

Determinants of Bean Variety Purchase Decisions among Urban Households in Ogun State, Nigeria

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Abstract

Beans are an important, affordable source of plant-based protein for urban households in Nigeria, yet they are often treated as a homogeneous commodity in food consumption studies and policy discussions. Limited empirical evidence exists on how urban households differentiate among bean varieties and how socioeconomic factors influence these choices. Understanding varietal preferences and expenditure behavior is essential for improving dietary diversity and food security in rapidly urbanizing settings. This study aimed to examine urban households' purchase decisions for different bean varieties in Ogun State by analyzing consumption patterns, expenditure allocation, varietal preferences, and the socioeconomic determinants of choice and diversity. Data were collected from 360 urban households using a structured questionnaire. Descriptive statistics were employed to analyse consumption and expenditure patterns, while a double-hurdle regression model was used to identify factors influencing both the decision to purchase specific bean varieties and the level of expenditure on them. The poisson regression model was used to determine the factors influencing the common bean type/preference chosen by the respondents. Cereals and non-food items accounted for the largest shares of weekly household expenditure, while pulses formed a smaller but nutritionally important share. Nigerian brown beans (Ewa Olotu/Drum) and honey beans (Ewa Oloyin) were the most consumed varieties, with preferences shaped by cooking time, grain size, and perceived quality. The double-hurdle model showed that education, employment status, income, gender, and household size significantly influenced purchase decisions and expenditure levels ($p < 0.05$). Female-headed households and those with higher education and employment status had a greater likelihood of purchasing preferred varieties and exhibited higher varietal diversity, while larger household sizes were associated with reduced diversity in bean choices. Urban households in Ogun State make economically rational and differentiated choices regarding bean varieties rather than viewing beans as a uniform commodity. Policies that enhance income opportunities, education, women's empowerment, and access to affordable, fast-cooking, and high-quality bean varieties can improve household welfare, dietary diversity, and food security.

Keywords: Consumer Behavior, Bean Varieties, Urban Consumers, Food Choice, Household Income, Nigeria.

Introduction

Beans remain a vital source of protein for households in Nigeria; however, rapid urbanization, shifting dietary patterns, fluctuating market prices, and inconsistent supply chains continue to influence consumer decision-making in complex ways (FAO, 2020). Beans are among the most important staple foods consumed in Nigeria, providing an affordable and accessible source of plant protein, dietary fiber, minerals, and micronutrients for households across both rural and urban areas. As part of Nigeria's traditional diet, beans play a central role in food security, nutrition, and household welfare (Oni, 2019). In urban areas where dietary habits continue to evolve due to rising incomes, increased awareness of nutrition, and greater exposure to diverse food markets, beans remain an integral component of household meals, particularly in forms such as porridge, moi-moi, akara, and various stews (FAO, 2020).

Beans (*Phaseolus vulgaris* and *Vigna* species) constitute one of the most important staple foods in Nigeria, contributing significantly to household nutrition and food security. They provide an affordable source of plant-based protein, dietary fibre, vitamins, and essential micronutrients, making them particularly important for low- and middle-income households that depend heavily on staple foods to meet their nutritional requirements (FAO, 2019). In Ogun State, beans are widely consumed by urban households in various forms and varieties, including brown beans, white beans, and other locally improved types, which differ in attributes such as grain size, colour, taste, cooking time, and price.

Rapid urbanisation in Ogun State, driven largely by its proximity to Lagos and expanding industrial and commercial activities, has significantly altered household food consumption patterns. Urban households are increasingly dependent on market-purchased food due to limited access to farmland and declining own-food production (Adepoju and Omonona, 2018). This growing reliance on markets exposes households to price volatility, supply fluctuations, and variations in food quality. Although beans are traditionally regarded as an affordable staple, their prices have become increasingly unstable in recent years, influenced by climate variability, insecurity in major producing areas, rising transportation costs, post-harvest losses, and inefficiencies within the food value chain (National Bureau of Statistics [NBS], 2022; Okorie et al., 2020).

Urban food markets in Ogun State offer a diverse range of beans, which are perceived differently by consumers. These perceptions shape household purchase decisions, as consumers must weigh price against quality-related attributes such as taste, cleanliness, storability, and cooking time. For instance, bean varieties that cook faster may be preferred by urban households facing high energy costs and time constraints, while lower-priced varieties may be favoured by households with limited incomes, even if they are perceived to be of lower quality (Akinbode and Dipeolu, 2012). Such decisions reflect the economic trade-offs households make under budget constraints and changing urban lifestyles.

Despite the importance of beans in urban diets, empirical studies in Nigeria have largely focused on aggregate food demand, rural household consumption, or production-related challenges. Many studies treat beans as a homogeneous commodity, thereby overlooking

the diversity of varieties and the differentiated preferences that influence consumer choice (Oyinbo et al., 2019). This aggregation obscures important behavioural differences in how households respond to changes in prices, income, and quality attributes across bean varieties. As a result, the existing literature provides limited insight into the specific economic factors that shape urban households' purchase decisions for beans.

Furthermore, most consumption studies adopt a national or broad regional perspective, with insufficient attention to state-level and urban-specific contexts. Ogun State presents a unique case due to its role as both a consumption hub and a transit corridor for food commodities destined for Lagos markets. The state also exhibits considerable income heterogeneity among urban households, which is likely to influence food choice behaviour. The absence of location-specific evidence limits the effectiveness of policy interventions aimed at improving food affordability, stabilising prices, and enhancing market efficiency. The lack of a detailed understanding of urban households' purchase decisions for bean varieties has important implications. Policymakers lack adequate empirical evidence to design targeted interventions that promote access to affordable and preferred bean varieties. Producers and traders are constrained in aligning supply with consumer preferences, potentially resulting in inefficiencies along the value chain. In addition, nutrition-sensitive agricultural policies may fail to promote bean varieties that combine affordability with desirable nutritional and cooking attributes.

Rising food inflation and urban poverty further underscore the importance of this issue. When the prices of staple foods such as beans increase, households may reduce consumption, substitute toward less nutritious foods, or compromise dietary diversity, with adverse implications for household welfare and nutrition (World Bank, 2021).

Despite the nutritional importance of beans in urban diets, there is insufficient empirical evidence on how urban households in Nigeria differentiate between bean varieties, and how socioeconomic factors influence both the decision to purchase and the diversity of bean types consumed. Addressing this gap is critical for informing interventions aimed at enhancing dietary quality, food security, and targeted value-chain responses in rapidly urbanizing food systems. Understanding how urban households prioritise price, quality, and other attributes when choosing bean varieties is therefore critical for assessing welfare outcomes and designing policies that protect vulnerable populations.

Given these gaps, there is a clear need for a systematic and disaggregated analysis of the economic factors underlying urban households' purchase decisions for bean varieties in Ogun State. By examining the roles of household socio-economic characteristics, prices, market access, and varietal attributes, this study seeks to provide empirical evidence on the "economics behind the pot." Such evidence will contribute to the literature on consumer behaviour, support evidence-based policymaking, and enhance the efficiency and inclusiveness of bean value chains in urban Nigeria.

Statement of the Problem

Beans (*Phaseolus vulgaris* and other pulses) constitute a major source of affordable protein and essential nutrients for many Nigerian households, particularly in urban areas where

food choices are influenced by convenience, cost, and quality considerations. However, the specific factors that influence urban household decisions regarding which bean varieties to purchase remain insufficiently documented. Beans available in Nigerian markets differ significantly in price, grain colour, size, taste, cooking quality, and perceived nutritional value, and these characteristics can strongly shape consumer preferences.

Evidence from African urban contexts shows that consumers attach high value to intrinsic bean attributes such as taste, reduced cooking time, and grain colour when making purchase decisions, often showing willingness to pay for preferred traits (Asimwe et al., 2024). These findings suggest that product attributes play an important role in shaping bean variety choices. Nevertheless, similar empirical evidence is scarce in Nigeria, particularly within the urban centres of Ogun State.

Beyond product attributes, socio-economic characteristics such as income level, education, household size, and the demographic profile of household decision-makers have been shown to significantly influence food purchasing behaviour in related Nigerian food markets. For example, studies on rice purchasing behaviour revealed that consumers' choices are influenced by quality attributes and price sensitivity, which are in turn shaped by socio-economic status (Agbaje et al., 2025). This indicates that socio-economic factors may equally influence how households select among different bean varieties.

Furthermore, market-based factors such as price variation, seasonal availability, and market inefficiencies are known to affect purchasing patterns in bean markets in Southwestern Nigeria. Studies on price transmission in bean markets reveal fluctuations and inefficiencies that may indirectly constrain or influence consumer choices (Omosehin et al., 2026). However, these studies do not directly examine how such market conditions translate into household decisions regarding specific bean varieties.

The absence of empirical evidence linking product attributes, socio-economic characteristics, and market conditions to bean variety purchase decisions among urban households in Ogun State creates a critical knowledge gap. This limits the capacity of producers, marketers, and policymakers to tailor bean production, marketing strategies, and nutrition-sensitive interventions to match consumer preferences. Understanding these determinants is therefore essential for improving value chain responsiveness, promoting informed consumer choices, and enhancing food and nutrition security in urban areas.

Objectives and Research Questions

This study specifically describes the demographic and socio-economic profile of urban bean-consuming households in Ogun State; describes the various forms of bean variety consumed by the households, identifies and quantifies the relative importance of economic, demographic, and product-specific factors in determining bean variety purchase decisions; and assesses patterns in bean variety preferences across different household types.

To address this objective, this study seeks to answer the following research questions:

1. Who are the urban beans consumers in the study area?

2. What forms of bean varieties are consumed by urban consumers?
3. What is the pattern of food consumption of the urban consumers?
4. What economic and demographic factors significantly predict bean variety choice among urban households?
5. Which bean attributes (price, colour, taste, cooking quality, nutritional perception) significantly affect the number of bean varieties selected by the consumer?

Theoretical Framework

The study employed the demand theory, which asserts that goods as such are not the immediate objects of preference or utility or welfare, but have associated characteristics that are directly relevant to consumers (Lancaster, 1966). If the consumer is required to make independent choices among various common bean types, the choice to be made reflects unobserved utility. This utility is derived from the attributes embedded in the chosen common bean type, which varies across individuals depending on their demographic, socio-economic, cultural, and societal characteristics.

The utility function is specified as,

$$U_{ij} = f(Att_j, S_i) + \varepsilon_i \quad (1)$$

where U_{ij} is the utility of the i th individual derived from j th type of common beans, Att_j is the j th specific attributes embedded in, S_i represents individual-specific characteristics and ε_i is the stochastic error for the i th individual.

However, the random utility model (Equation (1) is appropriate when individuals are able to rank the choices based on perceived satisfaction derived from each type of common bean (Louviere et al., 2000). If an individual is not required to rank the possible choices, the random utility model is replaced by the latent model specified in Equation (2). The attributes component in Equation (1) is left out in Equation (2) because individuals are exposed to a specific type of common bean at a time.

$$y_i^* = f(S_i) + v_i \quad (2)$$

Where y_i^* reflects the perceived net benefits from a given common bean type, S_i reflects individual-specific characteristics and v_i is the stochastic error for the i th individual. Then, the i th individual in Equation (2) will choose a specific common bean type based on the perceived net expected benefits derived from such a type. The choice decision rule is expressed in Equation (3).

$y_i^* > 0$ specific common bean variety is selected by i th individual

$y_i^* \leq 0$ specific common bean variety is not selected by i th individual

If the perceived net expected benefits are greater than zero, the specific common bean type is selected, and if the perceived net expected benefits are less than or equal to zero, the specific common bean type is rejected.

Literature Review

Research across Africa and beyond consistently highlights income, price sensitivity, and economic access as core determinants of food purchase decisions. In Nigeria, higher income is associated with more frequent purchase of foods in supermarkets and a broader

range of products, while lower-income consumers prioritise affordability and staple foods over diversified diets. For example, a study in Osogbo found that age and income were significantly correlated with preference for agricultural products in supermarkets, suggesting that economic capacity shapes both the outlet and type of food purchased (Oyetoro et al., 2024). Similarly, in urban slums of Ibadan, food-insecure households tended to purchase staples more frequently and had constrained access to healthier items due to affordability challenges (Ilori, Christofides and Baldwin-Ragaven, 2024). In broader Sub-Saharan Africa, substantial analyses of household food purchases demonstrate that non-farm income and employment influence food buying patterns and thus overall consumption, particularly of non-staple foods (Dzanku, Onipede and Reardon, 2024). These findings confirm that economic determinants operate not only at the individual household level but are embedded in broader labour and income structures. While many studies confirm income and price as strong determinants of food purchases, most focus on gross purchase amounts or frequency rather than *variety-specific* decisions (e.g., which bean types consumers choose). This reveals a gap in linking microeconomic determinants directly to commodity variety choices among urban consumers in Nigeria.

Demographic factors such as age, education, household size, and gender repeatedly emerge as important drivers of food choices. In the Osogbo supermarket study, education level and income were significant predictors of preference for agricultural products, indicating that socio-economic status affects access and choice (Oyetoro et al., 2024). Research in Ibadan showed that education and family size were related to food insecurity and purchasing patterns, with larger households more likely to face constraints that shape food choice behaviour (Ilori et al., 2024). Social and cultural factors also influence consumer choices through norms, beliefs, and identity. A scoping review of African traditional food behaviour found that research frequently investigates sensory attributes like taste and texture but rarely incorporates deep cultural or social influences; many studies also lack robust theoretical framing (Moyo, Amoah and van Eyk, 2023). In Nigeria, social status influences food consumption patterns: higher status households tend to consume more highly processed foods, indicating a social stratification effect on dietary choices (Q Open, 2023). Contemporary literature acknowledges demographic and social influences on food choice, but few studies link these factors specifically to variety preference in agricultural commodities like pulses within urban contexts. Most research emphasises broad categories of food rather than varietal distinctions.

Consumer preference research related to specific agricultural commodities, especially pulses and beans, is emerging but still limited in sub-Saharan Africa. Discrete choice experiments and willingness-to-pay studies illustrate that visual and intrinsic trait (e.g., colour, cooking time, taste) significantly influence bean preferences, with consumers willing to pay premiums for desirable traits (Asiimwe et al., 2024). Similar research in Tanzania highlighted that bean attributes like colour and gravy quality affect choices, and that ignoring social and cultural factors can bias results (Swema and Mwinuka, 2021). The work on biofortified foods in Nigeria shows heterogeneous preferences for nutrient-

enhanced staples and willingness to pay for improved attributes, suggesting market potential beyond traditional commercial varieties (ScienceDirect, 2023). Such research aligns with global shifts in consumer demand for health-oriented and convenience-related traits. Despite valuable insights, most varietal preference research focuses on traits *in isolation*, and there is limited integration of socio-economic, demographic, and contextual urban dynamics that shape these preferences. Furthermore, few Nigerian city-specific studies on pulse variety choice exist, especially for urban households.

Urban food consumption research reveals that rapid urbanisation, food insecurity, and the food environment shape purchase patterns in Nigerian cities. In Ibadan, urban slum households exhibited frequent purchases of staples and limited access to healthier food options, with food insecurity driving coping behaviours that affect choice (Ilori et al., 2024). Studies from Lagos and Ibadan metropolitan areas indicate that socio-economic class correlates with both *food motives* and *consumption behaviour*, including vegetable intake and purchase frequency (Raaijmakers et al., 2018). These studies underscore the role of urban food environments and market access in shaping food purchases. However, research specifically examining urban consumers' preferences for agricultural commodity varieties, especially legumes, is sparse. Urban food literature often addresses *food categories* and *overall consumption patterns*, rather than detailed variety preferences for staples like beans. This gap is particularly pronounced for Nigerian urban settings outside of a few cities such as Ibadan and Lagos.

From the synthesis above, several clear gaps emerge. There is a lack of focused research on determinants of *variety-specific* food purchase decisions for staple commodities like beans among urban households, especially in Nigeria. Also, insufficient integration of socio-economic, demographic, and cultural factors within consumer preference models for agricultural varieties. Scant empirical evidence on urban Nigerian households outside major cities, with few studies capturing the interplay between urban food environments and staple variety choices. There is a predominance of cross-sectional studies, leaving temporal changes in purchase behaviour and preferences under-explored. This study aims to fill these gaps by explicitly linking economic, socio-demographic, and market factors to bean variety purchase decisions among urban households in Ogun State, employing the double hurdle technique to capture preference heterogeneity.

Methodology

Study Area

The research was conducted in Ogun State, Nigeria, focusing on major urban centers including Abeokuta, Ijebu-Ode, and Sagamu. Ogun State was selected due to its high population density, diverse urban household structures, and significant consumption of staple legumes, particularly beans (National Population Commission [NPC], 2020).

Demographic Context

Ogun State, often referred to as Nigeria's "Gateway State," is located in the southwest of the country and borders Lagos State to the south, Oyo and Osun states to the north, Ondo State to the east, and the Republic of Benin to the west. Its strategic location makes it a

demographic and economic crossroads in the region. The state's capital, Abeokuta, is its largest urban center, and the state overall combines significant peri-urban and rural populations. Recent estimates place the population at over 7 million people, with ongoing growth driven by both natural increase and migration from neighboring areas seeking economic opportunities linked to its proximity to Lagos and expanding industrial zones. Yoruba ethnic subgroups (Egba, Ijebu, Remo, Awori, Yewa) make up the dominant cultural groups, and English is the official language used in commerce and governance, with Yoruba widely spoken socially.

The population is youthful, with large proportions of working-age residents engaged in a mix of formal and informal livelihoods. Urbanization is increasingly reshaping household composition and consumption patterns as more people settle in towns such as Abeokuta, Ifo, Sagamu, and Ota, fuelling demand for marketed foods, including staple legumes like beans. This demographic landscape is also marked by socio-economic diversity: households range from relatively higher-income industrial and service workers to lower-income urban settlers and informal traders for whom food purchasing decisions are deeply shaped by income constraints and time scarcity.

Economic Context

Ogun State is one of Nigeria's most economically dynamic states. It has a robust industrial base, the second-highest concentration of manufacturing after Lagos, which supports employment in sectors such as food processing, cement production, consumer goods manufacturing, and agro-allied industries. Major national and multinational firms operate here, contributing to stronger internally generated revenue and economic activity compared with many other states

Sampling Technique

The target population comprised urban households in selected local government areas (LGAs) of Ogun State. A multistage sampling technique was employed:

1. Three LGAs were purposively selected based on population size and market accessibility, for urban household purchase decisions for bean varieties in Ogun State. The three Local Government Areas (LGAs) were purposively selected based on high population density and market accessibility. These were Abeokuta North, Ijebu-Ode, and Sagamu.
2. Three urban communities within the LGAs were randomly selected from each of the LGAs. In Abeokuta North, there are three key areas: Kuto, the commercial hub with active markets and high residential density; Asero, a mixed residential and commercial area with diverse households; and Itoku, a densely populated urban community with good access to markets. In Ijebu-Ode, Oke-Sopin, an urban residential area near major trading centers, Ijebu Ife Road, a community with a mix of middle-income households and access to markets, and Market Street/Central Ijebu-Ode, which is a highly commercial area with households that engage in

frequent food purchases. In Sagamu, Mowe / Itoki, an urban neighbourhood along major highways with easy market access, Sagamu Central, a high population density and proximity to Sagamu Market, and Ijebu Road Area, an urban community with diverse household types and food consumption patterns.

3. Forty (40) Households within these communities were systematically sampled. A total of 360 households participated in the study.

Study Data

Primary data were collected using a structured questionnaire, administered through face-to-face interviews. The questionnaire captured information on:

- i. Socioeconomic characteristics (age, sex, education, household size, income, marital status, employment status)
- ii. Bean consumption patterns and preferences
- iii. Household expenditure on food and non-food items
- iv. Sources of beans and decision-making on purchases

Analytical Technique

Descriptive statistics (frequency, percentage, mean, standard deviation) were used to summarize socioeconomic characteristics, bean consumption patterns, and expenditure.] The Double Hurdle Approach was used to determine the factors influencing the household purchase decision for beans. The Double Hurdle Model was used to determine the factors that affect demand for and the level of bean consumption. According to the double hurdle model formulated by Cragg (1971) and adopted by Akpan et al. (2013) assumes that households make two decisions concerning consumption. The behavioural content of this model has two separate hurdles that must be passed before a positive consumption level is obtained. The first hurdle involves a decision about whether or not a household consumes beans, i.e., the household consumption decision of beans and its determinants were identified in the first hurdle. This estimation procedure takes into account the correction for the possible sample selection bias created by the presence of zero expenditure for bean types reported by some households. The second hurdle concerns the level of beans consumed by households that may be affected by various factors related to the social and demographic characteristics.

The Double Hurdle model was employed to examine the factors influencing households' purchase decisions and the level of expenditure on beans. The model assumes that the decision to purchase beans and the amount spent on beans are governed by two separate stochastic processes, which may be influenced by different sets of factors.

First Hurdle: Purchase Decision (Participation Equation)

The first hurdle captures whether a household decides to purchase beans or not. This is modeled using a binary choice model (Probit).

$$D_i^* = Z_i\alpha + \varepsilon_i \quad (3)$$

$$D_i = \begin{cases} 1, & \text{if } D_i^* > 0 \text{ (household purchases beans)} \\ 0, & \text{otherwise} \end{cases}$$

where:

- D_i^* is a latent variable representing the household's propensity to purchase beans;
- D_i is the observed binary outcome (1 = purchase, 0 = no purchase);
- Z_i is a vector of socioeconomic and market-related characteristics influencing the purchase decision;
- α is a vector of parameters to be estimated;
- ε_i The error term is assumed to follow a standard normal distribution.

Second Hurdle: Expenditure Level (Consumption Equation)

The second hurdle models the level of expenditure on beans, conditional on a positive purchase decision, using a truncated regression model:

$$Y_i^* = X_i\beta + u_i \quad (4)$$

$$Y_i = \begin{cases} Y_i^* & \text{if } Y_i^* > 0 \text{ and } D_i = 1 \\ 0 & \text{otherwise} \end{cases}$$

where:

Y_i^* is the latent desired expenditure on beans;

Y_i is the observed expenditure on beans;

X_i is a vector of explanatory variables influencing expenditure intensity;

β is a vector of parameters to be estimated;

u_i is a normally distributed error term.

The Double Hurdle model is appropriate because it allows for zero expenditures arising from two distinct sources: households that choose not to purchase beans and households that purchase beans but at very low or zero expenditure levels. This flexibility makes it superior to the Tobit model in analysing household food purchase behaviour.

The vectors Z_i and X_i may include the age, gender of household head, educational level, household size, monthly income, bean prices, perceived quality of bean varieties, market accessibility, and preference for specific bean varieties

A poisson regression model was used to determine the factors influencing the common bean type/preference chosen by the respondents. The common bean types that were listed first from each choice set were chosen to construct a pattern of the most chosen common bean types. Similarly, a pattern of the least chosen common beans was constructed by choosing those types that were listed last from each choice set.

A Poisson regression model was employed to examine the factors influencing the number of times a particular common bean type was preferred by respondents. The dependent variable was constructed as a count variable, representing the frequency with which each common bean type appeared as the first-ranked choice across respondents' choice sets. This ranking was used to establish a pattern of the most preferred common bean types.

Let Y_i denote the count of times the i^{th} common bean type was chosen as the most preferred option. The Poisson model assumes that Y_i follows a Poisson distribution with parameter λ_i , such that:

$$Y_i \sim \text{Poisson}(\lambda_i) \quad (5)$$

The conditional mean of Y_i is modeled as an exponential function of a vector of explanatory variables:

$$\lambda_i = \mathbb{E}(Y_i | X_i) = \exp(\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki}) \quad (6)$$

or equivalently,

$$\ln(\lambda_i) = \beta_0 + \sum_{k=1}^K \beta_k X_{ki} \quad (7)$$

where:

- Y_i = number of times a common bean type was chosen as the first preference,
- X_{ki} = vector of explanatory variables influencing bean preference (e.g., perceived price, taste, cooking time, grain size, colour, availability, household income, education, and other socioeconomic or product attributes),
- β_0 = intercept term,
- β_k = parameters to be estimated.

The estimated coefficients indicate the effect of the explanatory variables on the expected count of preference for a particular common bean type. Positive coefficients imply an increase in the likelihood that a bean type is frequently chosen as the most preferred, while negative coefficients imply a decrease.

Results and Discussion

Description of the Socioeconomic Characteristics of Households

Table 1 presents the socioeconomic characteristics of the respondents, which provide important insights into the demographic and economic context shaping urban households' food purchase decisions, particularly for bean varieties in Ogun State.

The sex distribution shows that female respondents constituted 58.33%, while males accounted for 41.67%. This dominance of females aligns with existing evidence that women play a central role in household food provisioning and food purchase decisions in urban Nigeria. Women are often responsible for meal planning and food preparation, making them key decision-makers in staple food choices such as beans (Akinbode and Dipeolu, 2012; Quisumbing et al., 2014). The higher female representation, therefore, strengthens the relevance of the data for analysing household food consumption behaviour.

In terms of age, the majority of respondents (55.00%) fell within the 31–50 years age bracket, with a mean age of 42 years. This suggests that most respondents were economically active adults who are likely to bear primary responsibility for household welfare and food purchases. The presence of 33.33% of respondents aged 51 years and above further indicates that food purchasing decisions are influenced by individuals with substantial life experience and established consumption habits. Previous studies have shown that age influences food preferences, risk perception, and responsiveness to price

and quality attributes, especially for traditional staples like beans (Adepoju and Omonona, 2018).

Educational attainment among respondents was relatively low to moderate, with 30.00% having no formal education and 27.50% possessing only primary education, while just 20.00% attained tertiary education. Education is a critical factor in food choice behaviour, as it affects nutrition awareness, income opportunities, and the ability to assess quality attributes of food products (Oyinbo et al., 2019). Lower educational levels may limit access to information about improved bean varieties, nutritional benefits, and food safety, thereby influencing reliance on price and traditional preferences in purchase decisions.

The income distribution indicates that 45.00% of households earned between ₦31,000 and ₦50,000 monthly, while 30.00% earned below ₦30,000, with a mean monthly income of ₦42,200.40. This income level suggests that a significant proportion of respondents belong to low- to middle-income urban households. Income is a major determinant of food purchasing power and the ability to choose between different bean varieties, particularly when prices fluctuate (World Bank, 2021). Households with limited income are more likely to prioritise affordability over preferred attributes such as grain size or cooking time.

Marital status results show that 64.17% of respondents were married, implying the prevalence of family-based households with shared consumption responsibilities. Married households often have larger food needs and face greater pressure to balance food quality with quantity and affordability (Nwibo and Mbam, 2013). This finding is consistent with the observed household size distribution, where the majority (42.50%) had 4–6 members, and the mean household size was five persons. Larger household sizes typically increase food expenditure and influence the choice of cheaper staple food options, including specific bean varieties that offer value for money.

Employment status reveals that 73.33% of respondents were employed, suggesting a relatively stable source of income for most households. Employment enhances purchasing power and reduces vulnerability to food insecurity, although rising food prices can still constrain food choices among urban wage earners (FAO, 2019). The presence of 26.67% unemployed respondents highlights the heterogeneity of economic conditions among urban households and their potential implications for food access.

Regarding food culture, a substantial majority (82.50%) of households reported having a habit of eating beans, confirming the importance of beans as a staple food in the study area. This finding is consistent with national consumption patterns that identify beans as a key protein source in Nigerian diets (FAO, 2019). Such widespread consumption underscores the relevance of examining the factors influencing bean variety choices.

Decision-making patterns indicate that 61.67% of households reported that the household head makes food purchase decisions, while 38.33% involve all family members. This suggests a predominance of hierarchical decision-making structures, although collective decision-making is also notable. Household decision dynamics have been shown to influence food choice outcomes, particularly where preferences and budget priorities differ among members (Quisumbing et al., 2014).

Finally, respondents sourced beans mainly from street vendors and retail markets (44.17%), followed by local markets (31.67%), while supermarkets accounted for only 24.17%. This pattern reflects the informal nature of urban food distribution in Nigeria, where open markets and street vendors dominate staple food supply due to convenience and lower prices. The limited reliance on supermarkets suggests that price sensitivity and accessibility play a significant role in bean purchasing decisions.

Table 1. Socioeconomic Characteristics of the Consumers

Characteristic	Frequency	Percentage
Sex		
Female	210	58.33
Male	150	41.67
Age		
<30	42	11.67
31-50	198	55.00
51 and above	120	33.33
Mean age (years)	42	
Level of education		
None	108	30.00
Primary	99	27.50
Secondary	81	22.50
Tertiary	72	20.00
Monthly income (N)		
<30000	108	30.00
31000-50000	162	45.00
51000 and above	90	25.00
Mean	N42, 000	
Marital status		
Single	84	23.33
Married	231	64.17
Others	45	12.5
Employment status		
Employed	264	73.33
Unemployed	96	26.67
Household size		
1-3	114	31.67
4-6	153	42.50
7 and above	93	25.83
Mean	5	
Custom of the head of household		
Habit of eating beans	297	82.50
No bean-eating habit	63	17.50
Household food purchase decision		
Household head	222	61.67

Characteristic	Frequency	Percentage
All family members	138	38.33
Source of beans		
Local markets	114	31.67
Supermarkets	87	24.17
Street vendors/ retail market	159	44.16

Source: Field Survey, 2025.

Forms of Beans Consumed by Consumers

Table 2 presents the forms and varieties of beans consumed by the respondents, highlighting preferences across bean types, quality attributes, modes of consumption, and frequency of intake. These results provide important insights into consumer behaviour and the economic considerations underlying bean purchase decisions among urban households in Ogun State.

The results show that Nigerian brown beans (Ewa Olotu/Drum) were the most commonly purchased, with 80.00% of respondents indicating consumption, followed by honey beans (Ewa Oloyin) at 53.33%. In contrast, white beans (Mala/Sokoto) were consumed by 35.00% of respondents, while 27.50% reported consuming other bean types.

Analysis of the most chosen common bean types reveals a strong preference for beans with favourable quality attributes. The most selected type was brown, large-sized, fast-cooking beans with good quality, chosen by 90.00% of respondents. This preference underscores the importance of cooking time, grain size, and perceived quality in shaping consumer choices. Fast-cooking beans reduce fuel costs and preparation time, which is particularly important for urban households facing rising energy prices and busy work schedules. Similarly, large grain size is often associated with higher yield after cooking and better visual appeal, influencing consumer perceptions of value for money.

Conversely, the least chosen bean types were those perceived to have fewer desirable attributes. Notably, brown, medium-sized, slow-cooking beans with good quality were least preferred by 92.50% of respondents, while white, large-sized, slow-cooking beans of poor quality were avoided by 69.17%.

Regarding forms of beans consumed, cooked beans such as ewa-agoyin or bean porridge were the most preferred, consumed by 89.17% of respondents. This was followed closely by bean pudding (moi moi) at 81.67% and bean cake (akara) at 73.33%. These results reflect the versatility of beans in Nigerian cuisine and their integration into commonly consumed urban meals. Processed forms such as akara and moi moi are particularly popular in urban areas due to their convenience and compatibility with modern lifestyles. In contrast, bean flour, consumed by only 20.00%, and gbegiri, at 32.50%, appear to be less common, possibly due to regional preferences or the additional processing required.

The frequency of consumption indicates that beans remain a regular component of urban diets. About 32.50% of respondents consumed beans daily, while 23.33% consumed them weekly. However, 26.67% reported rare consumption, suggesting that despite their

nutritional value, bean intake may be constrained by factors such as price fluctuations, income limitations, or preferences for alternative protein sources. Similar patterns have been reported in urban food consumption studies, where rising food prices reduce the frequency of staple food consumption among vulnerable households (World Bank, 2021). The results further show that the majority of respondents (64.17%) chose between one and two common bean types, with a mean of 2.18 bean types selected. This indicates limited diversification in bean variety consumption, likely reflecting budget constraints and habitual purchasing behaviour. The relatively low standard deviation (1.09) suggests moderate variability in bean type choices across households. Limited variety selection is common among low- to middle-income urban households, where consumers tend to rely on familiar and trusted food options to minimise perceived risk and cost (Oyinbo et al., 2019).

Table 2: Forms of Beans Consumed by the Consumers

Forms of beans most purchased	Frequency	Percentage
Honey beans (Ewa Oloyin)	192	53.33
Nigerian Brown beans (Ewa Olotu/Drum)	288	80.00
White beans (mala, sokoto)	126	35.00
Others	99	27.50
Most chosen bean types	0	
Brown, Large, Fast, Good	324	90.00
Brown, Medium, Slow, good	249	69.17
Brown, Large, Fast, Poor	177	49.17
White, Large, Slow, Poor	75	20.83
White, Large, Fast, Good	231	64.17
White, Small, Slow, Good	192	53.33
Least chosen common bean types	0	
Brown, Large, Fast, Good	126	35.00
Brown, Medium, Slow, good	333	92.50
Brown, Large, Fast, Poor	207	57.50
White, Large, Slow, Poor	249	69.17
White, Large, Fast, Good	192	53.33
White, Small, Slow, Good	231	64.17
Most preferred form consumed	0	
Bean flour	72	20.00
Beans cake or buns (Akara)	264	73.33
Bean flour soup (Gbegiri)	117	32.50
Cooked beans (Ewa-Agoyin/beans porridge)	321	89.17
Beans pudding (moi moi)	294	81.67
Frequency of consumption	0	
Daily	117	32.50
Weekly	84	23.33
Monthly	63	17.50
Rarely	96	26.67

Forms of beans most purchased	Frequency	Percentage
Number of common bean types chosen	0	
1-2	231	64.17
3 and above	129	35.83
Mean	2.18	
Standard deviation/variance	1.09/2.01	

Source: Field survey, 2025.

Pattern of Consumption Expenditure of the Consumers

The pattern of weekly consumption expenditure presented in Table 3 provides important insights into household budget allocation and the relative importance of food and non-food items among urban households. The mean weekly consumption expenditure of ₦20,432.63 indicates the level of household welfare and purchasing capacity, which plays a crucial role in shaping food choice decisions, including the selection of bean varieties.

Expenditure on cereals accounted for the largest share (27.94%) of total weekly consumption expenditure. This finding reflects the dominant role of cereals such as rice, maize, and wheat products in urban Nigerian diets, largely due to their versatility, convenience, and increasing preference among urban households (Adepoju and Omonona, 2018). The high allocation to cereals is consistent with dietary transition patterns observed in urban areas, where convenience foods increasingly replace traditional staples.

Roots and tubers constituted 13.39% of total expenditure, highlighting the continued importance of foods such as cassava, yams, and plantain in household diets. These staples remain significant due to their affordability and cultural acceptance, especially among households seeking to balance food quantity with cost (Nwibo and Mbam, 2013). Similarly, animal products accounted for 12.62% of expenditure, reflecting households' efforts to diversify protein sources despite rising prices of meat, fish, and eggs.

Expenditure on pulses/cowpeas (8.11%), which includes beans, was relatively modest compared to cereals and roots and tubers. This share, however, remains economically significant given the role of beans as a key source of plant-based protein. The lower expenditure share may be attributed to price sensitivity, income constraints, and substitution effects between beans and other protein sources such as animal products (Oyinbo et al., 2019). Fruits and vegetables accounted for 7.21%, while miscellaneous food items represented 5.49%, suggesting limited dietary diversity, a pattern commonly observed among low- and middle-income urban households.

Notably, non-food expenditure accounted for 25.24% of total weekly consumption, nearly matching cereal expenditure. This substantial allocation to non-food items such as housing, transportation, energy, health, and education reflects the competing demands on household income in urban settings. Rising costs of living in urban areas often constrain food budgets and influence households to prioritise cheaper food options or reduce consumption frequency of preferred staples (World Bank, 2021).

The second part of the table further disaggregates expenditure on beans by variety, revealing important preference and expenditure patterns. Nigerian brown beans (Ewa Olotu/Drum) recorded the highest selection probability (0.53) and mean expenditure (₦2,832.69), confirming their dominance in household consumption. This preference aligns with earlier findings that brown beans are widely favoured due to their taste, adaptability to local dishes, and availability in urban markets (Akinbode and Dipeolu, 2012).

Honey beans (Ewa Oloyin) had a selection probability of 0.32 and a mean expenditure of ₦1,563.97, indicating moderate but significant patronage. Honey beans are often preferred for their sweetness and relatively faster cooking time, attributes that appeal to urban households facing time and energy constraints (FAO, 2019). In contrast, white beans (Mala/Sokoto) and other bean varieties recorded much lower selection probabilities (0.11 and 0.06, respectively) and mean expenditures. These lower values suggest weaker consumer preference, which may be linked to perceptions of poorer taste, longer cooking time, or limited familiarity among southwestern Nigerian consumers (Oyinbo et al., 2019). The overall mean expenditure on beans (₦1,657.51 per week) corresponds with the share of pulses in total food expenditure, reinforcing the role of beans as an important but budget-constrained staple. The variation in expenditure across bean varieties indicates that households do not treat beans as a homogeneous commodity; rather, they make differentiated choices based on income, prices, and quality attributes. Such behaviour is consistent with consumer theory, which posits that households allocate expenditure to maximise utility subject to budget constraints (Deaton and Muellbauer, 1980).

Table 3. Pattern of Consumption Expenditure of the Consumers (N/Week)

Categories	Expenditure	Percent
Cereals	5709.19	27.94
Pulses/ Cowpeas	1657.51	8.11
Roots and Tubers	2736.66	13.39
Fruits and Vegetables	1473.35	7.21
Animal Products	2578.34	12.62
Other Food (Miscellaneous)	1120.88	5.49
Non – Food	5156.70	25.24
Mean Consumption Expenditure (N/week)	20432.63	100.00
Beans variety	Selection probability	Mean expenditure
Honey beans (Ewa Oloyin)	0.32	1563.97
Nigerian Brown beans (Ewa Olotu/Drum)	0.53	2832.69
White beans (mala/sokoto)	0.11	1334.87
Others	0.04	908.36
Overall mean		1657.51

Source: Field Survey, 2025.

Determinants of Purchase Decision of Bean Variety

Table 4 presents the estimated results of the determinants of households' purchase decisions for bean varieties and their consumption expenditure. The model results provide empirical evidence on how socioeconomic and demographic factors influence both the likelihood of purchase beans, and the level of expenditure allocated to bean consumption. The overall model fit is satisfactory, as indicated by the likelihood ratio chi-square value (LR $\chi^2 = 69.362$; $p < 0.01$), the pseudo R^2 of 0.417 for the purchase decision model, and an R^2 of 0.781 for the consumption expenditure model. These statistics suggest that the included explanatory variables adequately explain variations in households' bean purchase behaviour.

Age of the household head had a negative and statistically significant effect on purchase decision ($p < 0.01$, $\beta = -0.016$), implying that younger household heads were more likely to purchase preferred bean varieties than older ones. This may reflect greater openness among younger consumers to product differentiation and quality attributes such as fast cooking time and grain size. However, age was not statistically significant in explaining consumption expenditure, suggesting that while age influences choice, it does not necessarily determine how much households spend on beans. Similar findings have been reported in food choice studies where younger consumers show stronger preference differentiation, while expenditure levels are more closely tied to income and household needs. It has been shown that age can influence food preferences differently, and that overall expenditure on food items tends to correlate with household income and needs (Mekonnen et al., 2023).

Sex was statistically significant in both models at ($p < 0.05$). The negative coefficient for sex in the purchase decision model indicates that female-headed households were more likely to make favourable bean variety choices compared to male-headed households. This finding is consistent with evidence that women are more involved in food purchasing and preparation decisions and are more sensitive to food quality attributes (Quisumbing et al., 2014). In the consumption expenditure model, sex had a positive and significant effect, suggesting that male-headed households tend to spend more on beans, possibly due to larger household sizes or higher income levels associated with male employment patterns (Nwibo and Mbam, 2013).

Household size exhibited a negative and significant relationship with purchase decision at the ($p < 0.1$), indicating that larger households are less likely to purchase preferred or higher-quality bean varieties. This result suggests that as household size increases, budget constraints intensify, leading households to prioritise quantity over quality. Conversely, household size had a positive and significant effect on consumption expenditure, reflecting the increased food needs of larger households. This pattern aligns with Engel's law, which posits that larger households allocate more total expenditure to food but may compromise on quality to meet quantity requirements (Deaton and Muellbauer, 1980).

Education had a positive and highly significant ($p < 0.01$) influence on both purchase decision and consumption expenditure. Households with more years of schooling were

more likely to choose preferred bean varieties and spend more on beans. Education enhances awareness of nutritional benefits, quality attributes, and food safety, thereby influencing informed purchasing behaviour (Oyinbo et al., 2019). This finding underscores the role of human capital in shaping food consumption patterns in urban settings.

Marital status was not statistically significant in influencing purchase decisions, but showed a positive and significant ($p < 0.01$) effect on consumption expenditure. Married households are likely to have greater food requirements due to family responsibilities, leading to higher expenditure on staples such as beans. Similar results have been observed in household food expenditure studies in Nigeria.

Employment status emerged as a strong positive determinant of both purchase decision and consumption expenditure ($p < 0.01$). Employed household heads are more likely to purchase preferred bean varieties and allocate higher expenditure to beans, reflecting the importance of stable income in enhancing food choice flexibility and purchasing power (World Bank, 2021). This result highlights the vulnerability of unemployed households to constrained food choices.

Income had a positive and statistically significant effect on purchase decision, indicating that higher-income households are more likely to choose preferred bean varieties. However, income was not statistically significant in the consumption expenditure model. This suggests that while income influences the type of bean varieties chosen, expenditure levels may be moderated by household size, prices, and substitution with other protein sources. This finding supports earlier studies that report non-linear relationships between income and food expenditure for staple foods (Deaton and Muellbauer, 1980).

Market access was statistically significant in both models. The positive coefficient for market access in the purchase decision model suggests that urban-based households were more likely to purchase certain bean varieties compared to their rural counterparts, possibly due to better access to local markets or familiarity with traditional varieties. In contrast, the negative and significant coefficient in the expenditure model indicates that urban households spend less on beans than rural households (FAO, 2019). Consumers are constrained by what is available in local markets. Even when a preferred variety exists, poor availability or seasonal shortages may force consumers to switch to substitutes. Proximity to markets affects purchase decisions. Urban consumers with access to multiple markets may have more variety choices compared to rural consumers.

The price of beans exerts a positive ($p < 0.01$) influence on consumers' purchase decisions. Price is one of the most critical determinants of bean variety choice. Consumers tend to compare prices across different varieties (e.g., white beans, brown beans, honey beans) before making a purchase. When prices rise, households, especially low- and middle-income earners, may switch to cheaper varieties or reduce quantity demanded. Perceived price refers to consumers' subjective assessment of whether the price of beans is fair, affordable, or offers good value relative to income, quality, and available substitutes. Price-quality perception affects varietal choice. Some consumers associate higher prices with better quality, cleanliness, or nutritional value. In such cases, a moderately higher perceived price can positively influence purchase decisions, especially among middle- and high-

income households who view premium bean varieties as offering better value for money. Conversely, if a high price is not matched with visible quality differences, consumers may perceive the beans as overpriced, negatively affecting demand.

Table 4: Determinants of the Purchase Decision of Bean of Consumers

Variables	Purchase decision		Consumption expenditure	
	Coefficients	t-values	Coefficients	t-values
Constant	0.153***	3.083	0.133	3.630
Age	-0.016***	-3.997	0.166	-1.105
Sex	-0.373**	2.091	0.254**	2.001
Household size	-0.325*	-1.898	0.102***	3.612
Education	0.198***	4.832	0.099***	5.340
Marital status	0.017	1.656	0.148***	3.721
Employment status	1.492***	3.002	0.058**	2.394
Income	0.182***	4.477	0.907	0.346
Market and Accessibility Factors	0.014**	2.121	-0.024***	-3.998
Perceived price of beans	0.031***	5.627	-0.004**	2.067
Availability of preferred variety	0.066**	2.004	0.114	1.412
LR ch ² (g)	69.362		R ²	0.781
Prob>chi ²	0.001			
Pseudo R ²	0.417			
Log likelihood	1104.621			

t- values are in parenthesis; ***, ** and * -1%, 5% and 10% level of probability respectively.

Determinants of the Number of Bean Varieties Chosen by the Consumers

Table 5 presents the regression results on the determinants of the number of bean types chosen by households, providing insights into factors influencing variety diversification in bean consumption. The overall model is statistically significant, as indicated by the Wald chi-square value of 804.18 ($p < 0.01$), suggesting that the included explanatory variables jointly explain variations in the number of bean types selected by households. Although the pseudo R² of 0.1083 is relatively modest, this is typical for count or discrete choice models and indicates a reasonable explanatory power given the behavioural nature of food choice decisions (Cameron and Trivedi, 2013).

The number of bean varieties chosen by consumers (i.e., variety diversity in purchase) is influenced by a combination of economic, product-related, socio-demographic, and market factors. In the context of urban food markets such as those in Ogun State, the key determinants can be discussed as follows:

Sex of the household head had a positive and statistically significant effect ($p < 0.05$), with female-headed households more likely to choose a higher number of bean types. This result reinforces existing evidence that women tend to exhibit greater diversity in food choices due to their primary role in food preparation and nutrition-related decision-making (Quisumbing et al., 2014). Female household heads may also be more responsive to

variations in taste, cooking qualities, and suitability of beans for different dishes, thereby increasing the number of varieties chosen.

Education showed a positive and highly significant ($p < 0.01$), influence on the number of bean types selected. An additional year of schooling increased the likelihood of households choosing more bean varieties. Education enhances awareness of nutritional benefits, food quality attributes, and dietary diversity, leading households to explore and adopt different bean varieties rather than relying on a single type (Oyinbo et al., 2019). This finding supports the argument that human capital development plays a critical role in promoting diversified and nutritionally balanced diets.

Household size had a positive but statistically insignificant ($p < 0.01$), coefficient, indicating that the number of persons in a household does not significantly influence the diversity of bean types chosen. This suggests that larger households may increase the quantity of beans purchased rather than the number of varieties, prioritising affordability and sufficiency over diversification. Similar findings have been reported in studies where household size affects food expenditure but not necessarily food variety (Nwibo and Mbam, 2013).

Marital status was also not statistically significant, implying that being married does not independently determine the number of bean types chosen once other socioeconomic factors are controlled for. This may be because the effect of marital status is already captured through related variables such as household size, income, and employment status.

Income had a positive and statistically significant effect at the 5% level, indicating that higher-income households tend to select a greater number of bean types. Increased income relaxes budget constraints, enabling households to experiment with different varieties and absorb price differences among bean types (Deaton and Muellbauer, 1980). This finding aligns with Engel's theory, which suggests that dietary diversity increases with income growth.

Age had a negative but statistically insignificant coefficient, suggesting that older household heads tend to choose fewer bean types, although the effect is not strong enough to be statistically meaningful. This pattern may reflect greater attachment to traditional consumption habits among older consumers, while younger consumers are more open to variety and experimentation (Adepoju and Omonona, 2018).

Employment status emerged as a strong positive determinant of the number of bean types chosen at the 1% significance level. Employed household heads are more likely to choose a wider range of bean varieties, reflecting greater income stability and reduced vulnerability to food price shocks. Employment also increases exposure to diverse food markets and consumption preferences, particularly in urban settings (World Bank, 2021).

The bean-eating habit was also positively and significantly related to the number of bean types chosen. Households with an established habit of consuming beans are more likely to diversify their choices across different bean varieties. Regular consumption encourages familiarity with multiple varieties and increases sensitivity to differences in taste, cooking time, and quality attributes (FAO, 2019).

Self-perceived physical attributes of beans positively influence the number of bean varieties consumed. Consumers often associate large, clean, and uniformly shaped grains with better quality. Bean varieties with fewer stones, weevils, or broken grains are more attractive in the market and are more likely to be purchased. Also, bean colour is a major determinant of preference. In many Nigerian households, brown or honey-coloured beans are preferred for certain traditional dishes, while white beans may be chosen for specific recipes. Cultural food habits strongly shape these preferences. Beans that cook faster are highly preferred due to rising energy costs (gas, firewood, electricity). Shorter cooking time reduces fuel expenditure and saves time, making such varieties more attractive to urban households.

Cultural and Consumption Patterns: The cultural and consumption patterns of beans positively influenced bean variety diversity purchase. Certain varieties are preferred for specific local dishes, increasing the likelihood of multiple-variety purchases. Also, dietary diversity consciousness and health-aware consumers deliberately choose more than one variety to improve dietary balance. Besides, habit persistence and long-standing consumption habits can either expand or limit variety choice.

The constant term was positive and statistically significant, indicating that even in the absence of the explanatory variables, households have a baseline tendency to choose more than one bean type. This underscores the cultural importance of beans in household diets within the study area.

Overall, the results indicate that gender, education, income, employment status, and bean consumption habits are key determinants of bean variety diversification among households. These findings suggest that policies aimed at improving education, employment opportunities, and household income can enhance dietary diversity and promote informed food choices. Additionally, recognising the central role of women in food decision-making can help tailor interventions that encourage the consumption of diverse and nutritionally bene

Table 5: Determinants of the Number of Bean Varieties Chosen by the Households

Variables	Coefficient	Std. Error	Z	P> z
Sex	-0.276***	0.039	-7.12	0.000
Education	0.015***	0.003	5.64	0.000
Household size	0.000	0.005	0.02	0.985
Marital status	5.001	5.342	0.572	0.117
Income	0.061**	0.028	2.23	0.026
Age	-0.024	0.027	-0.91	0.361
Employment status	0.569***	0.042	13.54	0.000
Bean-eating habit	0.044***	0.003	-15.23	0.000
Quality and Physical Attributes of Beans	0.196***	0.075	2.61	0.009
Cultural and Consumption Patterns	0.041**	0.018	2.28	0.025

Variables	Coefficient	Std. Error	Z	P> z
Constant	0.666***	0.095	7.04	0.000
Number of Observation = 360				
Wald chi ² (14) = 804.18				
Prob > chi ² = 0.0002				
Pseudo R ² = 0.1083				
Log pseudo likelihood = -3439.1126				

*, **, *** implies 10%, 5% and 1% statistically significant coefficients

Discussion

The socioeconomic profile of respondents in this study highlights the predominance of economically active, low- to middle-income urban households with moderate household sizes and well-established bean consumption habits. These characteristics are critical in understanding the preferences, constraints, and trade-offs that shape purchasing decisions for different bean varieties in Ogun State. Urban households frequently operate within limited time and budget resources, a context that strongly influences both consumption patterns and variety choice.

The marked dominance of brown beans reflects entrenched consumer preferences in southwestern Nigeria, where this bean type is prized for its taste, adaptability across a range of local dishes, and relatively steady availability in urban markets (Akinbode and Dipeolu, 2012; Oyinbo *et al.*, 2019). Likewise, honey beans—which are appreciated for their natural sweetness and reduced cooking time—also attract substantial demand, particularly among households constrained by time and energy costs. Indeed, slow cooking time emerges as a significant deterrent to the purchase of certain bean types, even when other desirable attributes are present; this is consistent with findings that urban consumers increasingly prioritise convenience and cost-efficiency alongside traditional quality attributes (Adepoju and Omonona, 2018). Collectively, these results suggest that urban households in Ogun State show a distinct preference for brown beans with favourable cooking and quality characteristics, preferences that are reinforced by patterns of consumption in cooked and processed forms aligned with urban lifestyles. Thus, price, cooking time, and quality perceptions play substantial roles in shaping bean purchase decisions.

The observed expenditure pattern further indicates that, while beans remain a central component of urban diets in Ogun State, their consumption is mediated by competing food and non-food demands as well as strong varietal preferences. The dominance of Nigerian brown beans, coupled with relatively lower expenditure on other varieties, underscores the need for market and policy interventions aimed at improving the affordability, quality, and availability of preferred bean types. A clearer understanding of these expenditure dynamics is essential for designing nutrition-sensitive food policies and enhancing the efficiency of bean value chains in urban Nigeria.

Results from the econometric analysis reveal that demographic, socioeconomic, and locational factors jointly influence bean variety choice and consumption expenditure. Education, employment status, and income emerge as significant drivers of bean variety

selection, while household size and employment status significantly affect expenditure levels. These findings are consistent with consumer behaviour theory and empirical evidence on food demand in developing countries, where higher income and education levels tend to broaden food choice and expenditure patterns (Adepoju and Omonona, 2018).

The Poisson regression results examining the number of bean varieties chosen by households further indicate that gender, education, income, employment status, and bean consumption habits are key determinants of variety diversification. These results suggest that policies promoting education, employment opportunities, and increased household income may enhance dietary diversity and support more informed food choices. Additionally, recognising the central role of women in household food decision-making can guide interventions designed to encourage the consumption of diverse and nutritionally beneficial bean varieties.

Conclusion

This study examined the economics behind urban households' purchase decisions for bean varieties in Ogun State, with particular emphasis on consumption patterns, expenditure allocation, varietal preferences, and the socioeconomic factors influencing choice and diversity. The findings underscore the continued importance of beans as a staple food and a key source of affordable plant-based protein among urban households, despite increasing food prices and competing non-food expenditure demands.

The study demonstrates that urban households in Ogun State do not treat beans as a homogeneous commodity. Instead, they make nuanced, economically rational choices based on prices, income, quality attributes, and household characteristics. These insights have important policy implications. Interventions aimed at improving bean market efficiency, promoting consumer-preferred varieties, and enhancing affordability, particularly for low-income and large households, are critical. Policies that support income growth, employment opportunities, education, and women's empowerment will not only improve household welfare but also encourage more diverse and nutritious food consumption patterns.

In conclusion, understanding the economics behind the pot provides a valuable framework for aligning bean production, marketing, and policy interventions with the realities of urban consumer behaviour. Such alignment is essential for strengthening food security, improving nutrition, and fostering sustainable food systems in rapidly urbanising states like Ogun State.

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