



BARRIERS AND ENABLERS: A STUDY ON THE DETERMINANTS OF LOCAL RICE CONSUMPTION AMONG HOUSEHOLDS IN DELTA STATE, NIGERIA

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ABSTRACT: *This research explored the determinants of rice consumption of households in Delta State, Nigeria. Information was gathered from 120 individuals through a structured survey that utilised a multistage sampling approach. Descriptive statistics and inferential statistics like multiple regression models were utilised for the study. The results showed that the respondents had an average age of 39 years old. It was discovered that the majority of the participants, totalling 65%, were female. Additionally, it was reported that 71.67% of the participants were married. Respondents on average had 5 years of farming experience. The majority of participants were discovered to have reading and writing skills. Respondents reported an average household size of 4 individuals. It was observed that the average farm size among respondents was 0.83 hectares. The average monthly consumption of local rice was 11.83 kg. Age, education, household size, government policy, cleanliness, aroma, and availability were all factors that had a positive impact on local rice consumption, while income and the price of rice were factors that had a negative impact on it. Major obstacles to local rice consumption consisted of expensive prices, rivalry with imported rice, a preference for imported rice, restricted availability, and poor consumer knowledge. To increase local rice consumption, it is advised that the government tighten restrictions on importing foreign rice.*

KEYWORDS: Local rice consumption, barriers, enablers, household preferences, socio-economic factors.



INTRODUCTION

Rice is a significant staple crop in many countries of the world. It is grown throughout Asia and sub-Saharan Africa and is a primary calorie source for millions. As a result of its cultivation in these regions, rice contributes substantively towards the region's agricultural economy, providing millions with employment and producing a high volume of revenue-generating crops. Rice is cultivated in multiple agroecological zones making it one of the swathes of crops that can help alleviate hunger for its hardiness to diverse weather patterns (Gbigbi, 2019). Being the most populated country in Africa, Nigeria is one of the most important constituents of the worldwide rice market. This makes it both the largest rice consumer in Africa and one of its biggest producers. Nevertheless, Nigeria still scores high on the ranking of countries that import rice in large quantities globally Okpiaifo et al (2020). A burgeoning population and their penchant for rice are driving people towards more or less reliance on imported rice. According to Wudil et al. (2023), rice is a very important food in Nigeria. It's therefore very important for food security and in the presence of farmers, as it provides both food to the families and earnings to the farmers.

It is worth mentioning that numerous factors contribute to the rising need for rice in Nigeria. The rise in rice consumption adds complexity, as consumers favour it over traditional carbohydrate sources due to its convenience in cooking, especially in urban areas (Mestres et al., 2019). Rice's ability to adapt quickly to the fast-paced urban lifestyle makes it an ideal choice for traditional uses as a nutritious dietary staple, which is why its popularity continues to grow. The increasing population of 150 million people in Nigeria, along with significant income growth and rapid urbanisation, has led to a higher demand for rice (Bin Rahman & Zhang, 2023; Muhammed et al., 2023; Akinyetun, 2018). Consumption rates have been rising by around ten percent since the early-1970s (Ekoh & Ilunga, 2021; Gbenga et al., 2021).

Attempts to boost domestic rice production, such as the implementation of higher import tariffs on foreign rice to assist local farmers, have not been successful in closing Nigeria's supply deficit for the crop. When it comes to the nation, a large portion of its rice is still brought in from other countries, leading to significant implications for the economy, food security, and poverty that are tied to foreign exchange (Danbaba, 2019; Akinyetun 2018; Okodua, 2018). Imported rice is commonly chosen because many consumers believe it is of better quality, well packaged, and easier to cook compared to local types (Ogunleke & Baiyegunhi, 2019; Abukari et al., 2019). Local rice producers struggle to compete with foreign brands due to the high demand for imported rice.



LITERATURE REVIEW

Rice marketing in Nigeria takes place at the community level where there are a lot of challenges encountered due mainly to lack of division of labour, poor packaging and/or standardisation and grading. These over the years have been moderating the status of indigenous rice with due regard to Nigerian consumers despite the fact that the focus was on bettering the quality of domestically produced rice (Adomako et al., 2020). For this reason, the differential pricing in local and imported rice is a very big determinant in shaping consumer behaviour. Research shows that prices are crucial factors in influencing purchase choices and certain consumers believe that higher prices indicate better quality (Kwajaffa, 2022; Ab Samat et al., 2022; Charoenthaikij et al., 2021; Wahyudi et al., 2019). However, when price was considered along with packaging and other factors, a connection was evident between the seller's price and the buyer's choice in the relationship. Simultaneously, this gave rise to marketing difficulties when taking into account indirect marketing factors like pricing parity in relation to competitors (Amaral & Guerreiro, 2019). Socio-demographic determinants similarly influence consumers' decisions of whether to consume rice or not (Laizer et al., 2018). However, consumers have difficulty in being able to remember prices or tell by appearance that quality at the time of purchase. Chen et al. (1990) found that customers tend to overestimate prices, leading them to favour rice brands perceived as inexpensive even if they are actually priced higher than other options. This indicates consumers are inclined to promotions and discounts, even if such deals do not always give the best bang for a buck. These price perceptions largely influence consumer biases for imported rice to local varieties.

Even with the rising physical and chemical quality of rice produced in Nigeria, the consumption of imported rice continues to grow as well due to population growth, rising incomes, changing consumption patterns and rural-urban migration (Aremu & Akinwamide, 2018). There is a general perception that imported rice is better than local rice owing to better grain size, fewer imperfections and easy preparation, making it more appealing to urban consumers. Still, the price of imported rice is a concern to many, especially in the rural areas where the average household income is much lower. It thus follows that there is a constant demand for local rice among the consumers who do not have the means to buy imported rice. The increasing demand for rice in Nigeria has instigated different governments over time to take action in the rice industry with the purpose of enhancing domestic output and dependency on imports. Possible actions taken included the increase of tariffs on imported rice, the grant of subsidies to local farmers, and the promotion of better rice varieties. However, the rice supply deficit endures, and the dependence on local production for the country's requirements alone is not sustainable (Tanko et al., 2019). To close this gap, there is a need for better appreciation of factors that determine the level of rice consumption in Nigeria, in particular the factors that determine the level of consumption of locally produced rice by Nigerian households.

In Delta State, Nigeria, the consumption of rice by local households is determined by the price, quality, and availability of rice, as well as the preferences of the households. Several research projects have been conducted in Nigeria regarding rice consumption but only a small number have focused on Delta State, which has abundant agricultural operations and the capacity to achieve greater rice harvests. The study helps policy-makers to understand factors that are likely to promote or limit the consumption of rice produced in this region and why they would want to encourage domestic production as opposed to importing rice. This research is conducted to assess the factors that determine the consumption of local rice amongst the people of Delta State in Nigeria. This research suggests that an analysis of some of the socioeconomic



variables influencing the tastes of the consumers will help local rice producers to take advantage of the challenges and opportunities to increase the level of local rice production and its consumption. The results of this research would lead to an enhanced knowledge about the factors which influence rice consumption in Nigeria and practical solutions to reduce the consumption of imported rice in Delta State are suggested.

Objective of the study

The main objective of this research is to examine the factors influencing the consumption of local rice in Delta State, Nigeria. The specific objectives were to:

- i. describe the socioeconomic characteristics of the consumers
- ii. determine per capita consumption of local rice
- iii. determine the factors influencing local rice consumption
- iv. identify the constraints to local rice consumption
- v. ascertain the possible ways to encourage local rice consumption.

Hypothesis of the study

Ho₁: There is no significant relationship between socio-economic factors and consumption of local rice.

MATERIALS AND METHOD

The study area was Delta State. The respondents of this study are consumers of local rice products in the area of the study. The first stage comprised the purposive selection of two communities each from the three agricultural zones namely; Delta North, Delta Central and Delta South. These communities are: Asaba, Kwale, Ughelli, Jeremi, Warri metropolis and Ozoro. In every community, a sample of 20 respondents was randomly picked, therefore 120 respondents formed the sample frame in total. A structured questionnaire was used to get desired information from the consumers. Data was collected using a structured questionnaire. The data collected was analysed using different statistical techniques to achieve the research goals of the study. The first and second objectives were analysed by descriptive statistics that include mean, mode, as well as frequency distributions. Regression models were also used for the third objective to test the relationships between the variables being studied. The fourth and fifth objectives were analysed through a four-point Likert scale whereby means were computed to explain the attitude and perception of the respondents. Such analytical techniques were selected in an effort to provide the most thorough and accurate explanation of the data that is consistent with the objectives of the research as well as the nature of the variables under investigation.



RESULTS AND DISCUSSION

The socioeconomic characteristics of the respondents are presented in Table 1.

Age Distribution and Local Rice Consumption

The age distribution of the respondents shows that the population in this survey is mostly young with an average age of 39. This population is young and is more eager and fervent in changing their consuming traits, where local rice is concerned. This corroborates Gbigbi's (2019) study on the choice between local and imported rice consumption. Younger consumers are often more knowledgeable and more considerate regarding their purchases and tend to make informed purchasing decisions that are in line with health, sustainability, and ethical consumption trends. Thus, such consumers create a chance for local rice producers to reach out to a specific target market that appreciates locally sourced products and is willing to promote sustainable farming methods that benefit the local economy. It is necessary to note the fact that young consumers tend to support local farming. As these consumers develop their purchasing habits, they become more conscious of their decisions' environmental effects and are thus drawn to greener options. With effective marketing, local rice has the potential to compete with imported varieties not only in terms of health benefits but also in positioning itself as a product that is good for local economies and the environment by reducing transportation-related emissions. However, Younger consumers may have a passion for local rice, but their perception of the quality and price is quite alarming. This age segment is also quality sensitive and many are ready to spend a little extra on expected products.

Gender Dynamics

In looking into the study's findings, as many as 65% of those surveyed are females and this highlights the important role of women in the consumption of rice at the local level which is probably due to their preoccupation with nutritional value and this trend goes against the earlier notion that men mostly control food-related decisions. This result agreed with Gbigbi's (2019) findings that the majority of households (69%) that consume rice were female in Delta State. Most women, having been viewed as the primary providers and caregivers in families, tend to be careful about the type of food and the nutritional content that they place on the table for their family members. It is not surprising that women have higher instances of consuming local rice because it is believed to have more nutritional benefits. Local rice is usually regarded as a healthier option as it is free from additives which may be present in imported rice. Being the caregivers, women may use this local rice for it is believed to be fresher and more nutritious as they are concerned about the nutrition of their families. This approach towards local rice is now more acceptable as the safe and nutritious food narrative is gathering pace.

Marital Status

A major portion of the respondents, representing 71.67% of those surveyed, emphasises the essential influence of family dynamics on food consumption choices. In several cultures, including those within the study area, married individuals typically take on the responsibility of ensuring their families have access to affordable and nutritious meals. This duty affects their purchasing habits, leading them to prioritise food options that are both economical and health-conscious. Local rice, regarded as a staple in many households, offers a persuasive choice due to its potential affordability and nutritional advantages. By aligning with these priorities, local rice producers can successfully market their products as ideal solutions for family meals,



especially in economically constrained environments. What's more? the relationship between marital status and family size is essential for understanding local rice consumption patterns. Married individuals are generally more likely to have larger families, which increases the demand for staple foods such as, rice. The necessity of feeding several family members naturally directs attention to cost-effective and substantial food options. As larger family sizes tend to lead to heightened food consumption, marketing efforts should specifically engage these demographic groups by emphasising not only the cost but also the quantity and quality of local rice.

Farming Experience

The average farming experience of 5 years among respondents has important implications for their role as consumers of local rice. This average suggests that many farmers in the study have a basic understanding of agricultural practices, but they are still relatively new to the field. This level of experience can shape their consumption habits, preferences, and the overall dynamics of local rice production and marketing. On one hand, with an average experience of 5 years, these farmers have likely gained a certain familiarity with local rice cultivation and its market. Their somewhat limited experience may encourage them to be mindful consumers, as they understand the challenges involved in rice production. They are more inclined to recognise the efforts and resources required to grow local rice, which can promote loyalty to locally produced varieties. Such loyalty may enhance their preference for local rice over imported options, especially if they see quality and freshness as advantages. However, having only 5 years of farming experience also raises concerns about the depth of knowledge these farmers have regarding market trends, consumer demands, and quality control. With their limited exposure to various agricultural practices and marketing strategies, these farmers might lack the necessary expertise to effectively distinguish their products in a competitive marketplace. Their understanding of consumer preferences may be somewhat shallow, which could restrict their ability to adapt to changing market conditions or innovate based on consumer demands. Besides, less experienced farmers might not fully recognise the specific qualities that consumers look for in local rice, such as flavour, nutrition, and cooking attributes. This gap in knowledge may hinder their capacity to produce rice that aligns with market expectations, leading to lower sales and diminished competitiveness against imported varieties.

Income Level

The income levels of those surveyed indicate that 61.67% earn ₦50,000 or less, emphasising an important number of low-income earners in the population. This statistic is particularly important because income is an essential factor influencing food choices and consumption habits. Households with limited financial resources tend to prioritise affordability when making purchasing decisions, often choosing less expensive options regardless of quality. This situation is made more complex by the fact that local rice can occasionally cost more than imported varieties, especially in urban areas where supply chain and distribution expenses are higher. Consequently, many low-income consumers may select imported rice, which is frequently seen as cheaper, even if it doesn't support local agriculture. The implications of this economic situation are varied. For numerous consumers, the choice to buy imported rice instead of local options goes beyond a matter of preference, but rather a necessity driven by financial limitations. This trend can have negative effects on the local rice market, as a decrease in demand for domestic products can restrict income for local farmers and threaten agricultural sustainability. Besides, this pattern can create a cycle where the local rice industry finds it



challenging to compete with cheaper imports, resulting in a drop in domestic production and, consequently, a reduction in the availability of local rice for consumers.

Educational Attainment

The educational background of the respondents shows that 51.67% have completed secondary school, while 30% have finished tertiary education. This finding also agrees with that household heads with tertiary education (93.4%) constituted a larger proportion of the rice-consuming households in a similar study (Obayelu et al., 2022). This distribution of education is critical in influencing consumer behaviour, especially regarding local rice consumption. Generally, individuals with higher education are more aware of the nutritional benefits, agricultural methods, and sourcing of food products. Those who are educated often look for local rice, as they recognise its health benefits and its ability to support local economies. Furthermore, consumers with advanced education usually have enhanced critical thinking and analytical skills. This allows them to evaluate the quality and safety of food products, including local rice. As a result, they may challenge the prevalent notion that imported rice is automatically superior in terms of quality and flavour. Nevertheless, many consumers still have misconceptions about local rice, viewing it as inferior because it is locally sourced. The influence of education goes beyond individual consumers; it can impact entire households and communities. When educated individuals promote local rice consumption, their advocacy can influence the purchasing decisions of family members, thereby increasing the demand for local products.

Household Size

The average household consists of four people, indicating a trend toward smaller family sizes. This trend has important effects on the consumption of local rice. When families are smaller, their food purchasing and consumption habits may change, impacting the local rice market. With fewer mouths to feed, families often seek convenience and simplicity in their meals. This tendency leads them to prefer products that are quick to prepare and easy to store. As a result, they might choose pre-packaged rice, instant rice, or smaller amounts of local rice that are suitable for single meals instead of buying in larger quantities. Smaller households might also view local rice differently than imported options due to their preference for convenience. While local rice remains a staple, its preparation can demand longer cooking times or specific methods that might not be ideal for smaller families. Consequently, they may opt for imported rice, which is frequently advertised as easier to cook and handle, even if it comes at a higher cost. Also, smaller households may have unique nutritional requirements and cooking practices compared to larger ones.

Farm Size

The majority of respondents reported small farm sizes, with 51.67% managing less than 1 hectare, which considerably influences local rice production and consumption patterns. Small-scale farming is defined by limited land resources, which inherently restricts the production capacity available to local rice farmers. This constraint not only affects the overall quantity of rice produced but also has widespread consequences for the local economy, food security, and household consumption behaviours. Small farms often encounter challenges related to economies of scale; with limited land for cultivation, farmers may struggle to reach the production levels needed to meet both local demands and compete effectively with larger



commercial rice producers. The implications of small farm sizes also affect household consumption patterns. If local rice production falls short of demand due to the difficulties associated with small-scale farming, households may look for more affordable imported rice options, changing their customary consumption habits. When the cost of rice produced locally is higher than that of imported rice, consumers, particularly those with lower incomes, tend to choose the imported option. This shift results in a decline in the consumption of local rice. This alteration impacts both the livelihoods of local farmers and the cultural significance of native rice varieties, which are cherished for their flavour and health benefits. In addition, families that rely on local rice for their meals face the threat of food insecurity if local production falls short of their consumption needs. This insecurity is particularly notable in rural regions, where the availability of quality local rice directly impacts dietary diversity and nutritional health within the community. When local rice becomes scarce, households may have to buy less nutritious food alternatives, which can adversely affect overall health and well-being.

Table 1 Socio-Economic Characteristics of the Respondents

Variable	Frequency	Percentage (%)	Mean/mode
Age (years)			
21-30	36	30	
31-40	40	33.33	
41-50	28	23.33	39 years
51-60	16	13.34	
Sex			
Female	34	28.33	
Male	42	35.00	Male
Marital Status			
Not married	34	28.33	Married
Married	86	71.67	
Farming experience(years)			
5 and below	80	66.67	
6-10	26	21.66	5years
11-15	4	3.33	
Greater than 15	10	8.33	
Educational level			
No formal	1	3.6	
Primary	5	17.8	Secondary
Secondary	21	75.0	
Tertiary	1	3.6	
Household Size			
Less than 5 people	11	39.3	
5-7 people	13	46.4	6
8-10	3	10.7	
More than 10 people	1	3.6	



Quantity of Local Rice Consumed

Table 2 provides valuable information regarding the consumption levels of local rice among the survey participants in the study area, offering essential insights into dietary habits and food choices. The results indicate that an important majority, specifically 78.33% of respondents, consume between 4.16 kg and 14.16 kg of local rice each month. This noteworthy figure emphasises the important role local rice plays in the dietary habits of the examined population. Nevertheless, it also raises important questions regarding the factors that influence these consumption patterns. The prominence of this lower consumption range could reflect the economic limitations that many households encounter. In situations where disposable income is constrained, families tend to prioritise essential food items and may find it challenging to purchase larger amounts of rice. While rice is a staple food and is generally a key component of people's diets, the current consumption levels imply that households are choosing a more varied diet that includes a range of food items besides rice. This finding aligns with recent research emphasising how economic factors influence food selection and eating behaviours in low-income settings (Adeosun et al., 2022; Kilders et al., 2021). Besides, the results show that 16.67% of participants consume between 14.17 kg and 24.17 kg of local rice each month, while just 5.00% eat between 24.18 kg and 34.18 kg monthly. The differences between these groups imply distinct demographic and economic attributes. For example, households that consume larger amounts of local rice may be either larger in size or have more financial resources, enabling them to allocate a greater portion of their budget to this fundamental food. This finding corresponds with research that emphasises household size and income as essential factors in shaping food consumption behaviour (Ewubare & Onah, 2022; Mekonnen et al., 2021). The average monthly consumption of 11.83 kg reinforces the idea that, although local rice is a critical food source, it is consumed in moderation. This average suggests that local rice is usually a component in meals rather than the sole dietary staple. These consumption patterns may signify cultural preferences that favor a diversified diet, encompassing various food groups. Besides, the moderate level of consumption indicates the potential for heightened demand if efforts to enhance the appeal and accessibility of local rice are put into action.

Table 2: Quantity of local rice consumed by respondents

Quantity consumed(kg)	Frequency	Percentage (%)
4.16 - 14.16	94	78.33
14.17 - 24.17	20	16.67
24.18 - 34.18	6	5.00
Average consumption	11.83kg/month	

Factors influencing local rice consumption

Table 3 presents the results of the regression analysis exploring the relationship between socioeconomic characteristics and the consumption of local rice.

Age

The coefficient related to age is both positive and statistically important at the 5% level, indicating that older respondents are more likely to consume local rice. This finding reveals a substantial link between age and dietary preferences. This conforms with Oluwaseun et al. (2024) study on preference for local rice consumption among households in south-west



Nigeria. The results support the idea that older individuals often have established eating patterns that include traditional staples like local rice. Several factors contribute to the increasing consumption of local rice. These factors include greater awareness of its nutritional benefits and a cultural inclination towards traditional eating habits. One major element that impacts local rice consumption among older adults is their enhanced understanding of its health benefits. Older people often choose to eat foods with essential vitamins, minerals, and dietary fibre, all of which are present in rice that is grown locally. The growing attention to nutrition is vital in sub-Saharan Africa, where native grains play a significant role in customary meals and are linked to advantages such as better digestion and decreased chances of lifestyle-linked illnesses.

Besides, the cultural importance of local rice plays a major role in its consumption among older adults. Many individuals in this age group have a long-standing tradition of consuming local rice which is intricately woven into their culinary practices and social customs.

Income

The regression analysis indicates a negative and statistically major coefficient for income at the 5% level, pointing to an inverse relationship between income and the consumption of local rice. As individuals' income levels rise, their intake of local rice generally decreases. This trend can be linked to several interconnected factors, such as consumer perceptions of quality, changing dietary preferences, and the wider economic environment. A major reason for this inverse correlation is that wealthier consumers tend to prefer imported rice, which is often seen as having better quality, taste, and prestige. Imported rice is frequently advertised as a premium product, and consumers with higher incomes may associate it with more status and luxury. This viewpoint can motivate affluent households to choose foreign rice over local varieties, seeing their food choices as indicative of their socioeconomic position. This observation aligns with the findings of Kilderset al. (2021), which suggest that higher-income households typically alter their consumption habits toward more expensive and perceived higher-quality food options. Such trends reveal a complex mix of consumer preferences, where economic status influences not just purchasing power but also perceptions of food quality and desirability.

Educational Level

The statistically major and positive relationship between educational level and increased consumption of local rice is emphasised by the coefficient at the 5% level. The link indicates that individuals with higher levels of education are more likely to understand the health advantages of consuming local rice, leading them to include it in their diets. Individuals who have received education are more inclined to make decisions that benefit their health as they have improved accessibility to knowledge regarding diet and nutrition. As a result, their educational background may lead them to value local rice, recognising it as a healthy and locally sourced option when compared to imported grains. This observation differs from the findings of Blum et al. (2023); and Salman et al. (2021), who proposed that individuals from higher socioeconomic backgrounds tend to prefer more luxurious food options. The differences in these outcomes may be shaped by varying cultural contexts or distinctive food marketing approaches in different regions. In some areas, educational programs may emphasise the importance and health benefits of local products, creating a greater appreciation for local rice among consumers. This viewpoint becomes particularly major when traditional foods are being



refreshed amidst globalisation, enabling educated consumers to recognise both the cultural relevance and nutritional benefits of local grains.

Household Size

The positive coefficient for household size is statistically significant at the 1% level. This suggests that bigger households eat a greater amount of locally produced rice. This finding is consistent with the research conducted by Onuwa & Dalla (2023), indicating that bigger families frequently opt for cheaper food choices like indigenous rice. As the household size grows, the necessity for basic staple foods also increases, prompting families to buy local rice, which is generally cheaper than imported varieties. There are multiple factors that account for this pattern. Initially, households with more members typically require more calories and nutrients, leading them to acquire larger amounts of staple foods such as rice. Because local rice is usually easier to obtain and more affordable, it becomes a feasible choice for these families. It is crucial for local rice to be affordable when families have to use their income to support several members with basic necessities. As a result, local rice is a necessary food item that meets the energy needs of big families without causing a significant financial burden. Additionally, parents living in bigger households with children or dependents may be motivated to find food options that are healthy and cost-effective. Emphasizing locally grown rice shows a conscious attempt to strike a balance between nutritional value and financial constraints.

Unit Price

The statistically significant negative coefficient for unit price at the 1% level indicates a strong inverse relationship between the consumption levels of local rice and its price. Specifically, this finding suggests that as the price of locally produced rice decreases, there is a corresponding increase in the quantity purchased, in line with the principles of demand elasticity. Price elasticity in economics measures how much demand for a product changes when its price changes. A decrease in the price of locally grown rice increases consumer purchases, leading to higher overall consumption. This pattern is particularly important for basic food products, as demand is often heavily impacted by price fluctuations. This finding is consistent with Ojogho & Izeke's (2023) research on variations in rice prices in rural markets in Edo State. Just like Gbigbi (2019), it also acknowledges that price impacts the consumption of various brands of rice. Recognising this link is essential for policymakers and individuals in the agriculture sector, as it emphasises the need to create effective pricing strategies and policies to ensure that local rice remains accessible and affordable, particularly for vulnerable households. Maintaining the affordability of rice for various communities, given its importance as a staple food, can significantly enhance food security and nutrition. In case of price increases, individuals might be unable to afford domestically-produced rice and could instead choose more expensive or less nutritious imported alternatives, leading to a negative impact on their dietary habits. Additionally, this situation underscores the importance of implementing strategies to ensure stable rice prices in domestic markets, particularly during times of economic volatility or supply chain disruptions.



Government Policy

Government policy coefficient positively correlated with local rice consumption. The significant and beneficial effect of government policy on the consumption of local rice highlights the crucial role of government involvement in shaping consumer behaviour and market conditions. An increase in government backing for the consumption of rice locally is strongly linked to higher consumption levels, showing that policy decisions have a significant impact on food choices and can encourage sustainability in agriculture. This was consistent with the research by Ajayi & Ajiboye (2020) on the choice of local rice by households in Ekiti State, Nigeria. One of the most successful strategies employed by governments to boost local rice consumption is by imposing bans on the importation of foreign rice. These policies can greatly impact how consumers behave by limiting access to imported choices, thus prompting consumers to choose locally-made rice. When there are limited options for foreign rice in the market, consumers are more likely to opt for local varieties, promoting national pride and backing local agriculture. This shift not only helps local rice farmers by boosting sales of their goods but also enhances the economic sustainability of the local rice industry. Moreover, government regulations promoting the consumption of domestically produced rice can significantly impact the country's food security. Such policies contribute to stabilising food supply chains and reducing reliance on imported food sources by boosting the demand for rice produced locally. Given the possibility of price swings and interruptions in supply due to global market changes, increasing local rice cultivation is crucial for maintaining food security.

Cleanliness

A high coefficient for cleanliness, significant at the 5% level, suggests that improved standards in local rice cleanliness result in increased consumption rates. This outcome underscores the critical importance of product display and hygiene in influencing consumer decisions, particularly with food products. The cleanliness of food greatly influences perceptions of quality and safety, which must not be overlooked when analysing consumer habits. This aligns with Lawal et al's (2023) research on customers' buying habits for processed rice in Niger State. In the same way, Olumayowa (2024) also agrees with this discovery on the benefits of adding value to local rice processing in Ogun State. This inclination is especially apparent in health-conscious individuals and families who are ready to dedicate time and resources to finding clean and safe food options. Therefore, local rice producers who prioritise hygiene in their processing and packaging can gain a competitive advantage in the market, appealing to a wider range of customers. Moreover, cleanliness extends beyond appearance to include production, handling, and storage in the entire supply chain. Hygiene is stressed in the cultivation of local rice, ensuring it is not only contaminant-free but also clean. In addition to consumer health worries, the cleanliness of a product can significantly impact brand loyalty and the likelihood of repeat purchases. Customers who maintain high standards of cleanliness are more prone to becoming loyal purchasers and suggesting the product to others.



Aroma

The strong correlation found between aroma and local rice consumption, with a significance level of 1%, highlights aroma as a key factor in consumer preferences, demonstrating a significant and statistically valid link between aromatic quality and consumption levels. This discovery indicates that when the aromatic qualities of indigenous rice are enhanced, consumers are more likely to prefer it over other types of rice, such as imported options. Therefore, improving the scent of domestic rice may have a significant impact on increasing its popularity and attractiveness to consumers. Scent plays a vital role in food choices, greatly impacting how quality, flavour, and freshness are perceived. A delightful scent not only enhances the sensory experience but is frequently seen as a sign of exceptional quality. Regarding local rice, enhancing the aroma resonates with sensory preferences and cultural values, as the distinct scent of local varieties can generate feelings of familiarity and tradition, encouraging consumer loyalty. Therefore, improving the aromatic characteristics of indigenous rice offers two advantages: it boosts the natural attractiveness of the item and encourages sentimental ties based on cultural background, both of which are strong factors for continued buying. Research indicates that smells play a significant role in stimulating hunger and influencing food selection, leading to specific cravings and intensifying perceived tastes (Amfo et al., 2023; Ekanem, et al., 2020). The smell of homegrown rice may bring back memories and a sense of ease, especially for those who associate it with cooking customs and family get-togethers. Consumers may choose local rice over imported options due to an emotional connection, as the familiar scent can enhance their feeling of belonging within a cultural context. Moreover, the distinctive fragrance of native rice can serve as a major distinguishing factor in a crowded market, setting it apart from foreign rice that might lack the same sensory allure.

Availability

The noteworthy coefficient for availability at the 1% level emphasises a robust and important connection between the local rice supply and consumption, demonstrating a favourable and significant effect on consumer demand. This discovery supports Muhammed et al.'s (2023) study on the factors influencing rice demand in Sokoto State, confirming that supply availability greatly influences consumer behaviour. In essence, the more local rice is found easily available, the more people tend to consume it, showing a strong preference for locally-grown rice when it is easily accessible in the market. This outcome highlights the crucial importance of steady supply in shaping consumer buying habits. Although highlighting the advantages of local rice like its quality, fragrance, and cultural significance can make it more desirable, it may not be effective if local rice continues to be in short supply or inconsistently accessible. Availability is crucial in ensuring that positive perceptions lead to actual purchasing behaviour. If local rice is not often in stock, consumers might opt for imported or different types of rice, which could reduce market share and weaken promotional efforts to increase local rice consumption.



Taste

The significant 1% level coefficient for taste highlights the crucial role flavour plays in encouraging the consumption of local rice. This discovery indicates that consumers are not only seeking fundamental food items but also looking for products that provide a pleasurable dining experience. The flavour of local rice plays a significant role in influencing purchasing choices and overall consumption, as taste is a crucial factor in shaping food preferences. The findings were consistent with the research conducted by Udomkun et al. (2021) on the choices of consumers and economic elements influencing the consumption of plantain and plantain-based products in the central region of Cameroon and Oyo state, Nigeria. When people find local rice tasty, they are more likely to buy it again and become happier and more loyal customers. This link highlights the significance of high quality in both rice production and marketing strategies. If local rice producers are able to ensure that their products offer superior taste and texture compared to other choices, they will probably attract more customers and increase total consumption. This discovery shows that producers have a great chance to improve their competitive position against imported rice varieties and other staple items by focusing on taste and creating innovative product options.

Table 3: Factors influencing local rice consumption

Variables	Coefficient	Std error	t	Sig
Age	0.083	0.034	2.443	0.016**
Income	-2.431E-005	0.000	-2.472	0.015**
Educational level	0.902	0.400	2.255	0.026**
Household size	0.715	0.183	3.903	0.000***
Unit price	-0.002	0.000	13.566	0.000***
Government policy	3.627	0.780	3.364	0.032**
Cleanliness	1.459	0.696	2.096	0.038**
Texture	-0.966	0.595	-1.624	0.107
Cooking time	-0.281	0.566	-0.497	0.620
Aroma	0.929	0.434	2.141	0.035**
Availability	1.206	0.296	4.073	0.000***
Taste	2.803	0.415	6.760	0.000**
Constant	-0.659	3.710	-0.195	0.845
R-square	0.846			
F-ratio	49.039			

*** and ** = significant at 1%, and 5% respectively.

Constraints to local rice consumption

The cost of local rice stands out as the primary barrier to consumption, averaging a score of 3.78. This enhanced price acts as a major challenge, especially for low-income families who find it difficult to buy local rice, thereby, restricting their dietary options and overall nutrition. As the affordability of local rice decreases, the demand and consumption rates also drop, which negatively affects local producers and the agricultural industry. Another major challenge is the competition posed by imported rice, which has an average score of 3.77. Imported rice usually dominates the market because of its lower prices and greater availability, creating considerable



challenges for local producers who aim to retain their market share. This competitive scenario emphasises the pressing need for local farmers to prioritise quality enhancement and innovative marketing approaches. Also, the preference for imported rice is a critical factor, scoring a mean of 3.73. This inclination is often rooted in consumer beliefs that imported rice is of better quality and taste compared to local options. To counter this perception, a dedicated effort in branding and marketing is necessary to reshape consumer views.

The issue of limited market availability, with a mean score of 3.47, indicates that consumers encounter challenges when attempting to buy local rice, leading to lower consumption rates. To resolve this situation, it is essential to make sure that local rice is easily accessible in both urban and rural marketplaces. Another important issue is the perceived poor quality of local rice, which averages a score of 3.42. Many consumers equate local rice with lower quality, which diminishes their confidence and discourages purchases. To counter this view, local producers must prioritise the improvement of processing methods and adopt strict quality control measures. Consumer ignorance, with an average score of 3.32, poses a major obstacle to effectively producing and promoting local rice. Limited consumer knowledge about the quality, nutritional value, and benefits of locally produced rice compared to imported options is a knowledge gap. A lot of consumers typically view imported rice as higher quality and more consistent, which results in a preference for foreign brands over local ones despite improvements in domestic rice processing methods. The limited recognition has a direct effect on the local rice market, impeding its growth and consequently impacting the earnings and development prospects of rice farmers and processors. This obstacle is especially worrisome as the shift in demand towards imported rice hinders the country's goals of attaining self-sufficiency in rice production and decreasing dependence on imported staples, which may deplete foreign exchange reserves. Moreover, lack of information also leads to misunderstandings regarding the quality of local rice, often worsened by irregular product branding and marketing tactics, impacting consumers' readiness to pay more for local rice.

Table 4: Challenges faced in local rice consumption

Variables	SA	A	D	SD	Total	Mean	Remarks
High Price of Local Rice	96	22	2	0	454	3.78	Constraint
Poor Quality of Local Rice	54	62	4	0	410	3.42	Constraint
Cultural Preference for Imported Rice	90	28	2	0	448	3.73	Constraint
Low Consumer Awareness	48	62	10	0	398	3.32	Constraint
Inadequate Storage Facilities	12	58	42	8	314	2.62	Constraint
Ineffective Marketing Strategies	24	44	34	18	314	2.62	Constraint
Limited Availability in Markets	66	46	6	2	416	3.47	Constraint
Competition from Imported Rice	94	26	0	0	452	3.77	Constraint

SA=Strongly agreed; A=Agreed; D=Disagreed; SD=Strongly disagreed



Methods to Promote the Consumption of Local Rice

Table 5 displays different approaches aimed at increasing the consumption of rice produced locally. The result suggests that lowering prices is the best strategy, scoring an average of 3.77. This score demonstrates a consensus among participants that reducing the cost of domestic rice would boost its popularity. Cost plays a significant role in shaping consumer preferences, especially in economies where the ability to afford products is crucial when making purchases. This is congruent with Peterson-Wilhelm et al. (2022) study on consumer preferences for rice in Nigeria. By reducing the cost of domestic rice, producers and sellers can enhance their competitive edge over imported options, prompting increased demand for locally made goods. This technique is in line with economic principles since reduced prices often result in increased demand, particularly among low-income families who are more sensitive to prices.

Additionally, the availability of locally sourced rice was identified as another important aspect, obtaining an average rating of 2.87. This underscores the need to ensure local rice is easily accessible to customers. Onu (2018) also identified availability of local rice as constraint among rural households in Imo State. Improving supply chains, enhancing distribution networks, and increasing production efforts can significantly enhance availability. Consumers are more inclined to include local rice in their meals when it is consistently stocked in markets and grocery stores. Additionally, improved access can aid in tackling food insecurity concerns, as indigenous rice serves as a dependable and well-known source of nutrition. Another important tactic uncovered in the results involves promoting local rice through advertising to increase awareness, receiving an average rating of 3.00. By showcasing the nutritional advantages, cultural importance, and culinary adaptability of indigenous rice, marketers can attract possible buyers and shift public perceptions.

Packaging also has a significant impact on consumer demand, as shown by an average score of 3.43. This rating shows that survey participants think that appealing packaging can enhance the attractiveness of domestic rice. Well-crafted packaging both safeguards the product and communicates its quality and brand essence. Polishing local rice to a mean score of 3.65 can improve its attractiveness as well. The process of polishing enhances the visual appeal of rice, giving it a similar appearance to imported varieties. Customers frequently view refined rice as superior quality, influencing their buying choices. Enhancing the visual and sensory aspects of local rice can boost consumer perceptions of quality, ultimately improving its market competitiveness. The results also suggest that participants think that prohibiting the import of foreign rice will lead to a higher demand for local rice, as shown by an average score of 3.87. This viewpoint is in line with the goals of national policies that focus on advancing food self-sufficiency and assisting local farmers. Enforcing this ban could create a better market atmosphere for local rice farmers, enabling them to compete better against foreign goods. Additionally, choosing local goods can give consumers a stronger sense of patriotism and community support, fostering a culture that values items made in their own country.

**Table 5: Ways to encourage local rice consumption**

Variables	SA	A	D	SD	Total	Mean	Remark
Price reduction	92	28	0	0	452	3.77	Agreed
Availability	20	68	28	4	344	2.87	Agreed
Advertisement	22	76	22	0	360	3.00	Agreed
Packaging	56	60	4	0	412	3.43	Agreed
Polishing	76	42	0	0	438	3.65	Agreed
Import ban on foreign rice	104	16	0	0	464	3.87	Agreed

SA=Strongly agreed; A=Agreed; D=Disagreed; SD=Strongly disagreed

IMPLICATION TO RESEARCH AND PRACTICE

Through this study on barriers and enablers of local rice consumption by households, we have gained a better understanding to address the quality and affordability barriers. This information can then be used to develop policies and practices that can enhance local rice consumption and food security.

CONCLUSION

This study offers a thorough examination of the factors that influence local rice consumption among households in Delta State, Nigeria, using both descriptive and inferential statistics. The results reveal that socioeconomic variables such as age, income, education, household size, unit price, government policy, cleanliness, aroma, availability, and taste have important effects on household preferences for local rice. In particular, households with higher income are less inclined to consume local rice, while larger households and those who view local rice as less costly tend to consume more. The research also emphasises important barriers to local rice consumption, including high prices, competition from imported rice, a strong preference for imported rice, limited availability, and low consumer awareness. Eventually, the study stresses the importance of targeted interventions to address these challenges and to encourage local rice as a practical, accessible, and affordable choice. Such interventions are important not only for enhancing local consumption but also for achieving broader objectives related to food security, rural development, and economic sustainability in Delta State and beyond.



RECOMMENDATIONS

- i. **Price Stabilisation Initiatives:** Introduce government subsidies and cooperative models to decrease production costs and local rice prices.
- ii. **Market Infrastructure Enhancement:** Invest in infrastructure for rural markets and encourage public-private partnerships to enhance the distribution of local rice.
- iii. **Ban on foreign rice importation:** The government strengthen the ban on foreign rice importation to promote local rice consumption.
- iv. **Quality Standards Improvement:** Implement training programs for farmers on best practices and enforce certification to improve the quality of local rice.
- v. **Supportive Government Policies:** Implement tariff policies that benefit local rice and offer production-linked incentives to assist farmers.
- vi. **Financial Access for Farmers:** Increase access to formal credit for rice farmers and introduce financial literacy programs to improve resource management.
- vii. **Local Rice and Food Security:** Incorporate local rice production into national food security strategies and start community-based production initiatives.

FUTURE RESEARCH

Cultural influences on local rice consumption can be conducted in the study area to find more moderating exogenous and endogenous variables for policy guidance and implementation.

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