



ANALYSIS OF HOUSEHOLDS' SUGAR CONSUMPTION PATTERN IN BAUCHI STATE NIGERIA

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ABSTRACT

The study examined household sugar consumption patterns in Bauchi State, Nigeria. Cross-sectional data were collected from 412 households through a multi-stage sampling technique. The data were analyzed using descriptive statistics and a linear regression model. The result revealed that the mean age of the respondents was 46.71 in the northern zone, 46.75 in the central zone, and 49.7 in the western zone. Most (90.2%,94.2%, and 87.9%) of the household heads in the northern, central, and western zones respectively were male and married, with 87.4% in the north zone, 94.2% in the central zone and 89.7% in the western zone. The mean household size was 11 persons in the northern zone, 10 persons in the central zone, and 9 persons in the western zone. The study further reveals that the respondents (65.7%,45.2%, and 47.9%) in northern, central, and western zones consume sugar every day respectively. The socio-economic factors influencing sugar consumption were average monthly income (P<0.01), cost of a kilogram of sugar(P<0.05), household size (P<0.01), age of the household head (P<0.05), community of the respondents (P<0.05), average monthly food expenditure (P<0.05) were all significant in influencing household sugar consumption, with an R² value of 0.505 and the Fvalue was (33.889) significant (P<0.01). The research concluded that socioeconomic factors have an influence on the sugar consumption pattern of households. The research, therefore, provides data for firms and individuals who wish to invest in the sugar market to develop suitable business strategies. The study, therefore, recommended implementing an adequate policy that will reduce the cost of sugar production and increase the supply. Household income should also be increased to enable the households to meet the demand for their food necessities like sugar and invariably enhance the living standard of the respondents.

Keywords: Households, Sugar Consumption, Pattern, Bauchi.

INTRODUCTION

Sugar is a very important commodity that contributes towards feeding mankind. It is also a very significant component of the global food market; on which it plays an irreplaceable role. The world market for sugar and sugar-containing products is constantly evolving (Ekott, 2021). Its present form is being very markedly shaped especially by the process of liberalization of the world market for agricultural commodities. Sugar in particular represents one of the most distorted markets in the world. This is due mainly to the protectionist policies of many governments. Production and trade in sugar are also very closely linked with the policies of sustainable development. It is common knowledge that sugar is used as a sweetener, spice, preservative, and for medicinal purposes (in limited quantity). The current domestic supply has not met the rising demand in the country despite the incentives offered by the federal government to boost local production (Adebayo, 2016). More than ninety percent 90% of Nigeria's sugar needs are met by importing raw sugar shipped mostly from Brazil, which is then refined by the local domestic sugar industry (GAIN, 2021). Population growth and lack of available substitutes increase the demand for sugar in the country. So long as Nigeria remains reliant on the world sugar market for the supply of the majority of its sugar requirements, it can have very little control over the domestic price of sugar. This is dependent upon short and long-term fluctuations in the world price. Generally, knowledge of any essential food item's demand in a country is useful in designing policies that benefit households' welfare. For instance, it helps to identify appropriate policy interventions to improve the nutritional status of individuals and households. It can also inform the designing of various food subsidies/palliative. Sugar firms who wish to invest in the





sugar market in Nigeria have to understand sugar consumption patterns and sugar demand to develop suitable business strategies. Decisions about the consumption of goods and services are taken at the household level (the lowest level of societal organization); a reason why it is said that all national economies strive to satisfy the wants and needs of their households (Jibril,2018) The broad objective of the study was to analyze household sugar consumption patterns in Bauchi state, Nigeria. The specific objectives were to:

- i) Describe the socio-economic characteristics of sugar consumers in the three agricultural zones of Bauchi state.
- ii) Assess the households' sugar consumption pattern in the study area
- iii) Determine the influence of socio-economic factors on sugar consumption in the study area

METHODOLOGY

The Study Area

The study was conducted in Bauchi State, North East, Nigeria. The State, located between Latitudes 9° 3′ and 12° 3′ north of the equator and Longitudes 85° and 11° east, covers an area of 49,119 km² 65% of which is cultivable. As of 2022, the population of the State which grows at a rate of 3.5% was estimated at 8308,800 million, making it the most populous State in the northeast of Nigeria where the average household size ranges between 4 to 9 persons (UNDP, 2018). The State span two distinctive vegetation zones, the Sudan savannah and the Sahel savannah. The Sudan savannah covers the southern part while the Sahel savannah manifests from the middle of the State as one moves to the north, comprising mainly of isolated stands of thorny shrubs. The southwestern part of the State is mountainous as a result of the continuation of the Jos Plateau, while the northern part is generally sandy (www.bauchistate.gov.ng). The mean daily temperatures range between 29.2°C to 37.6. Rainfall ranges between 700mm and 1300mm The economy of the State rests on agricultural output.

Sampling Procedure and Sample Size

A multistage sampling procedure was used for the selection of the households. In the first stage, Bauchi State was divided into three agricultural zones according to the Bauchi State Agricultural Development Programme (BSADP) classification for administrative convenience: the western zone, central zone, and northern zone, which were considered as strata. In the second stage from each stratum (Agricultural zones), two LGAs were randomly sampled through balloting, making six LGAs for the study. In the third stage, each of the LGAs selected, an urban ward and a rural ward, were randomly sampled, making a total of twelve wards. In the fourth stage, from each of the wards, two communities were randomly sampled, making four communities per local government. Hence the total number of communities for the study was twenty-four. In the fifth stage, from each of the selected communities, five percent of the households were randomly sampled by assigning numbers to the households in the communities followed by random sampling of the numbers. The numbers served as the households for the study. The total households were four hundred and fifty for the study. Although four hundred and twelve household questionnaires were retrieved, they were used for the research. The summary of the sampling procedure is shown in (Table 1).





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Tah	le	1:	Samp	ling	Frame	and	Size

Zone	Local Government	Town	Ward	Community	Sampling Frame	Sample Size
Northern	Gamawa	Gamawa	Gamawa south	Fada	400	20
				Balele	300	15
		Gololo	Gololo north	Unguwar Makwalla	240	12
				Unguwar Yamma	260	13
	Katagum	Azare		Bakin Kasuwa Azare	960	48
			Tsakuwa/Kofar gabar	Kofar Gabar	860	43
		Chinade	Chinade	Unguwan Rimi	160	8
				Unguwar Fawari	140	7
Central C	Ganjuwa	Kafin Madaki	Kafin Madaki A	Unguwar Waziri	700	35
				Unguwar Yayaji	180	9
		Rudiyausa	Yali	Dengili	120	6
		•		Taubasi	80	4
	Ningi	Ningi	Ningi west	Unguwar Tsamiya	500	25
				Daliya	400	20
		Burra	Burra/kyata	Kofar Fada	200	10
				Baduku	180	9
Western	*Bauchi	Bauchi	Makama A	Ganjuwa	800	40
				Dutsen Tanshi	1300	65
		Birshin	Birshi	Unguwar Sarki	100	5
		Fulani		Wuro Gubi	80	4
	Bogoro	Bogoro	Bogoro B	Bamshi	300	15
				Bakin Kasuwa	200	10
		Dutsen Lawan	Bogoro A	Nasarawa	400	20
				Bazamshi	140	7
Total					9,000	450

Source: National Population Commission, 2006

Method of Data Collection

Cross-sectional data were used for the research using seven days' memory recall collected from four hundred and twelve households through the administration of structured questionnaires of Section B households consumption pattern.

Method of Data Analysis

The techniques for data analysis adopted included descriptive and inferential statistics. Descriptive was used to analyze objectives i, and ii, it is a mathematical technique that involves the use of means, frequency, and percentages. The most important is the arithmetic mean, usually denoted by \bar{x} , and is calculated using.

$$\bar{x} = \frac{\sum fx}{\sum f}$$
-----(1)

Where f = number of values in an internal

 \bar{x} = is the midpoint of the class internal.

 Σ = Summation





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The frequency was used to group or arrange the raw data into a manageable form. It shows the variable's values and the occurrence numbers of each value. The percentage was used to determine the population of respondents to a particular response and expressed mathematically as a percentage (%)= $x/n \times 100$ ------(2)

Where % = percentage

x= Individual observation

The regression model was used to achieve objective iii of the study. The model is specified as: $Y = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6 + b_7 x_7 + b_8 x_8 + b_9 x_9 + b_{10} x_{10} + b_{11} x_{11} + b_{12} x_{12} + e$(3) Where:

Y=Total Monthly sugar expenditure (\mathbb{N})

 X_1 =Monthly income of household head (\mathbb{N})

 X_2 =Cost of kilogram of sugar (\mathbb{N} /kg)

 X_3 = Household size (Number)

X₄=Age of the household head (years)

 X_5 = level of education of the household head (1=Non formal education, 2= Adult education, 3=Quranic education, 4= Primary, 5= Secondary, 6= Tertiary)

X₆= Marital Status (1=married,2=Single, 3=Widow, 4=Divorcee)

X₇=Tribe (1=Hausa, 2= Fulani, 3= Sayawa, 4=Tera, 5= Kanuri, 6= Igbos, 7= Karekare, 8= Waja, 9=Gerawa, 10=Igala, 11= Angas)

 $X_8 = Sex (1 = female, 2 = male)$

X₉=Primary occupation of the household head (1=Civil servant, 2=Business, 3= Farming, 4= Artisan, 5= Pensioner, 6= Others)

X₁₀=Community of respondents (1= Nasarawa, 2= Bazamshi, 3= Bamshi, 4= Bakin kasuwa, 5= Bakin kasuwa Azare, 6= Kofar gabas, 7= Unguwar rimi, 8= Unguwar fawari, 9= Unguwar yamma, 10= Unguwar makwalla, 11= Fada, 12= Balele, 13= Kofar fada, 14= Baduku, 15= Unguwar tsamiya, 16= Daliya, 17= Ganjuwa, 18= Dutsen tanshi, 19= Unguwar sarki, 20= Wuro gubi, 21= Unguwar waziri, 22= Unguwar yayaji, 23= Dengili, 24= Taubasi)

 X_{11} =Monthly food expenditure (\mathbb{N})

 X_{12} =Average monthly total household expenditure (\mathbb{N})

 $b_1(i=1...12)$ are regression coefficients and direct measures of elasticity.

b_o =Constant term of intercept

e=Error term.

RESULTS AND DISCUSSION

Socio-economic Characteristics of Sugar Consumers

Learning about consumer behavior helps observers understand the real world in the agricultural economy. Socio-economic attributes influence consumption patterns to measure poverty level; thus, for welfare, one must measure what and how much individuals consume. Consumption is more representative of economic welfare (Adeyenju, 2014). The sugar consumers sampled for the study had diverse socio-economic characteristics that were expected to influence their sugar consumption patterns. The socioeconomic data on age, sex, marital status, and household size of sugar consumers in Bauchi State is presented in Table 2





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Table 2. Distribution	of Respondents based	on Age Sev Ma	arital Status and H	ousehold Size (N= 412)
Table 2: Distribution	of Respondents based	on Age, Sex, Ma	arnai Status and H	ousehold size (IN-412)

	Norther	n Zone	Central	Zone	Western	Zone	Pooled	
Age Group	Freq.	%	Freq.	%	Freq.	%	Freq	%
21-30	20	14.0	3	2.9	10	6.1	33	8.01
31-40	27	18.8	34	32.7	30	18.2	91	22.09
41-50	49	34.3	37	35.6	47	28.5	133	32.28
51-60	25	17.5	21	20.2	53	32.0	99	24.03
61-70	22	15.4	9	8.7	25	15.2	56	13.59
Mean	46.71		46.75		49.7		47.90	
Min	25		22		25		22	
Max	65		70		69		70	
Std dev	12.54		10.3		11.73		11.75	
Sex								
Female	14	9.8	6	5.8	20	12.1	40	9.71
Male	129	90.2	98	94.2	145	87.9	372	90.29
Marital Status								
Married	125	87.4	98	94.2	148	89.7	371	90.05
Single	8	5.6	1	1.0	4	2.4	13	3.15
Widowed	6	4.2	5	4.8	11	6.7	22	5.33
Divorced	4	2.8	0	0.0	2	1.2	6	1.47
Household size								
1-5	32	22.4	16	15.4	42	25.5	90	21.85
6-10	37	25.8	51	49.0	74	44.8	162	39.32
11-15	46	32.2	18	17.3	26	15.8	90	21.85
16-20	12	8.4	13	12.5	13	7.9	38	9.22
21-25	16	12.2	6	5.8	10	6.0	32	7.76
Mean	11		10		9		10	
Min	1		1		2		1	
Max	29		33		26		33	
Std dev	6.46		5.50		5.39		5.86	

Source: Field survey, 2020

Age is an important demographic element that determines consumption level. Household consumption increases with age. An increase in age is strongly correlated to consumption per capita. This characteristic of the respondents is presented in Table 2. The results reveal a similarity in the respondent household head age across the zones. In the northern zone, 34.3% of the respondents were within the age bracket of 41 – 50 years, while in the central and western zones, they constituted 35.6% and 28.3%, respectively. This was followed by the respondents in the age bracket of 31-40 years, constituting 18.8% in the northern, 32.7%, in the central, and 18.2%, in the western zone. Similarly, 17.5 % of the respondents, 20.2% and 32.0%, belong to the age bracket of 51-60 years in northern, central, and western zones. The household heads that belong to the age bracket of 21-30 and 61-70 in the northern zone were 14.0% and 11.9%, respectively, while in the central zone and western zone, they were 2.9% and 7.7% and 6.1% and 9.7% respectively. An overwhelming majority of the respondents, 84.6% in the northern zone, 91.4% in the central zone, and 84.8% in the western zone were within the age bracket of 21-60 years, considered the economically active age bracket and consumed more sugar for daily activities. In the northern and western zones, the minimum age of the respondents is 25 years, while in the central zone, it is 22 years.

The mean age was 46 years for the northern and central zone and 49 years for the western zone while the maximum years for the household heads were 75 for the northern zone, 80 for the central zone, and 79 for the western zone. The implication of this, from the economic point of view, is that this age bracket (21-60) years will be spending more on sugar consumption, no matter the price of sugar. This affects the total food budget of households. The result is similar to the findings of Oyakhilomen (2014), in which the minimum, maximum, and mean age of the household heads that consume rice in Kaduna State were 24, 75, and 48 years, respectively. Sex refers to being male or





female. The results from Table 2 show that 90.2%, 94.2%, and 87.9% of the households in the northern, central, and western zones, respectively, were headed by males. Female-headed households were only 9.8% in the northern zone, 5.8% in the central zone, and 12.1% in the western zone. The implication of this can be situated within the context of the traditional family system in northern Nigeria, which is the basis for the organization of production and consumption services. The family system is basically paternal, in which leadership rests on the men. This is similar to the finding of Ahmed *et al.* (2015) in the analysis of food security among farming households in Borno State, where 86.7% of the respondents were males, while only 13.3% were females. This was in contrast to the finding of (Fade *et al.*,2015) in household demand for sweeteners in Ogun State, where 51.2% of the households were headed by females and 48.8% by males.

Marital status refers to whether the respondent is married or not. Economic services provided by the husband and wife complement one another. Table 2 shows that 90.2% in the northern zone, 94.2% in the central zone, and 87.9% in the western zone were married. Only 5.6% and 4.2% of the respondents were single and widowed in the northern zone, 1% and 4.8% in the central zone, with only 2.4% and 6.7% in the western zone. This may be so because, in northern Nigeria, people get married early because of their culture and religion. The implication of this is that the respondent marital status influences the expenditure pattern of the household, especially on food and sugar-related products.

In economics, a household is defined as an economy's basic unit of consumption and production. It refers to a group of individuals, whether related by blood, marriage, or other forms of association, who live together and make joint decisions regarding the allocation of resources (NPC, 2006). Table 2 shows that in the northern zone, 22.4% had 1-5 persons in their household. Those who had 6-10 and 11-15 persons constituted 25.8% and 32.2%, respectively. The rest were those with 16-20, 21-25 and 26-30, constituting 8.4%, 7.7% and 3.5%, respectively. In the central zone, almost half 49.0% had 6-10 persons, followed by 17.3% with 11-15 persons. Those with 1-5 persons constituted 15.4%. The rest were 12.5% and 3.8% having 16-20 and 21-25 persons, respectively. In the western zone, 44.8% had 6-10 persons in their household, followed by 25.5%, 15.8%, and 7.9%, with 1-5,11-15 and 16-20 persons, respectively. Only 3.6% and 2.4% had 21-25 and 26-30 persons respectively. The mean household size was 11 in the northern zone, and 10 and 9 persons in the central and western zones, respectively. The implication of household size on consumption is enormous; as household size increases, the quantity of food and sugar consumed increases, thus leading to higher household expenditure. However, the composition of households with many children and adolescents is likely to consume more sugar than households with elderly members. Understanding households and their economic behaviors is crucial for analyzing consumption patterns, savings rates, labor market dynamics, and overall economic well-being. Economists study households to gain insights into consumer behavior, income distribution, poverty, inequality, and other aspects of the economy that are influenced by individual and household-level decisions. The result is similar to the finding of Ahmed et al. (2015) in the analysis of food security among farming households in Borno State, where about 36% of the sampled population had between 7–10 household members.

Households' Sugar Consumption Pattern

A household consists of a person or group of persons living together, usually under the same roof or in the same building or compound, who share the same source of food and recognize themselves as a social unit with a head of household. Table 3 reveals the monthly quantity of sugar consumed by households. Almost half 47.27% of the respondents in the western zone consume between 764-4940 grams of sugar monthly, while 37.76% and 23.08% consumed the same quantity in the northern and central zones, respectively. Slightly over half 55.77% of the respondents in the central zone,36.36% in the northern zone and 32.12% in the western zone consumed 4941—9117 grams of sugar respectively. A small percentage of the households 14.69% in the northern zone consumed 9118—13294g per month, while in the central and western zone, it was 20.19% and 18.19% respectively. As can be seen from Table 4, The respondents who consumed sugar in the range of 13,295g -25,825g constituted the lowest percentages across the zones. The implication of the quantity of sugar consumed depends on the size and composition of the household as size increases



quantity consumed will also increase. Younger adults, children, and adolescents have more sugar to be consumed, thus higher sugar expenditure. This was similar to the finding of Fade *et al.* (2015) in the study of household demand for sweeteners in Ogun state where the maximum quantity of sugar consumed per month was 6670g while the minimum and mean were 250g and 1060g respectively. With an estimated population of 8.3 million in 2022, the estimated annual consumption in Bauchi State is 81 metric tonnes.

Table 3: Distribution of Respondents based on Monthly Sugar Consumption (n = 412)

Monthly consumption (grams)	Northe	rn zone	Centr	al zone	Wester	Western zone Pooled		
	Freq	%	Freq	%	Freq	%	Freq	%
764—4,940	54	37.76	24	23.08	78	47.27	156	37.86
4,941— 9,117	52	36.36	58	55.77	53	32.12	163	39.56
9,118—13,294	21	14.69	21	20.19	30	18.19	72	17.48
13,295—17,471	04	2.80	01	0.96	02	1.21	07	1.70
17,472—21,648	08	5.59	00	0.00	02	1.21	10	2.43
21,649—25,825	04	2.80	00	0.00	00	0.00	04	0.97
Total	143	100	104	100	165	100	412	100

Source: Field Survey, 2020.

Consumption patterns normally contribute greatly to the social and economic policy of the country. Measuring consumption over a week or month indicates a household's consumption habits over a year because it has a smooth flow. Table 4 shows that 65.7% of the respondents in the northern zone consume sugar every day. In the central and western zones, the percentages were 45.2% and 47.9%, respectively. This was followed by respondents who consume sugar three to four days a week, constituting 20.3%, 35.6%, and 30.9% in northern, central, and western zones, respectively. The lowest percentage of the consumption pattern was 4.2%, 1.9%, and 5.5%, consuming sugar one to two days a week in the northern, central, and western zones, respectively. The implication here is sugar become part and parcel of people's life, consuming it many days per week; it has become addictive and habitual. Lack of sugar will lead to lower consumption of food items and frustration by the household members, especially children and adolescents.

Table 4: Distribution of Respondents according to Frequency of Sugar Consumption

Variables	Northern zone		Central zone		Wester	Western zone		Pooled	
	Freq	%	Freq	%	Freq	%	Freq	%	
Frequency of sugar consumption/week									
1-2	6	4.2	2	1.9	9	5.5	17	4.13	
3-4	29	20.3	37	35.6	51	30.9	117	28.40	
5-6	14	9.8	18	17.3	26	15.8	58	14.07	
Daily	94	65.7	47	45.2	79	47.9	220	53.40	

Source: Field Survey, 2020.

Influence of Socio-economic Characteristics on Sugar Consumption in Bauchi State

Multiple regression analysis is valuable for quantifying the impact of various simultaneous influences upon a single dependent variable as discussed in Table 5. The dependent variable here is monthly sugar expenditure. In the model for the three zones average monthly income, cost of a kilogram of sugar, household size, age of the household head, community, and average monthly food expenditure were all significant. These variables were found to be factors responsible for variation in household monthly sugar expenditure. The result revealed that R² was 0.505. This implies that the independent variables included in the model collectively explained about 51% of the variation in monthly sugar expenditure. Thus the hypothesis that none of the explanatory variables had a significant influence on sugar expenditure was rejected. In a study using cross-sectional data





involving several observations, the generally low R^2 value is obtained because of the diversity of the cross-sectional unit. The F value (33.889) was significant (p<0.01).

Average Monthly Income

The coefficient of average monthly income (390.523) was significant (p< 0.01) and positively related to monthly sugar expenditure. It revealed that as the income of the household head increases, the amount spent on sugar will also increase. This is in contrast to the findings of Lindblom (2017) that indicated that the higher-educated group consumes the same share of sugary foodstuffs, independent of their income level, whereas for the lower-educated group, income is a significant factor and the consumption share of sugar decreases as income increases. Konttinen *et al.* (2013) have found similar effects, far more energy-dense foods were consumed by people in the low-income or lower-education group, and high-income and high-education related to greater vegetable and fruit consumption. They also found evidence that those individuals with a low income or education place more importance on price and less importance on health in their food selection compared with the more educated or affluent counterparts. Thus the hypothesis that consumer's income has no significant influence on sugar expenditure was rejected.

The coefficient of cost of a kilogram of sugar was 2.349 significant (p< 0.05) and positive which indicates a direct relationship between cost of a kilogram of sugar and monthly sugar expenditure. The result shows that if the cost of a kilogram of sugar decreases, monthly sugar expenditure will also decrease.

The coefficient of household size is positive and significant (p<0.01) which implies that as the household size increases, monthly sugar expenditure will also increase. This agrees with a priori expectation that the higher the size of the household the higher the sugar expenditure. The coefficient of the age of the household head (11.716) is positive and significant (p<0.05). This indicates that the higher the age of the household head, the higher the monthly sugar expenditure. This agrees with a prior expectation, the older the household head, the more his children and dependents.

The coefficient of community 28.175 is positive and significant (p<0.05). The study revealed that the location of the respondents, which is the community they reside, has an influence on monthly sugar expenditure. Those living in urban areas are likely to spend more in purchasing sugar monthly because of the affordability and availability of the product. Also, the variety of food consumed in different communities will also increase the monthly expenditure on sugar.

The coefficient average monthly food expenditure (283.681) is positive and significant at (p<0.05). The result of the regression reveals that as average monthly food expenditure increases, monthly sugar expenditure will also increase. As sugar is a component of household food items. This is similar to previous studies on food consumption where an increase in income of the household leads to increase in food budget share. This is in consonant with Engels law. Babakhani and Suleimani (2012) estimated the demand for sugar in Iranian households using the ordinary least square (OLS) technique and linear regression model. With an income elasticity of 0.8, the study showed that like in many other countries, sugar is a necessary good in the Iranian household's basket. The results also gave a price elasticity of - 0.2 indicating that changes in price make a little change in demand for sugar in that country. The study concluded that sugar demand in Iran is associated with household expenditure, relative price of sugar, and family size.





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Table 5: Socio-econo	mic Factors Ir	nfluencing 9	Sugar Consumn	tion in Rauchi State
rable 5: Socio-econo	пис гасия и	nnuencing a	Sugar Consumb	nion in bauchi State

Variables	Coefficient	Std. Error	t-values
(Constant)	-1498.646	802.348	-1.868
Average monthly income	390.523***	64.371	6.067
Cost of a kilogram of sugar	2.349***	.697	3.372
Household size	77.854***	11.780	6.609
Age	11.716**	5.306	2.208
Education level	-50.079	36.321	-1.379
Marital Status	-68.356	132.156	517
Tribe	-12.119	24.212	501
Sex	-212.028	259.525	817
Primary occupation	-42.652	45.919	929
Community	28.175***	8.328	3.383
Average monthly total food expenditure	283.681**	99.519	2.851
Average monthly total household expenditure	-78.423	93.763	836
R-squared	0.505		
Adjust R-squared	0.490		
F-value	33.889		
Prob >F	0.000		

Source: Field survey,2020 Ns *p<1; **p< 05; *** p<01

CONCLUSION AND RECOMMENDATIONS

The research was designed to analyze household sugar consumption patterns in Bauchi state, Nigeria. The study revealed that Sugar is consumed daily by most households. Household size, age and income of the household head, community of the respondents, and monthly food expenditures significantly influenced household sugar expenditure in the study area. The study therefore recommended;

- I. The per capita income of household heads should be improved, by paying living wages to workers, economic empowerment programs to the citizens, and introducing job opportunities by state and federal governments and wealthy individuals. This will increase the households purchasing power and thereby help meet the sugar requirement of the households.
- II. Education related to eating habits is a crucial agenda for development and health. Therefore, it is necessary for the government and individuals to advocate healthy eating habits to citizens, for example adhering to the World Health Organization's sugar intake per day.

REFERENCES

- Adebayo, B. A. (2004). Intra-household redistribution of income and calorie consumption in Southwestern Nigeria. Economic Growth Center, Yale University (No. 890) Center Discussion Paper.
- Adeyenju, A. (2014). Consumption of Leafy Vegetables in Rural Households in Ijebu-Igbo, Ogun State, Nigeria. *African journal of food, Agriculture, Nutrition and Development,* **14**(1): 8518-8528.
- Ahmed F. F., Eugene, C. E. & Abah, P. O. (2015). Analysis of Food Security among Farming Households in Borno State, Nigeria. *Journal of Agricultural Economics, Environment and Social Sciences* 1(1): 130–141.
- Babakhani, M. and Soleimany, N. S. (2012). An Econometric Method to Estimate Demand of Sugar. *Management Science Letters*, **2**: 285 290.
- Ekott, N. (2021) How Nigeria's sugar production collapsed for decades, allowing Dangote, Bua imports to thrive (Premium Times, April 21st, 2021).
- Fade, A., Titilope. O., Rahman. A. S., Carolyn. A. and Biola. B. P. (2015). Analysis of urban households' demand for sweeteners in Ogun State, Nigeria. *Nigerian Journal of Agricultural Economics*, **6**(1): 8-21.





- Jibril, G.A. (2018) *Trends in household consumption expenditure among the six geopolitical zones in Nigeria*. Unpublished PhD Thesis, Department of Economics, University of the Western Cape, South Africa.
- Konttinen, H., Sarlio-Lähteenkorva, S., Silventoinen, K., Männistö, S. and Haukkala, A. (2013). Socio-economic disparities in the consumption of vegetables, fruit, and energy-dense foods: the role of motive priorities. *Public Health Nutrition*, **16**(5): 873–882.
- Lindblom, T. (2017). Does sugar sweeten the pill of low income? Inequalities in the consumption of various foods between Finnish income groups from 1985 to 2012. *University of Turku Research on Finnish Society*, 10: 61-71.
- Lindblom, T., & Mustonen, P. (2015). Culinary taste and the legitimate cuisines. *British Food Journal*, 117: 651–663.
- Nguyen, V. P., Tran, H. C. and Marcus, M. (2014). Effects of Socio-economic and Demographic Variables on Meat Consumption in Vietnam. *Asian Journal of Agriculture and Rural Development*, **4**(1): 7 22.
- Nami-Joo, S., & Ji-young, Y. (2017). High School Students' Sugar Intake Behaviors and Consumption of Sugary Processed Food Based on the Level of Sugar-related Nutrition Knowledge in Seoul Area. *Korean Journal of Community Nutrition*, **22**(1): 1-12.
- NPC (National Population Commission) (2006). National Population Commission Census Result: Federal Republic of Nigeria official gazette. Government press, Abuja, Nigeria.
- United Nations Development Programme [UNDP] (2018). National Human Development Report 2018: Achieving Human Development in North East Nigeria. UNDP, FCT
- Omonona, B.T., Nkang, N. M. & Ajao, F. A. (2009). Household Food Demand Analysis: A Survey of Semi-urban and Rural Households in South-West Nigeria. *Global Journal of Pure and Applied Sciences*, **15**(4): 315 324.
- Oyakhilomen, O. (2014). Household Demand Structure for Rice Consumption in Kaduna State, Nigeria. Unpublished Master's Thesis, Ahmadu Bello University, Zaria, Nigeria