

**ANALYSIS OF CONSUMERS' PREFERENCE FOR LOCAL RICE AMONG  
HOUSEHOLDS IN EKITI STATE, NIGERIA**

**Abstract**

Consumers' preference for local rice determines its demand. Therefore, the study was carried out to analyze consumers' preference for local rice among households in Ekiti State. A multi-stage sampling procedure was used to select respondents for this study. A total of 240 women were randomly selected from three Local Government Areas (LGAs) in the State. Primary data were obtained with the use of a well-structured interview schedule. Data collected were analyzed using descriptive statistics as well as inferential statistic like logistic regression. The mean age of the respondents was 38 years and more than half (53.3%) of the respondents were females. Most (70.0%) of the respondents had a mean family size of 7 persons. Most (87.0%) preferred local rice and factors influencing consumers' preference for local rice include good nutritional value, quality of rice and good taste. Local rice was very much preferred by the respondents. Logistic regression shows that significant influence exists between price, taste, availability of rice and presence of particles and preferred choice of rice. **Therefore, efforts should be made by the government to formulate price control policy on local rice for its affordability by the consumers and there should be improvement on processing technology of local rice to eliminate presence of particles for improved quality and good taste to enhance the consumers' preference for choice of rice. Also, the government should support farmers through provision of incentives and credit facilities so as to produce more local rice for its availability all year round.**

**Keywords:** Consumers' preference; Local rice; Households

## 30 1.0 Introduction

31 Rice (*Oryza sativa*) as a cereal is an important staple food in most Africa countries. In most  
32 developing countries in Africa, rice accounts for 715kcal/caput/day, 27 percent of nutritional  
33 supply of energy, 20 percent of nutritional protein and 3 percent of nutritional fat (Kassali *et al.*,  
34 2010). In Nigeria, different ethnic groups consume rice. Rice is easy and convenient to prepare  
35 and it also allows for wide range of dishes which contribute to high consumption and demand by  
36 people. Rice provides a nation's population with the nationally required food security minimum  
37 of 2,400 calories per person per day (Bamidele *et al.*, 2010). Diako *et al.* (2010) noted that an  
38 increase in production of local rice will improve the food security situation and lead to higher  
39 incomes for farmers and hence reduce poverty. In Nigeria, every household greatly consume  
40 rice; both rich and poor. The status of rice as being a necessity in the households' food basket is  
41 a pointer to growing consumers' preference for rice on Nigeria (Oyinbo *et al.*, 2013). They  
42 further stated that the incidence of demand-supply gap for rice in Nigeria has been an existing  
43 trend over the years and the trend would continue if appropriate measures are not taken despite  
44 the country's huge potential for rice production. Local rice is produced mostly by farm  
45 households at a subsistence level mainly for family consumption while the surplus is reserved for  
46 the market. Different types of imported rice compete with locally processed rice in both urban  
47 and rural areas. Imported rice is different from local rice based on taste, flavor, ease of cooking  
48 as well as the price offered. Despite the price and quality differential, however, there is still an  
49 overall acknowledgment of higher organoleptic properties of local rice (Lançon *et al.*, 2003).  
50 One of the challenges in Nigeria is that rice importation is still required to meet the national  
51 demand despite the massive diversification to local rice production of rice in Nigeria; rice  
52 importation is still required to meet the national demand.

53 Low supply of local rice could partially be attributed to challenges facing local rice farmers such  
54 as unpredictable weather, shortage of storage facilities and low farm returns. Several efforts and  
55 policies have been put in place by the government towards making the country self-sufficient in  
56 rice production. However, consumer's choice is generally governed by taste, price, convenience,  
57 variety, and quality (Tetteh *et al.*, 2011). Consumer preference studies show that taste is an  
58 important attribute that tends to favour local rice, but it is not the most decisive attribute in many

59 cases (Demont *et al.*, 2012). Hence, consumer's preference for local rice may vary from one  
60 consumer to the other which determines demand for it.

61 Household food security exists when all members, at all times, have access to enough food for  
62 an active, healthy life. This is possible when individual household member has access to various  
63 choices of food items for their consumption. Knowledge of preference for local rice and its  
64 determinants will improve food security of people and enhance consumers' satisfaction in the  
65 nation which in turn will re-direct efforts towards the achievement of the government's policy  
66 objective of becoming self-sufficient in rice production. The potential demand of a good depends  
67 on its attributes and consumers' characteristics (Dagsvik *et al.*, 2002; Potoglou and Kanaoglou,  
68 2007). Local rice is a one the most staple food in Ekiti State. The study therefore, analyses  
69 consumers' preference for local rice among households in Ekiti State. Specifically to; identify  
70 the preferred choice of rice; determine the extent of preference for local rice brand; and identify  
71 factors influencing consumers' preference for local rice in the study area.

## 72 **2.0 Materials and Methods**

73 The study area was carried out in Ekiti State. Ekiti State is located in the Southwest of Nigeria. It  
74 has 16 Local Government Areas (LGAs). The State enjoys tropical climate with two distinct  
75 seasons. These are the rainy season (April–October) and the dry season (November–March).  
76 Temperature ranges between 21° and 28 °C with high humidity.

77 The primary data were obtained through the use of pre-tested structured interview schedule. The  
78 instrument used was designed to achieve the specific objectives of the study. A multi-stage  
79 random sampling procedure was employed for this study. At this first stage, four (4) ADP zones  
80 were randomly selected. In the second stage, three (3) Local Government Areas out of the ADP  
81 zones were randomly selected. Then, two (2) communities were randomly selected from each  
82 Local Government Areas. Finally, ten (10) households were randomly selected from each  
83 community, making a sample size of two hundred and forty (240) households for this study.

84 Descriptive statistics analysis such as frequency counts, percentages and mean were used to  
85 analyse data collected on the respondents' socioeconomic characteristics and the specific  
86 objectives. Objective 2 was measured using 4-point Likert scale as Very much prefer (3), Much

87 prefer (2), Less prefer (1) and Not prefer (0). A binary logistic model was used to analyse  
88 analyze factors influencing consumers' preference for choice of rice.

## 89 **2.1 Logistic Regression**

90 Logistic regression is a statistical model employed in a binary dependent variable

$$91 \log\left[\frac{p_i}{1-p_i}\right] = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6 + \beta_7x_7 + \beta_8x_8 + \beta_9x_9 + \varepsilon_1$$

92 The logit model allows for a relatively straight forward computation of the relative mean of the  
93 dependent variable or elasticity given the estimated coefficient of the regressors. The binary  
94 response in the study is whether the respondent prefers local rice or does not prefer local rice.

95 If Y is a random variable (dichotomous), it can then be assumed that Y takes the value of 0 or 1,  
96 where 0 denotes not prefer and 1 denotes prefer.

97 Where,

98  $\log$  = logit function

99  $P_i$  = dependent variable

100  $\beta$  = logistic coefficient for the independent variables.

101  $x_1 \dots x_9$  = price, packaging, texture, taste, availability of the product, flavor, colour, presence  
102 particles, stickiness

103  $\varepsilon_1$  = error term

## 104 **3.0 Results and Discussion**

### 105 **3.1 Socioeconomic Characteristics of the Respondents**

106 The results from Table 1 revealed the socioeconomic characteristics of the respondents in the  
107 study area. The mean age of the respondents was 38years. This indicates that the respondents in  
108 the study area were in their active age. The study further revealed that 53.3 percent of the  
109 respondents were female while 46.7 percent were male. The mean household size was seven (7)  
110 persons. This depicts that most of respondents had moderate household size. Most of the

111 respondents (42.5%) earned between ₦61,000 - ₦90,000 as monthly income. The implication is  
 112 that the respondents had moderate income.

113 **Table 1: Distribution of Respondents' Socioeconomic Characteristics**

<b>Variables</b>	<b>Frequency</b>	<b>Percentages</b>	<b>Mean</b>	<b>114</b>
<b>Age (years)</b>				
< 30	80	33.3	38	115
30- 40	62	25.8		116
41-50	40	16.7		
> 50	58	24.2		117
<b>Sex</b>				
Male	112	46.7		118
Female	128	53.3		119
<b>Marital Status</b>				
Single	93.6	39.0		120
Married	117.6	49.0		
Divorced	12	5.0		121
Widowed	16.8	7.0		122
<b>Household size</b>				
< 5	50	20.8	7	123
5- 10	168	70.0		
11- 15	22	9.2		124
<b>Educational level</b>				
Non formal education	16.8	7.0		125
Primary education	45.6	19.0		126
Secondary education	88.8	37.0		
Tertiary education	88.8	37.0		127
<b>Occupation</b>				
Farming	48	20.0		128
Public service	54	22.5		129
Trading	64	26.7		
Artisan	30	12.5		130
Private service	44	18.3		131
<b>Monthly income (₦)</b>				
< 30000	22	9.2		132
30000- 60000	84	35.0		
61000- 90000	102	42.5		133
100000 and above	32	13.3		134

135 Source: Field survey, 2018

136 **3.2 Preferred Choice of Rice**

137 The findings revealed that most of the respondent (87.0%) preferred local rice to imported rice.  
 138 This implies that local rice was most specified choice by the respondents. This finding supports  
 139 Musa *et al.* (2011) who reported that almost all household respondents preferred local to  
 140 imported rice.

141

142 **Table 2: Preferred Choice of Rice**

Preferred Choice of Rice	Frequency	Percentage
Local rice	208.8	87.0
Imported rice	31.2	13.0
Total	240	100.0

143 Source: Field survey, 2018

144 **3.3 Extent of Consumer' Preference for Local Rice Brand**

145 The study revealed that 26.7 percent of the respondents very much preferred both igbemo and  
 146 ofada rice, 20.8 percent of the respondents much preferred igbemo and ofada rice. Also, it was  
 147 revealed that 19.2 percent of the respondents much preferred ofada rice only while 3.3 percent  
 148 very much preferred igbemo rice only. This implies that the respondents had high preference for  
 149 ofada rice in the study area. This finding corroborates the finding of Sowunmi *et al.* (2014) who  
 150 asserted that high preference for ofada among the respondents.

151

152 **Table 3: Extent of Consumers' Preference for Local Rice Brand**

Local rice brand	Very much prefer	Much prefer	Less prefer	Not prefer
Igbemo	7.92(3.3)	0(0)	0(0)	0(0)
Ofada	40.08(16.7)	46.08(19.2)	0(0)	0(0)
Both	64.08(26.7)	49.92(20.8)	7.92(3.3)	24(10.0)

153 Source: Field survey, 2018

154 Percentages are in parenthesis

155

156 **3.4 Factors that Influence Consumers' Preference for Local Rice**

157 As shown from Table 4, it was revealed that 95.0%, 92.5% and 90.0% of the respondents  
158 identified that good nutritional value, quality of rice and good taste as factors influencing  
159 preference for local rice. This means that good nutritional value, quality of rice and good taste  
160 determine choice of local rice preferred. This finding is line with Oyinbo (2013) who asserted  
161 that quality of rice increases local rice consumption preference. Also, the study supports Danso-  
162 Abbeam *et al.* (2014) and Opeyemi *et al.* (2015) that good quality and taste of rice influence  
163 consumers' preference for local rice.

164

165 **Table 4: Factors that Influence Consumers' Preference for Local Rice**

Factors	Frequency	Percentage
Quality of rice	222	92.5
Size of grain	138	57.5
Good taste	216	90
Aroma of the rice	140	58.3
Easy to cook	106	44.2
Expands well when cooked	132	55.0
Has good nutritional value	228	95.0
Relative price of rice	140	58.3

166 Source: Field survey, 2018

167 \*Multiple responses

168

### 169 **3.5 Estimates of the Logistic Regression**

170 The results revealed that taste and availability of the commodity had a significant positive  
171 influence on consumers' preference for choice of rice. This implies that the increase in taste and  
172 its availability would increase the probability of consumers' preference for choice of rice. This  
173 finding corroborates the finding of Opeyemi *et al.* (2015) that taste and availability all year round  
174 had positive influence on the preferred choice of rice.

175 **There is a significant negative influence between preferred choice of rice and price of the**  
176 **commodity and presence of particles. This suggests that increase in price would decrease the**  
177 **likelihood of consumers' preference for choice of rice and decrease in price would increase the**

178 likelihood of consumers' preference for choice of rice. Also, more presence of particles such as  
 179 stones and debris would elicit less consumers' preference for choice of rice and this could be  
 180 because presence of particles in rice reduces its quality and vice versa. This finding confirms the  
 181 finding of Ogundele (2014) who reported that price and presence of particles had negative  
 182 influence on the preferred choice of rice.

183  
 184

185 **Table 5: Estimates of the Logistic Regression**

Factors	Coefficient	Standard error	Z	P-value
Price	-0.2380478***	-0.07928345	-3.00	0.000
Packaging of rice	-0.644035	0.932654	-0.69	0.490
Texture	0.2297338	0.7560311	0.30	0.761
Taste	0.8362681***	0.2873135	2.91	0.004
Availability	0.4018687**	0.1388029	2.14	0.037
Flavour	1.003259	0.811328	1.24	0.216
Colour	-0.805685	0.7000986	-1.15	0.250
Presence of particles	-1.17e-07**	4.65e-08	2.21	0.014
Stickiness	0.1541395	0.7686054	0.20	0.841
Constant	0.1011647	1.785151	0.06	0.955

186 Source: Field survey, 2018

187 \*\*, \*\*\* denotes Significant at the 0.05 and 0.01 probability level

188

#### 189 **4.0 Conclusion and Recommendation**

190 The study analyzed consumers' preference for local rice among households in Ekiti State,  
 191 Nigeria. Most of respondents (87.0%) preferred local rice to imported rice and this could be due  
 192 to its nutritional value, quality and good taste. It was revealed that ofada rice and igbemo rice are  
 193 very much preferred (26.0%) by the respondents and also, preferred ofada rice to igbemo rice in  
 194 the study area. The results further revealed that taste, availability all year round, price and  
 195 presence of particles as factors that significantly influence the consumers' preference for choice  
 196 of rice.



197 High preference for local rice especially, ofada rice by the consumers justifies the need for the  
198 government to make more efforts on improved processing technology to eliminate presence of  
199 particles from choice of rice and to enhance good taste for consumers' preference. Since, price  
200 had a significant negative influence on consumers' preference; therefore, efforts should be made  
201 by the government to formulate price control policy on local rice for its affordability by the  
202 consumers. Also, farmers should be encouraged to produce more local rice through the  
203 provision of incentives and credit facilities for its availability of all year round to the consumers.

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## 205 Reference

206 Bamidele, F. S., Abayomi, O. O. and Esther, O. A. (2010). Economic analysis of rice  
207 consumption patterns in Nigeria. *Journal of Agricultural Science Technology*, 12:1-11.

208 Dagsvik, K. J., Wennemo, T., Wetterwald, D. G. and Aaberge, R. (2002). Potential Demand for  
209 alternative fuel vehicles. *Transportation Research Part B* 36, 361- 384.

210 Danso-Abbeam, G., Armed, M. and Baidoo, F. (2014). Determinants of consumers' preference  
211 for local rice in Tamale Metropolis, Ghana. *International Journal of Education and Social  
212 Science*, 1(2).

213 Demont M, Zossou E, Rutsaert P, Ndour M, Van Mele P & Verbeke W, (2012). Consumer  
214 valuation of improved rice parboiling technologies in Benin. *Food Quality and Preference* 23:  
215 63–70.

216 Diako, C., Sakyi-Dawson, E., Bediako-Amoa, B., Saalia, F. K. and Manful, J. T. (2010).  
217 Consumer perceptions, knowledge and preferences for aromatic rice types in Ghana. *Nature and  
218 Science*, 8(12):12-19.

219 Kassali, R., Kareem, R.O., Oluwasola, O. and Ohaegbulam, O.M. (2010). Analysis of Demand  
220 for Rice in Ile Ife, Osun State, Nigeria. *Journal of Sustainable Development in Africa*. 12(2), 2  
221 63 – 78.

222 Lançon, F., Erenstein O., Akande, S.O., Titilola, S.O., Akpokodje, G., and Ogundele, O.O.  
223 (2003). Imported Rice Retailing and Purchasing in Nigeria: A Survey. West Africa Rice  
224 Development Association (WARDA), Abidjan, Cote d'Ivoire.

225 Musa, M., Othman, N., & Abdul-Fatah, F. (2011) Determinants of Consumers Purchasing  
226 Behavior for Rice in Malaysia. *American Journal of Contemporary Research*, Vol 1(3), pp 159 –  
227 167.

228 Ogundele, O. (2014) factors influencing consumer's preference for local rice in Nigeria. *African  
229 Journal of marketing Management*, 6(4): 49 – 55.

- 230 Opeyemi, G., Adedeji, S. O., Komolafe, S. E., Arotiba1, K. and Ifabiyi, J. O. (2015). Analysis of  
231 consumers' preference in patronizing locally produced and imported rice in Niger State, Nigeria.  
232 *Nigerian Journal of Agriculture, Food and Environment*. 11(3):38-43.
- 233 Oyinbo, O., Omolehin R. A. and Abdulsalam, Z. (2013). Household consumption preference for  
234 imported and domestic rice in Kaduna State, Nigeria: Implication for rice quality improvement,  
235 *Production Agriculture Technology*, 9(1):29-37.
- 236 Potoglou, D. and Kanaroglou, P. S. (2007). Household demand and willingness to pay for clean  
237 vehicles. *Transportation Research Part D* 12, 264- 274.
- 238 Sowunmi F. A.\*, Omigie O. C. and Daniel D. T. (2014). Consumers' Perception on Ofada Rice  
239 in Ibadan North Local Government Area of Oyo State, Nigeria. *Journal of Economics and*  
240 *Sustainable Development*, 5(16): 46.
- 241 Tetteh, B. A., Sidney, N. A. and Stanislaus, A. A. (2011). Consumer preferences for rice quality  
242 characteristics and the effects on price in the Tamale Metropolis, Northern Region, Ghana,  
243 *International Journal of Agricultural Science*, 1(2):67-74.
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