Assessment of Consumers' Preference for Local Rice in South West, Nigeria

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Abstract: - The research work examine consumers preference for local rice in South west, Nigeria. It specifically described the socioeconomic characteristics of local rice consumers in the study area. Data of 150 household was collected through a wellstructured questionnaire. Tobit regression model and likert type of measurement were used to measures the collected parameters. The results of the analysis shows that consumption is consistent among 59.3% of the respondent. The choice of local rice consumption is evident by their positive perceptions that local rice is healthy, have good taste and superior in quality than polish rice. Although some claim less utility in local rice consumption because it's less attractive, look dirty and less friendly in term of cooking, Ofadabrand of local rice is still the most preferred.

The study also reveals thathousehold size, quality, ease of cooking and market price have significant influence on the consumer's decision.

Keywords: Assessment, Consumer, Preference, Local Rice, Tobit

I. INTRODUCTION

The perception of consumer on the preference for locally produced rice over the parboiled or imported remain a point of concern for a production manager or farmer and all stakeholders. This is attributed to the fact that the production is unfinished until products gets to the final consumer. The switch of urban consumption from local coarse local rice to imported rice can be explained by consumers' perception that local rice is of inferior quality (FAO, 2016). Owing to a large percentage of foreign matter and low levels of postharvest grading and sorting, local rice fails to meet expectations concerning reduced workload and time spent on sorting and cooking rice, and hence falls short relative to imported rice in this convenience dimension.(Demont et al, 2013). This explains critically, reasons why imported rice is preferred in many countries to local producing rice, with Mali, Gambia and Guinea as exceptions (United State Agency for International Development. (FAO, 2000, FMARD, 2012)

II. METHODS OF DATA ANALYSIS

Data was collected through the use of well-structured questionnaire to elicit relevant information from the respondents. Socio-economic characteristics, perception on local rice consumption, factors influencing the choice preference and willingness to pay by consumers was sampled through multistage procedure.

III. DATA ANALYTICAL TOOLS

Descriptive statistic such as the mean, frequency and percentages were used to describe the socio-economic characteristics of consumers while perceptions of respondents on attitude toward local rice were tested on a five-point likert type of measurement of strongly agree, agree, undecided, disagree, strongly disagree. The factors influencing the preference level for local rice was assessed using the Tobit Model.

Tobit regression model was used to examine, the factors influencing the preference level of respondents for local rice in the study area. The level of preference was measured on each local rice brand that was preferred on a scale of 1-4 (not preferred=1, least preferred=2, preferred=3, most preferred=4).

The Tobit regression model is specified below (Accent (2010)

 $Y_i *= X_i b + U_i$

 $Y_i^* = y_i$ if $0 < y_i < 1$ (preference index on local rice preferred)

 $Y_i^* = y_i$ if $y_i = 0$ (if local rice has zero preference level)

$$U_{i=}$$
 N(0, δ^2)

Where;

 Y_i^* = latent variable representing levels of preference for local rice

X_i= explanatory variables;

 β = vector of parameters to be estimated

 U_i = normally distributed error term

The explanatory variables used in examining the preference level of local rice were as specified below;

 $X_1 = Age (years)$

X₂ = Gender of respondent (Dummy: male=1, otherwise=0)

 $X_3 =$ Marital status (Dummy: married=1, otherwise=0)

 X_4 = Household size (number)

 $X_5 =$ Years of formal education (years)

 X_6 = Household head monthly income (\mathbb{N})

 X_7 = Monthly of household head transfer earnings (N)

 $X_8 =$ Rice brand consumed (Local rice=1, Otherwise=0)

 $X_9 =$ Ease of preparation (yes=1, no=0)

 $X_{10} =$ Grain quality (yes=1, no=0)

 $X_{11} =$ Grain colour (yes=1, no=0)

 $X_{12} = Grain aroma (yes=1, no=0)$

 X_{13} = Grain length (yes=1, no=0)

 X_{14} = Health reasons (yes=1, no=0)

 X_{15} = Price perception on local rice (yes=1, no=0)

 X_{16} = Monthly expense on local rice (N)

 $\mu i = Error term$

 $a_0 = Constant term$

 a_1 - a_{16} = Regression coefficient (parameters)

n = Likert Scale (strongly agree=5, agree=4, undecided=3, disagree=2, strongly disagree=1)

IV. RESULTS AND DISCUSSION

The result of the study from Table 1, reveals that local rice is strongly perceived to be healthier than the foreign brand (Ajala et al, 2019). Local rice was as well perceived to taste better than foreign rice, this was shown by an odd ratio of 3.00 for local rice taste. That local rice is worse than foreign rice was also disagreed with from the study though that's not enough justification to assert that local rice is better off. From the study also, it's obvious that local rice is less attractive to foreign rice and as well not as neat as foreign rice bran. This agrees with the findings of (Ajalaand Ghana 2015)that the local rice in Nigeria market is characterized by the unattractiveness and the presence of foreign bodies which make local rice less appealing to consumers. The study also shows that local rice is still largely difficult to prepare owing to the stringent effort required to ensure it's served at a good serving quality. Nonetheless, local rice was perceived as superior in quality in the study area.

Table 1: Perceptions about Local Rice Brand

Perception Statements	SA	A	Ι	D	SD	S.D±X	Inference
Local rice is healthy	3.52	0.75	0.17	0.07	0.01	0.880±1.48	SA
Local rice has superior in quality	2.72	0.53	0.31	0.13	0.01	1.314±1.93	SA
Local rice has better taste	3.04	0.53	0.23	0.26	0.06	1.316±1.91	SA
local rice is worse than foreign rice	0.47	0.32	0.55	0.74	0.28	1.232±3.65	D
ocal rice is more expensive	1.51	0.43	0.43	0.49	0.21	1.550±2.93	SA
cal rice is more attractive	0.62	0.32	0.21	0.77	0.34	1.346±3.73	D
cal rice is not harmful	2.13	1.17	0.25	0.28	0.08	1.490±2.23	SA
cal rice is neater	0.47	0.19	0.10	0.66	0.54	1.088 ± 4.25	D
ocal rice is easy to prepare	0.23	0.37	0.12	0.68	0.49	1.195 ± 4.09	D

Source: computed from field survey, 2018

Preference for Local Rice

Table 2 revealed that 64% of the respondents preferred local rice to foreign one while 36% didn't prefer local rice. This

implies that under normal circumstances if consumers are to choose, local rice will be selected over foreign one.

Table 2: Distribution of Respondents by Preference for Local Rice Brands

Preference for Local Rice	Number of Consumers	Percentage (%)	
Yes	96	64.0	
No	54	36.0	
Total	150	100.0	

Source: computed from field survey, 2018

Preference Index for Local Rice

Local rice (ofada) has the highest preference index of 0.81, followed closely by "Igbemo" rice with a preference index of 0.72. Lake rice was least preferred after "Abakaliki" and "Buhari" rice in the study area. These then implies that Ofada

rice is the most preferred rice brand in the study area, and having "Igbemo" rice sharing close preference range. Therefore, consumers will prefer to choose "Ofada" rice over every other rice brands in the study area. This could owe in part to its nativity to South West Nigeria where the study area is located.

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Local Rice Brands	NP(1)		Ι	.P(2)		P	(3)		MP(4)
	F	%	F	%	F	%	F	%	PI
Igbemo rice	31	23.3	11	8.5	34	26.4	54	41.9	0.72
Abakaliki rice	68	51.9	41	31.8	6	4.7	7	5.4	0.38
Lake rice	79	61.2	28	21.7	10	7.8	0	0	0.32
Ofada rice	29	22.5	11	8.5	23	17.8	75	58.1	0.81
Buhari rice	88	67.4	18	14	7	5.4	7	5.4	0.33

Table 3: Distribution of Respondents Preference Level Based of Selected Local Rice

Source: computed from field survey, 2018

Tobit Regression Estimation for Determinants of Preference for Local Rice

Table 3 presented the results of the estimated Tobit model of the factors influencing consumers' preference for local rice. The Tobit model is significant at 1% level as indicated by the likelihood ratio value (LR chi² (19) = 57.44; $p \le 0.003$).

The study also shows that grain quality, and ease of preparation were significant and positively influence preference for local rice. Household size and market price were also significant but have negative relationship with the preference for local rice.

The 5% significance of grain quality implies that increase in grain quality of local rice increases consumer's likelihood of preferring it to foreign or imported one. This finding contradicts Lancon 2007 that household's preferred imported rice to local rice in Nigeria. Grain quality therefore have a positive influence on local rice preference as the study reveals.

Ease of preparation was significant at 1% significant level implies that as local rice becomes easier to prepare, the probability of preferring local rice to foreign rice increases by 0.014.

Household size was negatively related to consumers' preference for local rice and was statistically significant at 10% level. This indicates that household size has inverse relationship with the probability of consuming local rice. By implication, this implies that, as household size increases, the probability of consuming local rice decreases. This could have resulted from the perceived difficulty in preparation as identified by the respondents which will increase preparation stress as the numbers of mouth to feed increases.

Market price perception is significant at 5% shows that grain price significantly influenced the preference for local rice though having a negative relationship. As grain price is perceived to increase by $\mathbb{N}1$, the probability for preferring local rice dwindles by 0.05. This is consistent with the fact that it is still seen as an inferior good irrespective of its intrinsic quality.

		Table 5. Determina	ints of Theferenee	Tor Local Rice	
Variables	Coefficients	Standard error	t-value	p-value	
Age	-0.0036	0.00485	-0.7415	0.460	
Sex	0.0076	0.02313	0.3321	0.740	
Marital Status	0.0167	0.03522	0.4750	0.636	
Household size	-0.0044*	0.00301	-1.4863	0.110	
Year of Education	0.0038	0.00348	1.1060	0.271	
Local rice awareness	0.0376	0.04331	0.8688	0.387	
Year of awareness	-0.0001	0.00102	0.1111	0.912	
Rice brand consumed	0.0248	0.03128	0.7957	0.428	
Grain quality	0.0351**	0.01578	2.2245	0.028	
Grain length	-0.0078	0.02871	-0.2750	0.784	

Table 3.	Determinants	of Preference	for	Local	Rice

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Preparation ease	0.0140***	0.00240	4.9981	0.009
Grain aroma	-0.0136	0.02452	-0.5565	0.579
Grain price	-0.0509**	0.02600	-1.9620	0.052
Grain packaging	0.0313	0.02937	1.0674	0.288
Health reasons	0.0299	0.02847	1.0522	0.295
Household income	-5.04e-02	1.19e-07	-0.0431	0.966
Constant	0.2613**	0.10734	2.4345	0.016

Source: computed from field survey, 2018

* Significant at 10%, ** Significant at 5%, *** Significant at 1%

V. CONCLUSION

Preference for local rice was ascertain by its characteristics of being healthy to consume, good taste and superior in quality than the foreign rice. The study showed that consumers' preference for local rice is influenced by household size, grain quality, ease of preparation and grain price.

Rice quality was positively related to consumers' preference and was significant at 5% significant level. Increase in grain quality of local rice increases consumers' likelihood of preferring it to foreign one. Ease of preparation increases the probability of preferring local rice to foreign rice. Household size negative significance indicates that household size has inverse relationship with the probability of preferring local rice and more importantly, the preference of local rice is more sensitive because price have a sensitive effect on utility and preference attached to a product.

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