews and surveys. Despite these limitations, the study still provides meaningful and useful findings because it captures actual consumer perceptions within a rural agricultural setting and offers localized evidence on how buying behavior for locally produced vegetables is shaped by value, preference, and market realities.

Compliance with ethical standards

This study adhered to institutional ethical standards and was conducted with appropriate ethical approval, where applicable. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. Confidentiality and anonymity of information were maintained throughout the study, and all data were used solely for academic purposes. The authors declare no conflict of interest, acknowledge all relevant contributions, and affirm that the work is original and that copyright ownership is properly observed. All other ethical considerations necessary for the responsible conduct of research were likewise followed.

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