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Consumer Preferences and Consumption Patterns of Maize Products in Ondo State, Nigeria.

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ABSTRACT

This study examined consumer preferences for maize products in Akoko South West Local Government Area of Ondo State. The objectives were to assess the socio-economic characteristics of consumers, identify the various maize products available, determine factors influencing consumer preferences, explore the relationship between household income and maize consumption patterns, and identify key constraints affecting household choices. A purposive sampling technique was used to select five communities—Akungba, Iwaro, Etioro, Ayegunle, and Oba—while simple random sampling was employed to select 20 households from each community, resulting in a total of 100 maize-consuming households. Primary data were collected using structured questionnaires. Descriptive statistics were used to analyze respondents' socio-economic characteristics, available maize products, and constraints affecting household preferences. Logistic Regression was employed to determine factors influencing consumer preferences, while Pearson Correlation was used to assess the relationship between household income and maize product consumption patterns.

The findings revealed that the mean age of respondents was 42years, with 51.7% being female and an average household size of 4. Approximately 66.7% of respondents were married, and 43.3% of household heads were traders, with a mean monthly income of ₦35.59. Among maize products, pap was the most commonly consumed in the area. The result of the regression showed that household size and income are the major factors that influence the consumption of maize products in the study area, with household size significant at the 5% level and income at the 10% level. Pearson correlation analysis indicated that roasted corn had a weak correlation with household income. The primary constraints identified included product price, household income, and proximity to markets.

Conclusively, *the study recommends that the government should support informal sector especially traders and farmers through microcredit schemes to increase households earnings, support women in food decision making, encourage value addition and product diversification, stabilize maize prices and improve accessibility.*

Key words: Consumer**,** Preferences, Consumption, Patterns, Maize, Products.

INTRODUCTION

Maize (*Zea mays*) plays a crucial role in Nigeria's agriculture and food security, ranking among the most widely cultivated crops in the country. Its adaptability to diverse ecological zones allows for widespread cultivation across various states, with Kaduna, Plateau, Benue, Katsina, Oyo, and Ondo being major producers (Lawal and Adesope, 2021). As a photoperiod-insensitive crop, maize can be grown year-round, making it highly flexible in different cropping systems (Kamara *et al.,* 2014). It is a dominant cereal crop in the Guinea and Sudan savannas of northern Nigeria, gradually replacing traditional staples like millet and sorghum (Lawal and Adesope, 2021). In 2018, Nigeria produced approximately 10.2 million tons of maize from 4.8 million hectares, making it the highest producer in Africa (Kamara *et al.,* 2020). Research efforts have led to the development of high-yielding maize varieties resistant to drought, diseases, low nitrogen, and *Striga* infestation (Kamara *et al.,*2014). However, despite these advancements, maize yields in the northern savannas remain relatively low (Kamara *et al.*,2014).

Maize is cultivated by both small-scale subsistence farmers and larger commercial enterprises, using a mix of traditional and modern farming techniques (Ebukiba *et al.,* 2020). It serves as a staple food for millions of Nigerians, consumed in various forms such as boiled or roasted corn, maize flour-based foods like 'tuwo' and 'agidi,' and traditional dishes like 'pap' (ogi), 'akamu,' maize porridge, fried rice, and salads (Kamara *et al.,* 2014). Beyond direct consumption, maize is a key raw material for various industries, including animal feed production, ethanol manufacturing, and food processing (Jarzebski *et al.,* 2020). It is rich in carbohydrates, providing essential energy, and also contains vitamins, minerals, and fiber, contributing to a balanced diet (Kamara *et al.,* 2014). The maize value chain supports employment for farmers, traders, processors, and transporters, significantly boosting rural economies (Grote *et al.,* 2021). It also plays a crucial role in local markets, facilitating trade and influencing economic transactions within communities (Grote *et al.,* 2021)

Maize thrives in a wide range of climatic conditions due to its diverse varieties (Kamara *et al.,* 2014). Maize requires warmth throughout its active growth period. Optimal production occurs in regions where the warmest month has

temperatures ranging between 21°C and 27°C (FAO, 2018). It does not perform well in areas where the growing season temperature falls below 19°C or where the average night temperature drops below 14°C (Kamara *et al.,* 2014). Proper planting timing is crucial for dry-season irrigation farming. While maize can tolerate temperatures as high as 35°C, excessive heat during pollen shedding can reduce yields (Wagas *et al.,* 2021). Temperature variations impact different growth stages, with germination being optimal around 18°C (Kamara *et al.,* 2014). Below 14°C, germination rates decline, especially during the dry season period (FAO, 2018). Additionally, cool, wet conditions encourage pathogens that cause seedling diseases and kernel rots (Kamara *et al.,*2014).

Therefore, the aimed of this study to assess the socio-economic characteristics of consumers, identify the various maize products available, determine factors influencing consumer preferences, explore the relationship between household income and maize consumption patterns, and identify key constraints affecting household choices.

1. Problem statement

Despite maize being a staple food and a vital agricultural commodity, there is a limited understanding of consumer preferences and purchasing behavior regarding maize products. The lack of comprehensive research on the factors influencing consumer choices creates challenges for farmers, traders, and other stakeholders in aligning production with market demands (Adeyemi *et al.,* 2022). This gap affects agricultural decision-making, market competitiveness, and the economic viability of maize-based products in the region. Understanding consumer preferences and buying behavior is essential for aligning maize production with market demands. However, limited research on maize product consumption patterns in Akoko South West Local Government Area restricts farmers and traders from making informed decisions. This knowledge gap results in inefficiencies in production, market supply imbalances, and economic challenges for stakeholders (Adeyemi *et al.,* 2022).

Investigating these consumer dynamics will provide valuable insights to enhance agricultural strategies, improve market competitiveness, and support economic growth in the region. This study will address the following research questions and others that may arise in the course of study:

1. What are the socio-economic characteristics of maize product consumers in Akoko South West Local Government Area?
2. What are the different forms of maize products consumed in the study area?
3. What factors influence consumer preferences for maize products?
4. How does household income affect the types of maize products consumed?

5. What challenges do households face in accessing and selecting their preferred maize products?

This research study was to investigate consumer preferences and consumption patterns of maize products in Akoko South West, Ondo State. The specific objectives of the study were to:

1. Describe the socio-economic characteristics of consumers of maize products in Akoko South West Local Government Area.
2. Identify the various forms of maize products consumed in the study area.
3. Determine the factors influencing consumer preferences for maize products.
4. Assess the relationship between household income and the types of maize products consumed.
5. Identify the key challenges households face in selecting preferred maize products in the study area.

2. Justification

Studying consumer preferences for maize products is essential for aligning agricultural production with market demand, enhancing market efficiency, and reducing post-harvest losses (Nzeyimana and Odularu, 2024). It supports agricultural development by encouraging the adoption of improved maize varieties, which contributes to food security by ensuring maize products meet nutritional needs (Kamara *et al.,* 2014). Additionally, understanding consumer preferences allows businesses to tailor products, increase profitability, and create employment opportunities within the maize value chain (Adeyemi *et al.,* 2022). This research also provides valuable insights for policymakers, enabling evidence-based decisions that support economic growth, rural development, and sustainable agriculture (Nzeyimana and Odularu, 2024).

MATERIALS AND METHODS

METHODOLOGY

1. The Study Area

This research was carried out in carried out in Akoko South-West Local Government of Ondo State. The selection of Akoko South-West for this study was considered suitable due to its established history and prominence in maize production. Generally, Akoko is a large Yoruba cultural sub-group in the North Eastern part of Yoruba land and it extends from Ondo State to Edo state. It has a population of about 815,360 people (Federal Government of Nigeria, 2007) with a land area of 1,283,443 km2 and with the coordinates of 7°23'51.58" N 5°41'40.67" E. It takes 4 out of the 18 local government areas in the state. The local government

areas include Akoko North East, Akoko South West, Akoko North West, and Akoko South East (Figure 1).

The major occupation there is farming and most of the people in the district are engaged in small- and large-scale farming with major arable crops cultivated. Some of the crops grown include groundnut, tomatoes, maize, cocoa, cassava, yam, plantain *etc.*

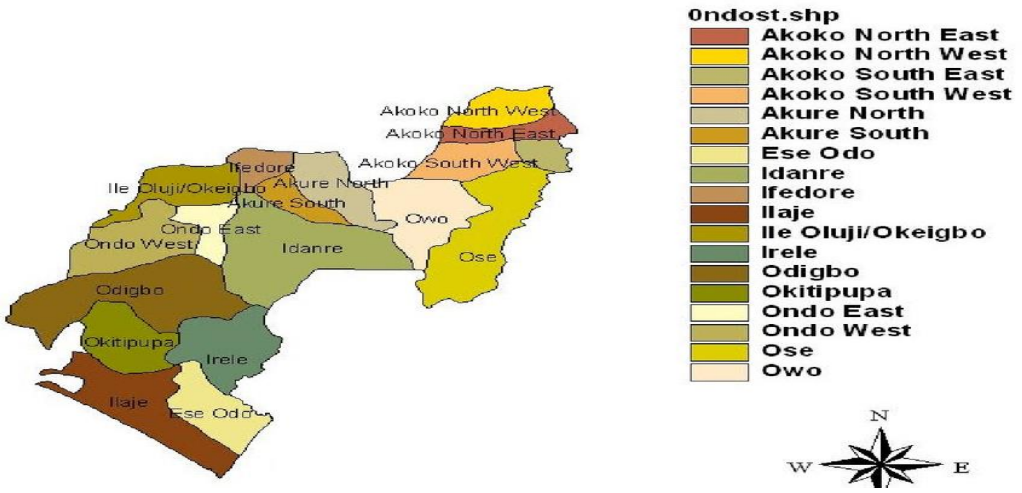

Figure-1. Map of Akoko Districts ,Ondo State
Source: (Ojo, O.S., 2024)

2. Sampling Technique

Akoko South-west LGA was chosen because of the heavy concentration of maize(*Zea mays*)crop in the area. Multi-stage sampling was used to select samples for the study. The first stage involved the purposive selection of one local government from the eighteen local government areas that make up the entire Ondo state while the second stage involved a simple random selection of six (6) out of eight (8) communities in the local government area. The last stage involved a simple random selection of twenty (20) rural farmers from each selected community, which totaled one hundred (120) rural farmers in all the selected communities.

3. Data analysis

Data for analysis were generated primarily using interview scheduled and structured questionnaires administered to one hundred (120) respondents selected for the study.

4. Analytical technique

Data for the study were analyzed using both descriptive and inferential statistics. Objectives (i), (ii) and (v) were analyzed using descriptive statistics such as mean, percentages and frequency distribution. Objective (iii) was analyzed Logit Regression Analysis. Objective (iv) was analyzed using Pearson Correlation Test.

5. Model Specification

6. Logit Regression Analysis

The study utilized the Logit Regression analysis to determine the significance of various factors influencing consumers' preferences for maize products by the households (Eastwood *et al.,* 1987). The model included variables such as household income, family size, educational level, gender of the household head, quantity of product, age of the household head, and the price of processed products.

$$\gamma = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \cdots + B_8 X_8 + \varepsilon$$

Where; Y= Preference for Maize Products (1- preferred, 0- otherwise), β_0 = Constant, $\boldsymbol{\beta_1}$ = $\boldsymbol{\beta_8}$ coefficients of independent variables, X_1= Gender (Male = 1, Female = 0), X_2= Marital status (married = 1, single = 0), X_3= Age (years), X_4= Household size (numbers), X_5= Level of Education (1- educated, 0- otherwise), X_6 = Monthly income (₦), X_7= Price of Maize products (₦), X_8 = Quality of products (rating scale), ε = The error term.

7. Pearson correlation*:*

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}}$$

r = correlation coefficient, x = income, y = maize products

RESULTS AND DISCUSSION

1. Socio-economic characteristics

The socio-economic characteristics of the respondents considered were Age distribution, Marital status, Educational status, Gender distribution, Household size, Occupational distribution, Engagement in farming activities, Frequency of consumption, and Monthly income distribution as shown in Table 1.

Table 1. Socio-economic characteristics of the respondents (n =120)

Characteristics	Frequency	Percentage	Mean
Age (Years)			
18-25	19	15.8	
26-35	26	21.7	
36-45	29	24.2	42
46-55	25	20.8	
56-65	10	8.3	
66-75	9	7.5	
76-85	2	1.7	
Marital status			
Single	32	26.7	
Married	80	66.7	
Divorced	4	3.3	
Widow	4	3.3	
Educational level			
No formal education	3	2.4	
Primary education	17	14.2	
Secondary education	44	36.7	
Tertiary education	56	46.7	
Gender			
Male	58	48.3	
Female	62	51.7	
Household size			
1-5	94	78.3	4.8
6-10	20	16.7	
11-15	6	5	
Occupation			
Farming	43	35.8	
Civil servants	7	5.8	
Artisans	13	10.8	
Traders	52	43.3	
Retired	5	4.2	
Engagement in farming activities			
Yes	83	69.2	
No	37	30.8	
Consumption frequency of maize products			
Daily	16	13.3	
Weekly	36	30	
Monthly	22	18.3	
Rarely	45	37.5	
Never	1	0.8	

Monthly Income			
₦1,000-₦20,000	56	46.7	₦35,59
₦21,000-₦40,000	20	16.7	
₦41,000-₦60,000	29	24.2	
₦61,000-₦80,000	7	5.8	
₦81,000-₦100,000	5	4.2	
₦100,000 and Above	3	2.5	

Source: Field survey, 2025

The results showed that 15.8% of respondents were aged 18–25 years, 21.7% were between 26–35 years, 24.2% fell within the 36–45 years range, 20.8% were aged 46–55 years, 8.3% were 56–65 years, 7.5% were 66–75 years, and 1.7% were between 76–85 years. The mean age of the respondents was approximately 42.0 years, indicating that the sample was largely composed of individuals within the economically active and decision-making age group. This age structure implies that maize product preferences and consumption patterns are primarily driven by middle-aged adults who are likely to have regular incomes, household responsibilities, and greater concern for food quality, nutrition, and affordability. This aligns with Reardon *et al.* (2019), who found that middle-aged consumers in developing countries are often at the forefront of food purchasing decisions, influenced by both economic and health-related factors. Therefore, understanding this demographic distribution is essential for designing maize-based products, marketing strategies, and policy interventions that resonate with the needs and preferences of this dominant age group. Efforts such as nutritional education, product labeling and value-added maize innovations are more likely to succeed when tailored to the priorities of middle-aged consumers.

The study revealed that a majority (66.7%) of the respondents were married, while 26.7% were single, and only a small proportion were either divorced (3.3%) or widowed (3.3%). This marital distribution suggests that household consumption decisions regarding maize products are likely influenced by family responsibilities and joint decision-making processes typical of married households (Obayelu and Salau, 2010). Consequently, maize consumption patterns in the area may reflect the preferences and nutritional needs of family units rather than individuals, highlighting the importance of targeting family-based marketing and nutritional interventions.

The educational status indicated that the majority of respondents (46.7%) had attained tertiary education, followed by 36.7% with secondary education, 14.2% with only primary education, and a small proportion (2.4%) without any formal education. This educational profile reflects a relatively well-educated population, which has significant implications for consumer behavior and maize product choices. Higher educational attainment is often associated with better nutritional

awareness, greater openness to product innovation, and a higher likelihood of adopting diverse food products (Olayemi *et al.,* 2016; Adepoju & Oluwatayo, 2020). Therefore, the high proportion of tertiary-educated respondents suggests that maize product marketing strategies in Akoko South West LGA should emphasize quality, health benefits, and value-added products, as these are more likely to appeal to educated consumers.

The gender distribution indicated that 48.3% of the respondents were male, while 51.7% were female. The slight majority of female respondents suggest that women may play a more active role in household decision-making, particularly regarding food choices and consumption patterns. This aligns with findings from previous studies that highlight the significant influence of women in household food purchasing and nutrition decisions (Quisumbing & Smith, 2007). Their dominance in the survey could imply that policies or interventions targeting consumer preferences for maize products should consider gender-specific dynamics to enhance effectiveness.

The findings revealed that the majority of respondents (78.3%) had a household size ranging between 1 and 5 members, while 16.7% had between 6 and 10 members, and only 5% reported a household size of 11 to 15 members. The mean household size was approximately 5 persons, suggesting that most households were relatively small to medium-sized. This has important implications for maize product consumption, as household size significantly influences food demand, portion sizes, and food budgeting strategies. Smaller households may exhibit more individualized consumption behavior and a preference for convenience-based maize products, whereas larger households may prioritize quantity and affordability (Obayelu, 2010).

The occupational distribution of respondents indicated that 37% were traders, 29% engaged in farming, 13% were artisans, 12% were civil servants, 7% were students, and 4% were retired civil servants. This suggests a predominance of informal sector employment, particularly trading and farming, which are common income-generating activities in rural and peri-urban communities in Nigeria (Afolabi, 2010). The dominance of traders and farmers among respondents implies that maize consumption and preference patterns are likely shaped by economic factors such as daily income variability, seasonal earnings, and subsistence-based consumption. Traders may favor processed and ready-to-sell maize products for commercial purposes, while farmers may prioritize staple maize forms for household consumption. Understanding the occupational profile can guide policymakers and agro-processors in tailoring product types and pricing to meet the economic realities of these groups.

The results indicated that a majority of the respondents (63%) were actively engaged in farming activities, while the remaining 37% were not involved in any

form of farming. This highlights the significant role of agriculture as a primary livelihood source in the study area, consistent with trends observed in rural communities across Nigeria (Adepoju *et al.*, 2017; Nnadi & Akwiwu, 2008). The high level of engagement in farming suggests that maize may serve a dual purpose—both as a staple for household consumption and as a cash crop. This dual role may influence preferences toward locally produced, cost-effective maize products and highlight opportunities for promoting improved maize varieties and value addition at the farm level. Agricultural interventions and maize value chain development strategies should therefore consider the farming background of the majority of consumers to ensure effective adoption and sustainability.

The distribution of respondents based on the frequency of maize product consumption revealed that 16% consumed maize products daily, 26% on a weekly basis, 22% monthly, 35% consumed them rarely, and only 1% reported not consuming maize products at all. This pattern suggests that while maize remains a part of the diet for most households, its consumption is not universally frequent. The relatively low percentage of daily consumers may reflect dietary diversification, seasonal availability, changing consumer preferences, or accessibility issues. The high proportion of respondents who consume maize products rarely (35%) could signal a shift toward alternative staples or challenges in maize product affordability and availability. This trend aligns with findings by Ajani and Igbokwe (2013), who observed that consumption frequency of staple foods is influenced by household income, food preferences, and market access. Understanding these consumption patterns is critical for developing targeted interventions that promote the nutritional benefits of maize, improve product accessibility, and encourage more frequent intake among low-consumption groups.

The income distribution of respondents showed that the largest proportion (46.7%) earned between ₦1,000 and ₦20,000 monthly, followed by 24.2% who earned between ₦41,000 and ₦60,000, and 16.7% earning between ₦21,000 and ₦40,000. Additionally, 5.8% of respondents earned between ₦61,000 and ₦80,000, 4.2% between ₦81,000 and ₦100,000, while only 2.5% reported earnings above ₦100,000 per month.

A mean monthly income of approximately ₦35,59 reflects a predominantly low-income population, which significantly influences food purchasing decisions, particularly the affordability and frequency of maize product consumption. According to Yusuf and Yusuf (2022) and World Bank (2021) data on poverty in Nigeria, low income levels often correspond with limited dietary diversity and reliance on cheaper staple foods such as maize. This suggests that interventions to improve maize consumption (e.g., promoting affordable value-added products or enhancing productivity among smallholder farmers) must consider economic constraints. Additionally, government or NGO-led nutritional programs might

prioritize subsidizing or supporting access to maize-based foods for low-income households to enhance food security and nutritional outcomes.

2. *Maize products consumed in the study area*

The findings in Table 2 indicated that the most widely consumed maize product among respondents in the study area was Pap **(ogi)**, reported by 35% of participants. This was followed by Roasted maize (25%), Boiled maize (18.3%), Cornmeal (12.5%), Corn cake (5.8%), and Corn pudding (3.3%). This clearly shows that pap **(ogi)** is the dominant maize-based food consumed in Akoko South West Local Government Area.

The high consumption rate of pap (ogi) underscores its role as a culturally accepted, affordable, and accessible staple in the diets of households in the area. Its popularity is likely tied to its versatility, ease of preparation, and suitability for all age groups, especially infants, the elderly, and low-income earners. This aligns with findings by Akinyele *et al.*, (2020) and Adekanye *et al.*, (2021), who emphasized that pap remains a staple among Nigerian households due to its affordability and perceived nutritional value, especially in carbohydrate supply. Recognizing the dominance of pap in local diets has important implications for food policy and agricultural value chains. It points to the need for interventions that ensure the steady availability of maize for pap production, support hygienic processing practices, and explore fortification strategies to enhance its nutritional profile. Additionally, this insight can help guide small-scale agro-processors and marketers in targeting products that meet local dietary preferences.

Table 2. Distribution of respondents based on types of maize products consumed

Maize product consumed	Frequency	Percentage (%)
Pap(Ogi)	42	35
Boiled maize	22	18.3
Cornmeal (Eko)	15	12.5
Corn cake(Agidi)	7	5.8
Roasted corn	30	25
Corn pudding (Egbo)	4	3.3

Source: Field Survey, 2025

3. ***Factors influencing consumer preferences for maize products***

The determinants of consumer preferences for maize products in the study area are presented in Table 3. The logistic regression model yielded a coefficient of multiple determinations (R^2) of 0.48, indicating that approximately 48% of the

variability in maize product consumption is explained by the variables included in the model. Household size was found to be a significant determinant, positively influencing maize consumption at the 5% significance level. A unit increase in household size is associated with a 110% increase in maize product consumption.

This finding is consistent with Yusuf and Yusuf (2022), who reported that larger households tend to consume more staple foods due to bulk preparation, cost-efficiency, and shared eating patterns. Income also showed a positive relationship with maize preference and was significant at the 10% level. A unit increase in income corresponds to a 0.65 increase in maize preference. This result aligns with Olanrewaju *et al.*,(2019), who noted that higher income levels positively influence demand for maize-based products, as they are often considered normal goods whose consumption rises with income. Age exhibited a negative relationship with maize preference, indicating that older individuals are less likely to consume maize products. This may be attributed to health-related dietary changes, such as reduced carbohydrate intake due to risks of diabetes or hypertension.

Similar findings were reported by Adebayo and Olamide (2023), who observed that older consumers reduce consumption of starchy staples to manage chronic health conditions. Product quality was positively related to maize preference, though not statistically significant. This suggests that while consumers may value product quality, other factors like price or availability may carry more weight. This aligns with Nwuchukwu and Ukoha, (2014), who found that quality is a secondary consideration in staple food consumption, particularly among low-income earners. Marital status also showed a weak positive influence on maize consumption.

However, the effect was not statistically significant. This result is in line with Ejeh and Onuoha (2024), who concluded that marital status alone has limited predictive power unless analyzed in conjunction with household composition or income levels. Price had a positive but non-significant relationship with maize consumption. This could be due to the existence of close substitutes like rice or yam. Ejeh and Onuoha (2024) observed a similar trend, noting that although consumers are price-sensitive, they may adjust their preferences across staples rather than reduce overall consumption. Taste and fashion showed a positive influence on consumer preference, though not significant at conventional levels. Modern food trends and exposure to processed maize products could be contributing factors. This is consistent with Bako and Tunde (2023), who emphasized the growing impact of branding, taste innovation, and packaging on

Table 3: Logistic Regression Results Showing Factors Influencing Consumer Preferences for Maize Products

Variable	Coefficient	Std. Error	t-ratio
Age	-0.68	0.59	-1.153
Household size	1.1	0.5	2.200**
Income	0.65	0.4	1.625*
Product quality	0.2	0.35	0.571
Marital status	0.35	0.58	0.603
Price	0.9	0.8	1.125
Taste and fashion	1.2	0.8	1.5
Religion	1	0.7	1.429
Education	0.16	0.24	0.667
Constant	4	2.3	—
R^2	0.48	—	—

Note: *Significant at 10%; *Significant at 5%.

consumer behavior in urban Nigeria. Religion was positively related to maize preference, but again, not significantly. Religious beliefs may influence food preparation or consumption practices, though not always in a direct way. This observation is supported by Hassan and Eze (2023), who found that religion, can shape food choices, particularly during fasting periods or religious festivals. Education had a weak positive relationship with maize consumption. This result suggests that more educated consumers may be slightly more aware of the nutritional content or preparation methods of maize products. Abubakar and Nwankwo (2024) similarly reported that education enhances food safety awareness and informed decision-making in food selection..

4. ***Relationship between family income and maize products consumed***

To examine the relationship between household income and the type of maize product consumed, the Pearson Product-Moment Correlation was employed. The results, as shown in Table 4, revealed that roasted corn is the only maize product that has a weak but positive correlation with family income ($r = 0.129$).

This suggests that households with slightly higher incomes are somewhat more likely to consume roasted corn, although the relationship remains weak and statistically insignificant. In contrast, other maize products such as pap (ogi), boiled maize, cornmeal (eko), corn cake (agidi), and corn pudding (egbo) show no significant correlation with income, indicating that these products are commonly consumed across all income groups. This pattern reinforces the notion that maize-based foods remain staple commodities accessible to both

.**Table 4:** Pearson Correlation Between Family Income and Maize Product Consumption

Variables	Income	Pap (ogi)	Boiled maize	Cornmeal (eko)	Corn cake (agidi)	Roasted corn	Corn pudding (egbo)
Income	1						
Pap (ogi)	-0.143	1					
Boiled maize	0.098	-0.233*	1				
Cornmeal (eko)	0.042	-0.295**	0.251*	1			
Corn cake (agidi)	0.049	0.026	0.204*	0.233*	1		
Roasted corn	0.129	-0.192	0.279**	0.307**	0.152	1	0.127
Corn pudding (egbo)	0.014	0.035	-0.118	-0.108	-0.056	0.127	1

Source: Field Survey, 2025
Note: *Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

low- and high-income households due to their affordability and cultural relevance. Interestingly, pap (ogi) exhibits a weak negative correlation with income (r = -0.143), suggesting that lower-income households may consume it more frequently. Similar trends were observed by Adebayo and Olamide (2023), who noted that minimally, processed maize products tend to dominate diets in lower-income homes due to cost and traditional appeal. Conversely, Olarnewaju *et al.*,(2019) reported that income level has limited impact on basic maize product consumption, but can influence the form or brand of the product chosen. Additionally, the data indicate a statistically significant correlation between some maize products themselves. For example, cornmeal (eko) is positively correlated with boiled maize ($r = 0.251$, $P < 0.05$) and corn cake (agidi) ($r = 0.233$, $P < 0.05$), while roasted corn shows a moderate positive correlation with both boiled maize and cornmeal ($r = 0.279$ and $r = 0.307$ respectively, $P < 0.01$). These associations suggest that households consuming one maize product are likely to consume others, possibly due to shared preparation styles or complementary roles in meals (Yusuf & Ibrahim, 2024).

5. Constraints faced by maize products consumers

As presented in Table 5, a majority of respondents (83%) identified the high price of maize products as the most significant constraint limiting their consumption. This suggests that fluctuations in market prices may be a critical barrier to regular household access to maize-based foods. This aligns with the findings of Das *et al.,* (2023), who noted that price volatility in staple commodities significantly undermines food access and dietary consistency among low- and middle-income households in Nigeria.

In terms of income level, 52% of respondents acknowledged it as a major constraint to maize product consumption, while 48% did not consider it a limitation. This result reinforces the notion that financial capacity affects food choices, particularly in contexts where households must prioritize affordability over preference. According to Ezeh and Abubakar (2024), household income remains a critical determinant of access to processed or value-added maize products, even when raw maize remains affordable. Regarding taste, only 10% of the households considered it a constraint, while a majority (90%) reported that taste did not limit their maize consumption. This implies that maize products generally meet the taste preferences of most consumers.

Similarly, Yusuf and Yusuf (2022) found that taste was not a major barrier in maize consumption patterns, especially in regions where maize is culturally entrenched. Household size was cited as a constraint by just 7% of the respondents, indicating that it has a minimal effect on maize consumption. Most households (93%) did not perceive family size as a limiting factor. This agrees with Balogun and Okonkwo (2023) who stated that staple food consumption, including maize, remains relatively constant across different household sizes, as larger families often purchase in bulk to offset cost. On the issue of market proximity, 15% of respondents reported that the distance to purchase points restricted their maize product consumption. The remaining 85% did not see this as a constraint, possibly due to improved transportation or local market availability.

Similar observations were reported by Nwuchukwu and Ukoha (2014), who emphasized that proximity, is a barrier only in poorly connected rural communities. Only 6% of respondents identified cultural or normative beliefs as a constraint, suggesting that maize consumption cuts across diverse cultural backgrounds. Likewise, Ibrahim and Musa (2023) found that maize-based foods are broadly accepted regardless of ethnic or religious affiliation, owing to their versatility in preparation. Lastly, age and negative attitudes towards maize products were mentioned by just 3% and 4% of respondents, respectively, indicating minimal influence on consumption behavior. A majority of respondents (97 and 96%, respectively) did not consider these factors as constraints.

Table 5. Distribution of Constraints Faced by Maize Products Consumers

S/N	CONSTRAINTS	Major constraint (%)	Not a constraint (%)
1	High price	83	17
2	Income of the consumer	52	48
3	Taste	10	90
4	Household size	7	93
5	Proximity to market	15	85
6	Norms and culture	6	94
7	Age	3	97
8	Negative attitude towards maize products	4	96

Source: Field Survey, 2025

This is consistent with Yusuf and Yusuf (2022), who reported that negative perceptions or age-related dietary choices have limited impact on maize product demand, particularly where such foods are staple and widely consumed.

Conclusion and recommendation

This study examined the consumption patterns and determinants of maize product choices among households in Akoko South West Local Government Area of Ondo State, Nigeria. The findings reveal that the majority of respondents were economically active, relatively well-educated, and engaged predominantly in informal economic activities, with women playing a central role in household food decisions. In terms of consumption patterns, maize remains a relevant component of household diets, though not consumed frequently by all respondents. *Pap (ogi)* emerged as the most preferred maize product, reflecting its cultural acceptance, affordability, and suitability across age and income groups. The logistic regression analysis identified household size and income as significant determinants of maize product consumption, with household size significant at the 5% level and income at the 10% level. Pearson correlation results further showed that income had a weak, non-significant positive relationship with roasted maize consumption, while other maize products were consumed across all income levels, suggesting broad accessibility. Overall, the study highlights the socioeconomic and demographic dynamics that influence maize consumption and underscores the need for targeted interventions such as income support, nutrition education, and product innovation to enhance the role of maize in household food security and dietary diversity.

Based on the findings of this study, the following recommendations are proposed to enhance maize product consumption and address factors influencing its choices in Akoko South West Local Government Area: To enhance maize product consumption in Akoko South West LGA, government agencies should promote small-scale maize farming through improved input access and extension services. NGOs and microfinance institutions are encouraged to support informal workers with credit and skills training to boost income. Health and nutrition bodies should implement awareness campaigns highlighting the benefits and uses of maize products. Women's groups should be empowered to strengthen their role in household food decisions. Research institutions and agro-processors should develop value-added maize products that meet modern preferences. Market regulators must ensure stable maize prices and improve distribution and storage systems. Finally, academic institutions should conduct further research into consumer behavior to inform effective policy and product strategies.

These recommendations aim to promote sustainable maize consumption, enhance food security, and support economic development in the study area.

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