

## *Full Length Research Paper*

# **Analysis of the availability and accessibility of consumer to locally made rice in Abuja municipal area council, Federal Capital Territory Abuja, Nigeria**

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Nigeria, a country where rice has become one of the most important staple food consumed by almost everyone, rice imports had affected domestic production and patronage of Nigeria's local rice that had resulted in the decreased demand and consumption of local rice. The study therefore, analyzed the availability and accessibility of local rice in Abuja Municipal Area council FCT Nigeria. Primary data were collected from randomly sampled 110 respondents in 11 selected wards in the area council using a structured questionnaire. Descriptive and inferential statistics analyses were used in the analysis of factors limiting the consumption of locally produced rice and the test of hypothesis. Results reveal the modal age of 31-40years, majorities were females (60.0%), most of the respondents were married (69.1%), and respondents are quite educated with 46.4% possessing tertiary education. Most of the respondents are civil servants with

(44.5%), household size is at an average of 6-10 individuals while most of the respondents earned between ₦50,000 and ₦100,000 monthly. The result indicates that the respondents had easy access to local rice and it is well available to them. Factor analysis results loaded four factors that are renamed to poor physical features, none, poor compositional features and poor aroma. The logit regression reveals income significantly influenced the access to local rice in the study area. The study, therefore, recommends that the government should pay more attention to rice processing to ensure good quality of local rice grain, in terms of cleanliness and making it free from foreign materials.

**Keywords:** Local rice, availability, accessibility, Nigeria

## **INTRODUCTION**

Rice has become the fastest growing staple food and provides a bulk of dietary energy to the growing population in most African countries. According to Kassali et al. (2010) rice accounts for 715 kilocalorie per capital per day, it also makes up 27 percent of dietary energy supply, 20 percent of dietary protein and 3 percent of dietary fat.

Similarly the FAO (2012) asserts that, rice is ranked the 5th most prominent source of energy in diet responsible for about 90 percent of caloric intake. Aside its

importance in diet intake rice also serves as a source of raw material for industries. Rice is widely consumed and there is hardly any country in the world where it is not utilized in one form or the other (Isa et al., 2012). Rice is an important annual crop in Nigeria. It is one of the major staples, which can provide a nation's population with the nationally required food security minimum of 2,400 calories per person per day (Bamidele et al., 2010). Due to its increasing contribution to the per capita calorie consumption of Nigerians, the demand for rice has been

increasing at a much faster rate than domestic production and more than in any other African countries since mid-1970s (Bamidele *et al.*, 2010). The high level of rice consumption means that an increase in production of local rice will improve the food security situation since it will be available at affordable prices and also lead to higher incomes for farmers and hence reduce poverty (Diako *et al.*, 2010). The demand for local rice is at its all-time highest owing to the new government policy which banned the importation of foreign rice into the country. However, it is important to analyze the local rice availability and consumer's accessibility to the local rice, it is based on the crux of the above that this study tends to analyze the availability and accessibility of consumer to locally made rice in Abuja municipal area council, Abuja FCT.

While the specific objectives are to

- (i) Determine the socioeconomic of the rice consumers.
- (ii) Determine the consumption pattern of local rice by the respondents.
- (iii) Determine the perception of the respondents on local rice availability.
- (iv) Determine the perception of the respondents on local rice accessibility.
- (v) Identify the factors limiting the consumption of local rice in the study area.

The hypothesis of the study states that "there is no significant relationship between the access to local rice and socioeconomic factors of the respondents"

## MATERIALS AND METHODS

The study was carried out in Abuja municipal area council the choice of the council is because of the high consumption rate of the area council being the biggest area council in the federal capital territory (tukool.com). 11 wards were randomly selected from the area council furthermore 10 respondents were randomly selected from each of the wards to make a total 110 respondents. Primary data used for this study was collected through the means of a well-structured questionnaire. The collected data were analyzed using descriptive statistics such as frequency counts and percentages to show the socio-economic characteristics of the rice consumers, factor analysis was used to identify the factors limiting the consumption of local rice in the study area. While, Logistic regression was used to analyze the relationship that exist between the variables in our hypothesis.

## RESULTS AND DISCUSSION

### Description of the demographic characteristics of the respondents

Table 1 shows the socioeconomic characteristics of the

respondents.

The table shows the majority of the respondents are between ages 31-40 followed by 41-50 age range with 37.3% and 34.5% respectively. This implies that many of the respondents are well aware of the availability and accessibility of both local and foreign rice as they must have had remarkable experience in purchasing both local and foreign rice. The findings also indicate that both sexes were both represented in the survey as the male were 40% and female taking 60% of the respondents showing that women are more involved in food stuffs purchase than the men. Furthermore while 30.9% were single 69.1% were married, consumption of local rice could therefore be regarded as a family or household decision which would further validate the outcome of the study.

The study further reveals 51.8% of the respondents attain tertiary education level while 46.4% possess secondary education. According to a report by FAO, (2009) the attainment of education plays a key role in the consumption of locally grown foods. This is because, the higher an individual's educational attainment, the more knowledgeable they are concerning the advantages of consuming organic grown foods. Household size to a large extent determines the quantities of rice consumed in a month. Thus the higher the household size, the higher the quantities of local rice consumed. From the study it is revealed that household size 6-10 possess 50% while household size of 1-5 possess 38.2%. Majority of the respondents are civil servants possessing 44.5% followed by Trading with 25.5% this shows that Abuja metropolis is prevailed majorly by both federal and state civil staff. Income level of the respondents shows that majority of the respondents in the ₦51,000 - ₦100,000 range are prevalent with 50% while respondents in the ₦101,000 - ₦150,000 group possess 31.8%, this shows that they should be able to afford their foodstuffs items.

### Consumption Pattern of Local Rice by Respondents

Table 2 explained the consumption pattern of local rice by the respondents, the result shows that 64.5% of the respondents confirmed they consume local rice, furthermore 56.4% of the respondents confirmed they consume locally made rice than foreign rice in the study area. 15.5% of the respondents agree they consume local rice daily, 63.6% consume local rice on a weekly basis and 3.6% consume locally made rice every fortnight while 17.3% consume local rice occasionally. This result indicates that local rice is an important staple food in the study area supporting Odulari, (2010) who reported that rice forms a staple food in the diet of the people. Despite the fact that imported rice are still being cherish by the Nigerian populace the people of the Abuja municipal area consume more of local rice (56.4%) than foreign rice (43.6%).

**Table 1.** Socio-economic characteristics of the respondents.

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age</b>		
20-30	31	28.2
31-40	41	37.3
41-50	38	34.5
<b>Gender</b>		
Male	44	40
Female	66	60
<b>Marital Status</b>		
Married	76	69.1
Single	34	30.9
<b>Educational level</b>		
Primary School	6	1.8
Secondary School	51	46.4
Tertiary Education	57	51.8
<b>Household Size</b>		
1-5	42	38.2
6-10	55	50
11-15	13	11.8
<b>Major Occupation</b>		
Civil Servant	49	44.5
Artisan	12	10.9
Trading	28	25.5
Entrepreneur	21	19.1
<b>Income Level</b>		
₦18,000 - ₦50,000	16	14.5
₦51,000 - ₦100,000	55	50
₦101,000 - ₦150,000	35	31.8
Above ₦150,000	4	3.6
Total	110	100

Field Report, 2019

**Table 2.** Consumption pattern of local rice by respondents

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Do you Consume Local Rice?</b>		
YES	71	64.5
NO	39	35.5
<b>Consume more Local than Foreign rice</b>		
YES	62	56.4
NO	48	43.6
<b>Frequency of Local Rice consumption</b>		
Daily	17	15.5
Weekly	70	63.6
Fortnightly	4	3.6
Occasionally	19	17.3

Field Report, 2019

### Perception of respondents on local rice availability

Table 3 reveals the perception of the respondents based on local rice availability to them for purchase. The study

shows that 50.9% of the respondents affirmed that local rice is always available for purchase in the market while 49.1% posited that local rice is not always available for purchase. Also, 60% of the respondents affirmed that

**Table 3.** Perception of respondents on local rice availability.

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Availability of local rice in market</b>		
Always	56	50.9
Not Always	54	49.1
<b>Ease of Purchase to Foreign rice?</b>		
YES	66	60
NO	44	40
<b>Purchasing Spot</b>		
Retailer	68	61.8
Supermarket	12	10.9
Wholesale	27	24.5
Hawker	3	2.7
<b>Based on Availability do we import more Foreign Rice?</b>		
YES	73	66.4
NO	37	33.6

Field Report, 2019

local rice is easier to purchase than foreign rice this may be due to the government policy banning the importation of foreign rice into the country. Most of the respondents 61.8% buy their local rice from the retailer, 10.9% purchase from supermarket, 24.5% of the respondents get their local rice from wholesalers and just a few at 2.7% purchase from rice hawkers. This reveals that local rice is well available for the consumers to purchase. 66.4% of the respondents want more importation of foreign rice while 33.6% disagree with more importation of foreign rice. This could be as a result of the inability of local rice supply to meet up with the demand of local rice hence the reason for respondents' agreement to more importation of foreign rice.

### Perception of respondents on local rice accessibility

Table 4 reveals the respondents perception on the accessibility of local rice in the study area. The study reveals that 90% of the respondents reported to having an easy access to local rice in the study area while 10% do not have easy access to local rice. Majority of the respondents (40.9%) purchase 10kg of local rice every month, 30.9% of the respondents buy 5 kg of local rice every month while 20%, 6.4% and 1.8% purchase a Mudu, 15 kg and above 15kg of local rice every month. The distance from residence point to place of purchase of local rice result shows that most of the respondents (62.7%) only had to move 3-4 km to get their local rice, 20% move an average 4.5km to local rice, 17.3% move 1-2km to get local rice while none of the respondents has moved beyond 5km to purchase local rice. The most percentage of income spent on local rice is 10-20% at 62.7% while 37.3% of the respondents spent 21-30 of their income on the purchase local rice while none of the respondents has ever spent 31-40 percent of their

income on local rice. 59.1% of the respondents rated the price of local rice as moderate, 38.2% posited that local rice is expensive while 2.7% claim local rice price is cheap. The result on perception based on accessibility has revealed that respondents in Abuja metropolitan area have easy access to local rice.

### Further analysis on factors limiting the consumption of local rice

The results of factor analysis on the factors limiting the consumption of local rice are presented on (Table 5). Based on the item loadings, factor 1, 2, 3, and 4 were renamed as poor physical features, none, poor compositional feature and less attractive aroma respectively. The specific variables that define poor physical feature (factor 1) include presence of foreign materials in the rice, non-whitening color of the rice. None of the variables is significant for factor 2, the specific variables that explained poor compositional feature (factor 3) include taste of the local rice and longer cooking time of the rice. While aroma is the only variable that explained factor 4 which is renamed as the less attractive aroma of local rice.

### Estimates of the logistic regression

Logistic regression model was used to test our hypothesis that state was stated in null form "There is no significant relationship between the access to local rice and socioeconomic factors of the respondents" Result of logistic regression analysis for hypothesis testing is presented in (Tables 6 and 7). Table 6 revealed log-likelihood statistics of 58.27, the Cox & Snell R square result is at 51% while Nagelkerke R square is at 64% these values give the overall model fit. Level of income contributed significantly to the patronage of local rice in

**Table 4.** Perception of respondents on local rice accessibility.

Variables	Frequency	Percentage
Do you have easy access to local rice?		
YES	99	90
NO	11	10
Quantity purchase monthly		
Mudu	22	20
5kg	34	30.9
10kg	45	40.9
15kg	7	6.4
Above 15kg	2	1.8
Distance to place of Purchase		
1-2km	19	17.3
3-4km	69	62.7
4-5km	22	20
Above 5km	0	0
Percentage of income spent on local rice		
10-20%	69	62.7
21-30	41	37.3
31-40	0	0
Price of Local Rice rate		
Very Cheap	0	0
Cheap	3	2.7
Moderate	65	59.1
Expensive	42	38.2
Very Expensive	0	0

Field Report, 2019

**Table 5.** Result of varimax rotated analysis of factors limiting the consumption of local rice.

Variables	Factor 1: poor physical features	Factor 2: None	Factor 3: poor compositional feature	Factor 4: Less attractive Aroma
Taste	0.214	-0.090	0.713*	-0.125
Cooking time	-0.332	0.150	0.711*	-0.003
Foreign material	0.795*	0.402	0.104	0.089
Price of foreign rice	0.254	-0.818	0.094	-0.045
Color	0.840*	-0.134	0.75	-0.009
Aroma	0.033	-0.094	0.082	0.986*
Income	-0.840	0.339	0.087	0.058

Note; Coefficients on the table represent regression weights. Coefficients of > 0.50 implies significance. Field Report, 2019

**Table 6.** Goodness of fit.

-2 Log Likelihood	Cox & Snell R Square	Nagelkerke R Square
58.275 <sup>a</sup>	0.513	0.637

**Table 7.** Model estimation: Determinant of local rice demand.

Independent Variable	Unstandardized coefficients	Std. Error	Wald	Df	Sig	Exp (B)
Price of Local Rice	1.481	0.937	2.496	1	0.114	4.396
Household Size	-0.005	0.090	0.003	1	0.953	0.995
Income	-1.257	0.524	5.759	1	0.016*	0.284
Constant	0.767	3.312	0.054	1	0.817	2.153

\*Indicate significance at 5% level.

the study area. The income level is significant at 5%, which shows that a thousand naira increase in income of the respondents will lead to 1.257 unit decrease in the amount of local rice consumed. This result corroborate with the result of Danquah and Egyir, (2014) which indicated socioeconomic characteristics significantly influence the demand of local rice. Therefore our null hypothesis is rejected and alternative hypothesis is accepted which state that “There is significant relationship between the access to local rice and socioeconomic factors of the respondents”.

## Conclusion

It is evident that rice is a staple food in the study area, despite that imported rice are still being cherish by the Nigerian populace the people of the Abuja municipal area consume more of local rice. It is evident that local rice is well available for the respondents and it is easily accessible for purchase by the respondents. The research has shown that factors that limit consumption of local rice in the study area include taste, longer cooking time, color and presence of foreign materials. However, with the considerable level of access to local rice the respondents still want the importation of foreign rice. It is therefore recommended that more effective rice production techniques should be encouraged, government agency in charge of food quality assurance should step up to ensure marketed rice measured up to standard.

## Authors' declaration

I declared that this study is an original research by me and I agree to publish it in the journal.

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