International Journal of Sustainability and Advanced Integrated Research
Volume 2, Issue 2 (April-June 2026) | ISSN: 3107-7854
DOI: https://doi.org/10.65339/ijsair.V2.I2.264

Market Demand and Consumer Preference Analysis for Goat Meat, Free-Range Chicken Products, and Fresh Vegetables in Ilocos Sur

Mr. Richard D. Dela Cruz[1], Dr. Reagan Louie C. Funtanilla[2], Ms. Arriene L. Villanueva[3]
[1]*Assistant Professor III, College of Agriculture, Forestry, Engineering, and Development Communication, Ilocos Sur Polytechnic State College, Santa Maria Campus, Santa Maria, Ilocos Sur, Philippines*
[2]*Assistant Professor III, College of Computing Studies, Ilocos Sur Polytechnic State College, Santa Maria Campus, Santa Maria, Ilocos Sur, Philippines*
[3]*Instructor I, College of Agriculture, Forestry, Engineering, and Development Communication, Ilocos Sur Polytechnic State College, Santa Maria Campus, Santa Maria, Ilocos Sur, Philippines*

Publication history: Received: March 2, 2026; Revised: April 14, 2026; Accepted: April 20, 2026
Email of Corresponding Author: boyfiehanz@gmail.com

Abstract

This study examined consumer demand and preferences for goat meat, free-range chicken, and fresh vegetables in Ilocos Sur, Philippines, within the context of food security, sustainable agriculture, and rural economic development. Guided by consumer behavior and market demand perspectives, the study employed a mixed-methods explanatory sequential design. Quantitative data were collected from 385 randomly selected household consumers using a structured and validated survey questionnaire, while qualitative data were obtained through in-depth interviews with farmers, vendors, and agricultural officers. Data were analyzed using descriptive statistics, Analysis of Variance (ANOVA), regression analysis, and thematic analysis. Findings revealed that fresh vegetables are staple commodities with consistent and frequent consumption, while free-range chicken is increasingly preferred due to perceived health benefits, taste, and ethical production, with consumers willing to pay a premium. Goat meat remains culturally significant but is consumed less frequently, mainly during special occasions. Key determinants of purchasing behavior include freshness, taste, health benefits, and trust in local sources, with income and education influencing willingness to pay. Challenges identified include inconsistent supply and quality, high production costs, lack of post-harvest facilities, market competition, and limited marketing knowledge. The study concludes that significant market opportunities exist for producers who align with consumer preferences and improve product quality and supply consistency. This study supports Sustainable Development Goals such as SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production) by addressing food demand, nutrition, and sustainable agricultural practices. Its sustainability impact lies in promoting efficient local food systems, improving producer income opportunities, and supporting community-based agricultural development.

Keywords: Consumer preferences, Fresh vegetables, Free-range chicken, Goat Meat, Market Demand, Mixed-methods Research, Sustainable Agriculture

1. Introduction

Agriculture remains a vital sector in the Philippines, supporting food security, rural livelihoods, and economic development. In Ilocos Sur, evolving consumer preferences shaped by health awareness, ethical considerations, and socio-economic changes are influencing demand for agricultural products such as goat meat, free-range chicken, and fresh vegetables. Understanding these changing patterns is essential to align production with market needs and to enhance the sustainability and profitability of local agriculture (DA-AFID, 2023; Bautista, 2024; FAO, 2022; Department of Agriculture, 2023). The agricultural industry plays a critical role in sustaining livelihoods and ensuring food availability in the Philippines. Ilocos Sur, with its diverse agricultural activities, contributes significantly to local food production. However, shifting consumer preferences toward healthier, ethically produced, and sustainable food products are reshaping market demand. Consumers increasingly prioritize nutritional value, food safety, and production practices when making purchasing decisions (DA-AFID, 2023; Bautista, 2024; FAO, 2022; Department of Agriculture, 2023).

Vegetables are essential to daily nutrition due to their micronutrient content and role in disease prevention (Allen & Braun, 2018; FAO, 2020). Free-range chicken is preferred for its perceived health benefits, taste, and ethical production (Yovo & Lagno, 2021). Goat meat (chevon), traditionally consumed in Filipino culture, is valued for its lean composition and low cholesterol content (Hallal, 2022; DOST-PCAARRD, 2016). Existing literature highlights a global shift toward healthier and sustainably produced food. Consumers increasingly favor natural, organic, and locally sourced products due to heightened awareness of nutrition, environmental sustainability, and ethical farming practices (FAO, 2022; Department of

Agriculture, 2023). Studies emphasize that vegetables contribute significantly to health maintenance and disease prevention (Allen & Braun, 2018; FAO, 2020). Similarly, free-range poultry is associated with better taste, lower fat content, and ethical production standards (Yovo & Lagno, 2021). Goat meat is recognized for its nutritional benefits and cultural relevance, maintaining steady demand in specific contexts (Hallal, 2022; DOST-PCAARRD, 2016). These studies collectively indicate that consumer preferences are driven by health consciousness, product quality, and ethical considerations. Globally and nationally, food consumption trends are shifting toward sustainable and health-oriented diets. In the Philippines, these trends are evident in increased demand for fresh vegetables and alternative protein sources such as free-range chicken and goat meat (FAO, 2022; Department of Agriculture, 2023). Locally, Ilocos Sur has a strong agricultural base but faces challenges in adapting to these evolving demands. Despite the availability of diverse agricultural products, inconsistencies in supply, market access, and alignment with consumer preferences affect the competitiveness of local producers (Valdez et al., 2013; Naanep et al., 2012).

This study is grounded in consumer behavior and market demand theory, which explain how preferences, income, and socio-demographic factors influence purchasing decisions. Consumer choice is shaped by perceived product attributes such as quality, price, health benefits, and ethical considerations. The study also aligns with concepts of sustainable agriculture and value chain development, emphasizing the importance of aligning production systems with consumer demand to improve efficiency, reduce waste, and enhance economic outcomes (FAO, 2022; Department of Agriculture, 2023). Although prior studies have examined individual agricultural products, there is a lack of comprehensive research analyzing consumer demand and preferences for goat meat, free-range chicken, and vegetables collectively in Ilocos Sur. This gap limits understanding of overall market dynamics and hinders effective product positioning and decision-making for local producers. Small-scale farmers face challenges in market access, product differentiation, and meeting consumer expectations, partly due to insufficient data on purchasing behavior and demand patterns (Valdez et al., 2013; Naanep et al., 2012).

To address these gaps, the study provides an integrated analysis of consumer preferences and market demand, aiming to support more informed production and marketing strategies. It aligns with several Sustainable Development Goals, specifically SDG 2 (Zero Hunger) by supporting efficient production, SDG 3 (Good Health) by promoting nutritious food choices, SDG 8 (Decent Work) by enhancing income opportunities, and SDG 12 (Responsible Consumption) by fostering sustainable food systems.

Furthermore, the research contributes to multiple dimensions of sustainability: socio-economic sustainability by supporting income generation and market access; food and health sustainability by promoting safe and nutritious products; agricultural and environmental sustainability by encouraging responsible production practices; technological sustainability by enabling data-driven decision-making; and community sustainability by strengthening local food systems and trust between producers and consumers. Overall, it provides valuable insights to guide policymakers and stakeholders in developing strategies that effectively respond to evolving consumer demands.

2. Material and methods

2.1 Research Design

A mixed-methods research design using an explanatory sequential approach (QUAN → QUAL) was adopted. Quantitative data were first collected and analyzed through a structured survey, followed by qualitative data collection to further explain and enrich the quantitative findings. This approach enabled a deeper and more comprehensive interpretation of the research problem by integrating numerical trends with contextual insights.

2.2 Locale of the Study

The study was conducted in Ilocos Sur, Philippines, a province characterized by diverse agricultural activities and significant food production. Selected cities and municipalities represented both urban and rural settings with active market participation and agricultural production.

2.3 Respondents of the Study

The respondents consisted of household consumers and key informants. Household consumers included individuals actively involved in purchasing food for their households. Key informants were composed of farmers producing goats, free-range chickens, and vegetables, vendors operating in major public markets, and officers from Provincial, City, and Municipal Agriculture Offices. These participants were selected based on their knowledge and experience in production, marketing, and consumption of the target commodities.

2.4 Sample and Sampling Procedure

For the quantitative phase, the sample size of 385 household consumers was determined using Slovin's formula (Slovin, 1960) with a 5% margin of error and 95% confidence level, based on population data from the Philippine Statistics Authority. A two-stage random sampling method was employed. First, cities and municipalities were stratified and purposively selected based on population density, market activity, and geographic representation. Second, barangays were randomly selected, and households were identified using systematic sampling. Respondents were typically household heads aged 18 years and above responsible for food purchasing. For the qualitative phase, purposive and snowball sampling techniques were used to select key informants, including 20 farmers, 20 vendors, and 15 agricultural officers from various locations across the province to ensure comprehensive coverage.

2.5 Research Instrument

Data were collected using a structured survey questionnaire and semi-structured interview guides. The questionnaire was designed based on the study objectives and included sections on socio-demographic characteristics, purchasing behavior, product preferences, and willingness to pay. Likert-scale items and ranking methods were used to assess preferences, while open-ended and structured questions measured willingness to pay. Content validity was established through expert review by academic specialists and agricultural extension officers, while face validity was confirmed through pre-testing with 30 respondents. Reliability testing using Cronbach's Alpha yielded coefficients of 0.82, 0.85, 0.88, and 0.83 for different sections, indicating acceptable internal consistency. For qualitative data, separate semi-structured interview guides were developed for farmers, vendors, and agricultural officers. These instruments explored production challenges, market dynamics, consumer behavior, and policy-related concerns. Validation was conducted through expert review and pilot testing to ensure clarity and relevance.

2.6 Data Gathering Procedure

Data collection was conducted from March to August 2023 by trained enumerators and the researchers. Quantitative data were gathered through face-to-face interviews with household respondents using the structured questionnaire. Enumerators were trained in proper data collection procedures, ethical considerations, and communication in local languages. Qualitative data were obtained through in-depth interviews with key informants conducted in farms, markets, and offices. Interviews were carried out with consent, recorded, transcribed, and supplemented with field notes. Each interview lasted approximately 30 to 45 minutes.

2.7 Data Analysis Techniques

Quantitative data were encoded, cleaned, and analyzed using SPSS version 28.0. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize respondent profiles and purchasing behavior. Inferential statistics, including Analysis of Variance (ANOVA), were applied to determine significant differences across socio-demographic groups. Regression analysis was conducted to identify predictors of market demand using the model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k + \varepsilon$$

where Y represents the dependent variable, β_0 is the constant, β_1 to β_k are coefficients, X_1 to X_k are explanatory variables, and ε is the error term. The Chi-square Test of Independence was used to examine relationships between categorical variables. Willingness to pay was analyzed using contingent valuation methods, including open-ended responses, fixed price increments, and premium percentage approaches. Qualitative data were analyzed using thematic analysis following Braun and Clarke (2006). This involved data familiarization, coding, theme development, and refinement to identify patterns and key insights. The findings from both quantitative and qualitative analyses were integrated to provide a comprehensive understanding of consumer preferences and market dynamics in Ilocos Sur.

3. Results and Discussion

3.1 Consumer Profile and Purchasing Behavior

3.1.1 Socio-Demographic Characteristics of Consumers

The majority of respondents were adults aged 25–54 years (76.4%), with females comprising 68.6% of the sample. Most had at least high school or college-level education (67.7%), monthly incomes ranging from ₱10,001 to ₱30,000, and household sizes of 4–6 members. These characteristics indicate that food purchasing decisions were largely made by middle-aged, educated women responsible for household consumption. These findings suggest that demographic factors significantly influence purchasing behavior. Women, as primary household buyers, play a central role in food selection, while education enhances awareness of product quality and health benefits. Income determines purchasing power, and larger households tend to purchase food more regularly and in greater quantities.

3.1.2 Purchasing Patterns of Agricultural Products

Fresh vegetables were the most frequently purchased commodity, with 84.4% of respondents buying them more than once a week and none reporting non-purchase. Free-range chicken was purchased less frequently, with only 15.0% buying it

weekly. Goat meat was the least frequently purchased, with 28.3% never buying it and 35.6% purchasing it only once a month. These results indicate that vegetables are staple food items consumed regularly across households, while free-range chicken and goat meat are less frequently consumed. The lower purchase frequency of goat meat reflects its non-staple nature, whereas free-range chicken occupies a middle ground as a preferred but less regularly consumed protein source.

3.2 Product Preferences and Choice Determinants

3.2.1 Preferences for Fresh Vegetables

All respondents regularly consumed vegetables, with high preference for attributes such as freshness, health value, absence of pests, taste, and variety. Price and concerns about pesticides were also considered but ranked lower compared to quality attributes. These findings show that vegetables are essential to daily diets, and consumers prioritize quality-related attributes over price. The emphasis on freshness and health benefits aligns with increasing awareness of nutrition and food safety, reinforcing the role of vegetables as a fundamental component of household consumption (Allen & Braun, 2018; FAO, 2020).

3.2.2 Preferences for Free-Range Chicken

Consumers rated perceived health benefits ($M = 4.71$), freshness ($M = 4.68$), and taste/flavor ($M = 4.50$) as the most important attributes of free-range chicken, all with high statistical significance ($p < 0.001$). Other factors such as trust in local sources and willingness to pay more also received high ratings. These results indicate that consumer preference for free-range chicken is largely driven by health consciousness and product quality. The willingness to pay a premium reflects perceived superiority over conventionally produced poultry, supporting the idea that ethical production and nutritional value influence purchasing decisions (Yovo & Lagno, 2021).

3.2.3 Preferences for Goat Meat (Chevon)

Consumers showed strong preference for goat meat attributes such as freshness, tenderness, taste, and sourcing from trusted local producers. Price and availability were less influential compared to quality-related attributes. These findings suggest that goat meat is valued for its sensory qualities and trusted sourcing rather than affordability. Its demand is influenced by product quality and cultural acceptance, consistent with its reputation as a lean and nutritious protein source (Hallal, 2022; DOST-PCAARRD, 2016).

3.3 Market Access and Purchasing Locations

3.3.1 Preferred Sources of Agricultural Products

Most consumers preferred purchasing from local public markets, followed by direct purchases from farmers and, to a lesser extent, supermarkets and specialized shops. This trend was consistent across goat meat, free-range chicken, and vegetables. This preference highlights the importance of short supply chains and direct market access. Consumers associate local markets with freshness, trust, and better product quality, suggesting that strengthening local distribution systems can enhance both consumer satisfaction and producer income.

3.4 Influence of Socio-Demographic Factors

3.4.1 Income and Expenditure Patterns

Statistical analysis revealed that monthly income significantly influenced expenditures on goat meat ($F = 8.45$, $p < 0.001$) and free-range chicken ($F = 12.10$, $p < 0.001$), with higher-income households spending more. In contrast, no significant differences were observed in vegetable expenditures across income groups. These findings indicate that vegetables are staple goods consumed regardless of income level, while goat meat and free-range chicken are more income-sensitive. Higher-income households have greater capacity to purchase premium or less frequently consumed products, reflecting differences in purchasing priorities and affordability.

3.5 Predictors of Willingness to Pay

3.5.1 Determinants of Premium Payment for Free-Range Chicken

Regression analysis showed that educational attainment, monthly income, perceived health benefits, and concern for animal welfare significantly influenced willingness to pay a premium, with the model explaining a substantial proportion of variance ($R^2 = 0.62$; $F = 28.45$; adjusted $R^2 = 0.60$). These results suggest that both socio-economic and perceptual factors shape consumer willingness to pay. Higher education and income increase financial capacity and awareness, while health and ethical concerns reinforce the perceived value of free-range chicken, supporting premium pricing strategies.

3.6 Market Opportunities and Challenges

3.6.1 Emerging Market Opportunities

Qualitative findings revealed strong demand for healthy, fresh, and locally produced food products. Consumers expressed trust in farm-direct products, while producers identified opportunities in direct selling, premium pricing, and niche markets such as goat meat for special occasions. These insights indicate favorable conditions for local producers to expand production and adopt direct marketing strategies. The growing health consciousness among consumers supports increased demand for vegetables, free-range chicken, and lean meat products, creating opportunities for sustainable agricultural development.

3.6.2 Constraints in Production and Marketing

Key informants reported challenges including inconsistent supply and quality, high production costs, lack of post-harvest facilities, competition from commercial and imported products, and limited marketing knowledge among farmers. These constraints highlight structural issues affecting market stability and producer competitiveness. Inadequate infrastructure and limited access to technology contribute to inefficiencies, while weak marketing capabilities hinder farmers from accessing higher-value markets. Addressing these challenges is essential for improving supply consistency and enhancing the overall agricultural value chain.

3.7 Integrated Market Dynamics

3.7.1 Synthesis of Quantitative and Qualitative Findings

The integration of quantitative and qualitative data showed that consumer demand is strongly influenced by health consciousness, product quality, and trust in local sources. Irregular purchasing patterns for certain products were explained by supply inconsistencies and cultural consumption practices. This synthesis demonstrates that consumer behavior is shaped by both demand-side preferences and supply-side conditions. The alignment of production with consumer expectations, combined with improvements in supply systems, is critical for achieving a stable and sustainable agricultural market in Ilocos Sur.

4. Conclusion & Recommendations

The study found that fresh vegetables are staple food items with consistent demand across socio-economic groups in Ilocos Sur, while free-range chicken consumption is increasing due to its perceived health benefits and ethical production. Goat meat, although not regularly consumed, remains culturally significant and is primarily demanded during special occasions. Across all commodities, consumers prioritize product attributes such as freshness, taste, health benefits, and trust in local sources, with quality considerations outweighing price in purchasing decisions.

Producers and stakeholders should focus on maintaining high product quality, particularly in terms of freshness, taste, and health attributes, while strengthening consumer trust through locally sourced products. Efforts should also align with the growing demand for free-range chicken and the consistent consumption of vegetables, while ensuring the availability of goat meat for cultural and special occasions, in order to effectively meet existing consumer preferences and market demand.

Compliance with ethical standards

The authors declare no conflict of interest. This study complied with recognized ethical standards for human-participant research by ensuring voluntary participation with informed consent, the right to withdraw without penalty, and strict confidentiality through anonymous, secure, and aggregated data handling. Given the focus on psychological well-being, procedures were non-invasive, and safeguards were observed to minimize discomfort, with guidance to appropriate support services when needed, and required institutional permissions were secured for instrument use and access to academic records.

REFERENCES

Allen, S., & de Brauw, A. (2018). Nutrition sensitive value chains: Theory, progress, and open questions. *Global Food Security, 18*, 100387. https://doi.org/10.1016/j.gfs.2018.08.001

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

DA-AFID. (2023). Agriculture helps GDP growth: DA moves to ensure larger share. *Department of Agriculture – Agricultural Fisheries Information Division*. https://www.da.gov.ph/agriculture-helps-gdp-growth/

Department of Agriculture. (2023). Organic Agriculture Program (OAP). *Republic of the Philippines: Author*. https://rfo3.da.gov.ph/organic-agriculture-program/

DOST-PCAARRD. (2016). Goats' meat: Sure bet in building rural assets. *Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development*. https://www.pcaarrd.dost.gov.ph/quick-information-dispatch/102-goats-meat-sure-bet-in-building-rural-assets

Food and Agriculture Organization. (2020). Fruit and vegetables: Essential for healthy lives. *Rome, Italy: Author*. https://www.fao.org/fruit-and-vegetables/en/

Food and Agriculture Organization. (2022). Dietary guidelines and sustainable food systems. *Rome, Italy: Author*. https://www.fao.org/nutrition/education/dietary-guidelines/en/

Hallal, F. (2022). Is goat meat healthy? All you need to know. *Healthline*. https://www.healthline.com/nutrition/goat-meat-benefits

Naanep, et al. (2012). Traders' preferences for Halal goat characteristics in selected markets in Region XI, Philippines. *Philippine Journal of Veterinary and Animal Sciences*. https://pjvas.org/index.php/pjvas/article/view/46

Philippine Statistics Authority. (2022). Performance of Philippine agriculture: Value of production in agriculture and fisheries. *Quezon City, Philippines: Author*. https://psa.gov.ph/

Philippine Statistics Authority. (2023). Income and expenditure of Filipino families 2021 final results. *Quezon City, Philippines: Author*. https://psa.gov.ph/statistics/income-expenditure

Philippine Statistics Authority. (2024). Household population, number of households, and average household size – 2020 Census of Population and Housing. *Quezon City, Philippines: Author*. https://psa.gov.ph/statistics/population-and-housing

Valdez, E. J. V., et al. (2013). Mapping the marketing system of native chicken in Region 1, Philippines. *Philippine Journal of Agriculture*. https://cajournal.org/pjar/vol13-issue1-2025/

Yovo, K., & Lagno, M. (2021). Demand for poultry products and consumer preferences in the South Togo. *ResearchGate*. https://www.researchgate.net/publication/360966422