

DETERMINANTS OF CONSUMPTION PREFERENCE OF LOCAL VERSUS IMPORTED RICE BRANDS IN ENUGU STATE, NIGERIA

*Nwachukwu C.U. and Achike A.I.

Department of Agricultural Economics, University of Nigeria, Nsukka, Nigeria

*Corresponding author's email: uzo.cynthia@gmail.com

ABSTRACT

This study examined the determinants of consumption preference of local versus imported rice brands in Enugu State, Nigeria. In Nigeria, rice is a cereal crop widely accepted and consumed as a staple crop both in urban and rural areas. Both imported and local brands are widely accepted, but there appears to be a hidden stereotype guiding consumer preference of each of the brands which this study wants to unveil. The research is set to examine consumption preference of the different brands of rice consumed and examine the preferred attribute of rice quality. Results are based on a questionnaire survey conducted among 106 consumers across twelve communities in six local government areas and three agricultural zones in Enugu State, Nigeria. Descriptive statistics and semantic differential scaling were used to analyse the data. Rice quality (75.7%) and packaging (71.4%) were the reasons consumers gave for their preference of the local rice brand and imported rice brand, respectively. The attribute that makes consumers prefer local rice brand include availability ($\bar{x} = 1.8$), taste ($\bar{x} = 1.0$), swelling capacity ($\bar{x} = 1.5$), and minimal use of ingredients ($\bar{x} = 2.3$). Consumers of imported rice brand prefer the brand because of its cleanliness ($\bar{x} = 2.3$), full grain size ($\bar{x} = 2.5$), and ease of preparation ($\bar{x} = 1.8$). This study therefore was necessary to unravel the determinants of this preference for strategic policy decisions that may guide improvements in the production, processing and marketing of local rice brands for obvious positive contributions to the national income and gross domestic product.

Key words: consumer preference, local rice brands and imported rice brand

INTRODUCTION

Rice is one of the common foods consumed by every Nigerian. There is no occasion or gathering of people in which rice is not served. Therefore, rice is one of the major food crops cultivated by farmers in all agro-ecological zones of Nigeria (Daramola, 2005; Onwualu, 2012). In Africa, the popularity of rice in the people's diet is because it is quick to cook and tasty (Mohapatra, 2011). Rice is no longer considered a luxury, it has fast turned into a major staple food in the country as it is easier to prepare compared to other traditional cereals. Furthermore, urbanization and increase rate of women working outside the home has shifted consumer preferences from other staple food to rice and this led to the structural increase in consumption of rice in Nigeria (Adejumo-Ayibiowu, 2010).

The huge demand for rice by the populace is met both by locally produced and imported rice brands. Among the major rice-importing countries in Africa, Nigeria is rated first and second in the world (Tihamiyu *et al.*, 2010). In 2013, Nigeria imported 3 million metric tons of rice (Statista, 2015). Rice production in 2013 was 3.1 million metric tonnes and the total consumption of milled rice in that same year was 5.3 million metric tonnes (International Rice Research Institute, IRRI, 2015).

This shows that Nigeria's local rice production is yet to meet the high demand of rice by its populace.

The rate at which rice is imported to meet consumer demand is the greatest issue Nigeria faces in being self-sufficient in rice production (Tihamiyu *et al.*, 2010). This is because the incentives used in rice importation could have been invested in rice production. According to Rutsaert *et al.* (2013), several attributes have been identified that influence consumer purchase preference, they are the extrinsic attributes (packaging, brand, appearance and price) and the Intrinsic attribute (taste, texture or colour). Compared to imported rice, locally processed rice contains impurities (stones, chaff and other foreign materials), and this makes the process of preparing it longer. Recently, efforts are being made in Nigeria to improve locally produced rice through the Value Chain Development Programmes (VCDP).

The imported rice brand, with which the locally produced rice brand competes, is of high quality standard in terms of its cleanliness, packaging, price which is not met by most small hullers. This is as a result of the processing technology. In Nigeria, rice processing always includes both parboiling and milling (International Fertilizer Development Centre, IFDC, 2008).

According to Rutsaert *et al.* (2013) and United States Agency International Development (USAID) (2009), the replacement of local rice brand with imported rice brand by urban consumers can be described by their perception that local rice brand contains impurities. Also, different varieties of local rice brand are contained in the same bag because the different varieties are purchased from various farmers and mixed up during milling.

Locally processed rice is normally semi-milled brown rice, de-hulled, not polished, with great colour variation (Cadoni and Angelucci, 2013; Johnson *et al.*, 2013). There are some differences between locally processed rice and imported rice brands, they are: appearance, swelling capacity, taste and the homogeneity. These differences are the main determinants of price between locally produced rice and imported rice brand (Cadoni and Angelucci, 2013; Johnson *et al.*, 2013).

Studies like Tiamiyu *et al.* (2010) and Futakuchi *et al.* (2013) indicate preference for imported rice brand to local rice brand, despite the acknowledged higher organoleptic properties of local rice. There have been reports on consumer criteria for selecting alternative types of rice in Togo and Africa, indicating much preference for imported rice brand relative to local rice brand because of the grain quality (Fiamohe *et al.* (2013); Rutsaert *et al.* (2013). Furthermore, Oyinbo *et al.* (2013) studied consumer preference of imported and locally produced rice in Kaduna State. This study analysed the determinants of consumption preference of local versus imported rice brands in Enugu State, Nigeria. This study will provide empirical information on the consumer preference of the different brands of rice consumed and the outcome can facilitate the formulation of policies on improving rice quality by processors.

Objectives of the Study

The broad objective of the study is to determine consumption preference of local versus imported rice brands in Enugu State, Nigeria. The specific objectives are to examine the consumer preference of the different rice brand consumed and identify the most preferred attribute of rice quality.

MATERIALS AND METHODS

Study Area

The study was conducted in Enugu State, which is one of the five states in the South-East, Nigeria. In terms of its economy the state is rural and agrarian, with most of its working population engaged in farming (National Bureau of Statistics, NBS, 2014). Enugu State lies between latitudes 5°56' N and 7°05' N of the equator and longitudes 6°53' E and 7°55' E of the Greenwich meridian (Enugu State Agricultural Development Project, ENADEP, 2009). The State has a population of 3,267,837 (National Population Commission, NPC, 2006).

According to ENADEP (2012), Enugu State comprises 17 local government areas (LGAs) which are divided into six agricultural zones namely Awgu (Awgu, Aninri and Oji River LGAs); Agbani (Nkanu East, Nkanu West and Enugu South LGAs); Udi (Ezeagu and Udi LGAs); Nsukka (Uzo-Uwani Igbo Etiti and Nsukka LGAs); Enugu Ezike (Udenu, Igbo-Eze North and Igbo-Eze South LGAs); and Enugu (Enugu North, Enugu East and Isi-Uzo LGAs).

Sampling Technique and Sample Size

Multistage sampling technique was used, in order to make data collection manageable and cost effective. In the first stage, three agricultural zones were purposively selected from six agricultural zones, and they included Enugu, Awgu and Nsukka agricultural zones. They were selected to ensure that major towns and urban areas in the state are captured.

In the second stage two local government areas were purposively selected from each agricultural zone to have a total of six local government areas for the study. They are Enugu North and Enugu East from Enugu agricultural zone, Awgu and Aninri from Awgu agricultural zone and Nsukka and Uzo-uwani from Nsukka agricultural zone. The purposive selection was to at least capture two LGAs that are into rice production.

In the third stage two communities were purposively selected from each local government area amounting to twelve communities. Finally ten respondents were chosen from each community (Ogui-Nike, Emene, Abakpa, Ugbodogwu, Nsukka and Opi who do not produce rice but are consumers while Opanda, Mgbowo, Awgu, Oduma, Nenwe and Adani produce and also consume rice). Respondents especially the producers were selected from the list of rice producers in the communities. The total respondent sampled was 120 but 106 questionnaires were returned.

Data Collection and Analysis

Primary data were collected with the use of quantitative method for this study. The quantitative data was collected with the use of well-structured questionnaire designed in a way to elicit responses that fully captured the objectives. The questionnaire asked questions on the socio-economic characteristics of the respondents, the brand of rice consumed whether imported or local rice brand, reasons for preference of one rice brand over another and the factors that influence the preference of the different brands of rice consumed. The last question was realized with semantic differential scale, measured with a 7-point scale ranging from 3, 2, 1, 0, -3, -2, -1. The negative scale indicates the negative aspect of the rice brand preferred while the positive scale indicates the positive aspect. The data were analysed with descriptive statistics such as frequency distribution, percentages, mean including semantic differential scale with the use of Excel and SPSS.

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

The socio-economic characteristics of the respondents are presented in Table 1 below. The age distribution of respondents in Table 1 shows that 16.0% of the respondents are within the age range of 46-55 years, 19.8% are within the age range of 16-25 years, 27.4% are within the age of 36-45 years, and 28.3% of the respondents are within the age of 26-35 years, the mean age of all the respondents is 37.0 years. None of the respondent was above 65 years of age. This indicates that they are young and within the middle age range, capable of making their own decisions on the rice brands they consume. This corroborates with the findings of Ogundele (2014) who reported that those in active working age may prefer calorie supplied food such as carbohydrates.

The results of the gender distribution in Table 1 showed that majority (95.3%) of the respondents are females while the remaining (4.7%) are males. This indicates that females are relatively more involved in general food consumption in the family as home makers. This is in line with the findings of Danso-Abbeam *et al.* (2014) that when it comes to household decision making as regards household food consumption women are mostly in charge. It also corroborates the findings of Onya *et al.* (2019) that women are in charge of the household kitchen as seen in African tradition.

Marital status plays an important role in feeding pattern as single people tend to eat out and eat whatever is available and presented. Rice consumers in this area were mostly married (71.7%), while 24.5% were single and the rest widowed (3.8%). This agrees with Ogundele (2014) that as a form of socializing with family members, a married person forms the habit of eating at home and this in turn will affect the type and quality of food consumed by the household. It also agrees with Onya *et al.* (2019) that marital status determines the preference and expenditure decisions of the households especially when it comes to consumption decisions.

Table 1: Distribution of rice consumers by socio-economic characteristics

Socioeconomic characteristics	Frequency	Percentage	Mean
Age (years)			
16 -25	21	19.8	
26 – 35	30	28.3	
36 – 45	29	27.4	
46 – 55	17	16.0	
56 -65	9	8.5	
Total	106	100.0	37.0
Sex			
Female	101	95.3	
Male	5	4.7	
Total	106	100.0	
Marital status			
Married	76	71.7	
Single	26	24.5	
Widowed	4	3.8	
Total	106	100.0	
Household size			
1-5	61	57.5	
6-10	36	34.0	
11 -15	2	8.5	
Total	106	100.0	4.7

Source: Field Survey, 2015

It could be seen from Table 1 below that majority of the household size of the consumers fall within the range of 1-5 (57.5%), 6-10 (34.0%) and 11 and above (8.5%) and the mean rank is 4.7. This implies that the size of the household will determine to an extent the quantity and quality of food intake and the rice brand to consume. Bamidele *et al.* (2010) stated large households with less per capita income will consume more of the cheaper local rice as opposed to those with small households.

The Consumer Preference of the Different Brands of Rice Consumed

From the data in Table 2, it was found that local rice brand consumers (75.7%) preferred the rice quality while imported rice brand consumers (24.3%) preferred the rice brand because of the quality. This means that local rice consumption is popular among rice consumers in Enugu State. This agrees with Obih and Baiyegunhi (2018) who found out that there is general acceptability of local rice brands among rice consuming households in Nigeria. The rice qualities here according to consumers are perceived from different angles. The imported rice brand consumers perceive the quality in terms of absence of foreign materials (stones, chaff, debris). While the consumers of local rice brand perceive quality in terms of the nutrient content and also absence of foreign materials, some local rice brands are now processed to look exactly as the imported brand. This is inconsistent with the findings of Oyinbo *et al.* (2013) that rice quality (cleanliness, whiteness, shape and breakage of grain) was positively related to the households' consumption preference probability for foreign and local rice. This is also confirmed by Bamidele *et al.* (2010) that because the imported rice is of higher quality and grade, households prefer imported rice to local rice.

Then price is the second reason that the consumers of the different brands of rice prefer in the consumption of rice. Local rice brand consumers (88.0%) indicated that price of the rice is the second reason that draws them into preference of the local rice brand over imported rice brand meanwhile; consumers that preferred imported rice brand indicated that they preferred the brand because of the price (12.0%). According to Lançon *et al.*, (2003) several consumers view high price as a measure of high quality therefore high prices would be synonymous with high quality rice and therefore used as a basis for selecting the product. They also stated that local rice is purchased by customers for its price and taste.

The package does not actually influence the purchase of the local rice brand. This means that consumers that consume local rice brand (28.6%) are indifferent about the packaging of the rice. Most of the consumers (71.4%) of imported rice brand prefer packaging of the rice brand. It is then assumed that

Table 2: Distribution of consumer preference of the different brands of rice consumed

Reasons for preference/Brand of rice consumed	Price		Package		Rice quality		Total
	Frequency	%	Frequency	%	Frequency	%	
Imported	3	12.0	5	71.4	18	24.3	26
Local	22	88.0	2	28.6	56	75.7	80
Total	25	100.0	7	100.0	72	100.0	106

Source: Field Survey, 2015

packaging the local rice as a part of branding will not make any difference to them, but if the rice quality is improved alongside packaging, it will attract more consumers to patronize the local rice brand. This is not in consonance with Danso-Abbeam *et al.* (2014) who stated that the most dominant constraints hindering consumers preference for local rice is poor packaging.

Preferred Rice Quality Attributes by Consumers

From Table 3a, the preferred attributes for imported rice brand are cleanliness ($\bar{x} = 1.9$), full grain size ($\bar{x} = 2.5$), availability ($\bar{x} = 2.4$) (search attribute), taste ($\bar{x} = 2.3$), ease of preparation ($\bar{x} = 1.8$), aroma and swelling capacity (2.8) (experience attribute). It was seen also that the aroma is preferred by both consumers of local and imported rice brand on the same mean value of 2.8. This corroborates Okeke *et al.* (2015) and Bamidele *et al.* (2010) who reported that household heads purchase imported rice because of its cleanliness, higher quality and grade, it has a better taste, polished, has full grain size and is free of stones and other impurities.

From Table 3b, it was seen that preferred attributes of rice quality for local rice brand are availability ($\bar{x} = 1.8$) (search attribute) taste ($\bar{x} = 1.0$), swelling capacity ($\bar{x} = 1.5$), aroma ($\bar{x} = 2.8$) and minimal use of ingredients ($\bar{x} = 2.3$) (experience attribute). These are positive attributes that attract the respondents to local rice brand. From the analysis, it is seen that the local rice brand have some good attributes that when included in improving other qualities such as cleanliness, good package and full grain size, will compete with imported rice quality and also increase demand. This is also in consonance with Danso-Abbeam *et al.* (2014) who reported that the most dominant constraints hindering consumers preference for local rice is poor packaging with the mean rank of 2.32. Ogundele (2014) stated that the consumers of Pategi and Igbemo (local rice) found a better taste in its consumption. Figure 1 is a semantic differential scale chart showing the different attributes that consumers' prefer in the choice of rice brand they consume.

Table 3a: Preferred attribute of rice quality for imported rice brand

Imported rice brand	1	2	3	4	5	6	7	Total	Mean
Good package (GP)	8	2	6	2	5	0	3	26	3.2
Cleanliness (CL)	14	6	4	0	1	0	1	26	1.9
Full grain size (FGS)	12	4	4	0	4	1	1	26	2.5
Availability (A)	13	2	5	0	5	1		26	2.4
Tasty (TY)	13	3	6		2		2	26	2.3
Swelling capacity (SC)	7	8	6		1	1	3	26	2.8
Easy to prepare (EP)	12	9	3	1	1	0	0	26	1.8
Aroma (AR)	11	4	3	0	5	1	2	26	2.8
Minimal use of ingredients (MINI)	2	2	7	1	1	6	7	26	4.6
Stickiness (ST)	4	3	5	0	2	1	11	26	4.5
Same colour (SV)	6	4	4	0	4	3	5	26	3.8

Source: Field Survey, 2015. No. of consumers that preferred imported rice = 26

Table 3b: Preferred attribute of rice quality for local rice brand

Local rice brand	1	2	3	4	5	6	7	Total	Mean
Poorly packaged (PP)	6	2	8	13	20	5	26	80	5.0
Full of chaff (FC)	10	11	14	3	16	12	14	80	4.2
Broken grain size (BGS)	26	9	13	2	15	6	9	80	3.3
Non-availability (NA)	38	21	17	1	3	0		80	1.8
Tasteless (TL)	75	15	0		0		0	80	1.0
Non-swelling capacity (NSC)	48	22	8		1	1	0	80	1.5
Not easy to prepare (NEP)	19	13	12	3	15	4	14	80	3.6
No aroma (NAR)	31	11	15	3	11	6	3	80	2.8
Much use of ingredients (MUI)	20	33	11	15	1	0	0	80	2.3
Not sticky (NS)	12	16	16	6	5	9	10	80	3.3
Colour variation (CV)	9	17	24	8	15	3	4	80	3.2

Source: Field survey, 2015; No. of consumers that preferred locally processed rice = 80

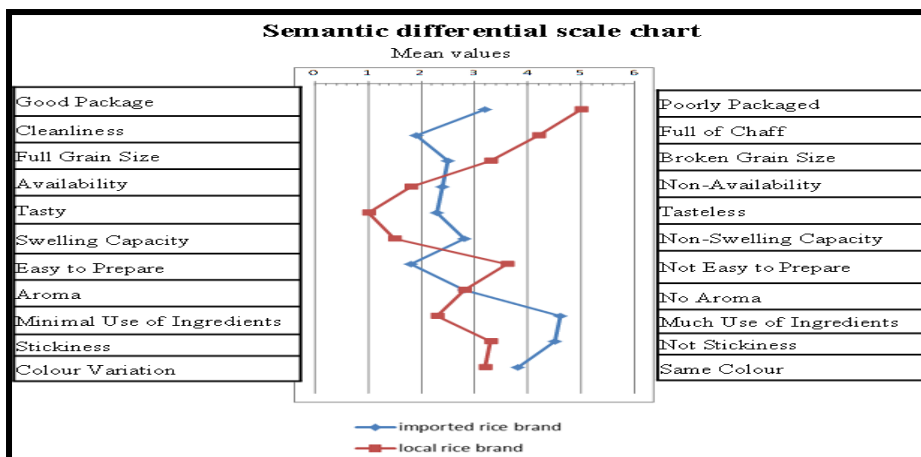


Figure 1: Semantic differential chart of rice quality for local and imported rice brand
Source: Field survey, 2015

CONCLUSION AND RECOMMENDATION

Despite the fact that the imported rice brand has preferred attributes of cleanliness, full grain size, easy to prepare and good package. The local rice brand with its own attributes of swelling capacity, availability, minimum use of ingredients and taste is seen to be the choice of most consumers in this study. Therefore, this study was necessary to unravel the determinants of this preference for strategic policy decisions that may guide improvements in the production, processing and marketing of local rice brands for obvious positive contributions to the national income and gross domestic product.

RECOMMENDATIONS

It can be seen that local rice brand have some good attributes that when included in improving other qualities such as cleanliness, good package and full grain size will compete with imported rice quality and also increase demand. The ban on importation of foreign rice brand should be adhered to strictly encourage the production of local rice brand and hence increase consumption and the incentives saved in doing so should be invested in local rice production to increase the quantity and the quality of local rice brand.

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