An Analysis of Household income and Expenditure of Food: A Case Study of Residents of Nguru Local Government Area of Yobe State

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Abstract

The study examines factors that influence food expenditure among households in Nguru Local Government Area of Yobe State, Nigeria. The population of the study is the entire residents of Nguru Local Government Area of Yobe State, and out of which, 120 households are selected at random. A self-developed questionnaire is utilized to collect data from the participants. For data analysis, descriptive (frequency counts, percentage and chart) and inferential statistics (multiple linear regression analysis) are used. Although many researches were conducted on the impact of insurgency on income generation, this study has focused on household income and expenditure of food The study reveals that households' income ranges between ₦0.99,00 - 999 in the study area. *There was a significant effect of property income on expenditure of food. Income from household production of services for own consumption has significant effect on expenditure of food. Insufficient household income for food expenditure, lack of knowledge on budgeting for food, placing more priority on non-food items and mismanagement of food leading to extra demand for food are the challenges faced by households in terms of its income and expenditure in the study area. The study recommends that Residence of Nguru local government area should diversify sources for more household income of property income to enable them improve on expenditure of food.*

Keywords: Households, Income, Expenditure, Budgeting, Production
JEL Classification: H31 D33 D51 H61 L11

Contribution to/Originality Knowledge
The study contributed to the body of knowledge by examining the household income expenditure of food, unlike other studies it considers household level of income budget pattern.

1.0   Introduction

The role of income in welfare enhancement is enormous as it plays a vital role towards the survival or smooth operation of the activities of various economics agent (household, firm and government). Sources of income vary according to the nature of operation and activities or works these economic agents engage in. More so, income determines the size of an economy, which is considered as national income, the net worth of an individual is considered as household income. This income plays an important role towards determining the living standard of this individual, and in so doing, it curtails the poverty level.

Household income is not the only factor that influence food spending, as loan and saving also affect the spending. Spending, of course, is a channel of fulfilling the needs for basic necessity of an individual and family members. Leon and Nestor (2004) observe that households tend to make an adjustment to their income during recession and fluctuations in the economy which normally cause changes in the socioeconomic and social standing of the populace. These changes often lead to social or economic crisis that results in sudden changes in saving behavior as well as lifestyle (Walton & Manuelyan, 2008).

In 2004, it was estimated that over 40% of Nigeria's population is food insecure (Oloyede, 2005). Food consumption pattern had undergone remarkable changes over the last few years. There has been an increase in the consumption of starchy foods like cassava, yams, maize and rice and some decrease in the consumption of protein based-food items such as fish and meat (Oloyede, 2005). It is against this background that this study seeks to analyze household income and expenditure on food among some selected households in Nguru Local Government Area.

Between 2015 and 2018, Nigeria has experienced significant changes in the economy arising from currency speculation and global economic crisis. Perhaps, households at Nguru local government area spend their money wisely in respond to the structural changes in the economy. In Nigeria, the level of poverty is alarming in terms of poverty line. The poverty level is caused by many factors that the household income and expenditures on food cost be featured. However, these household income and expenditure are mostly affected by either internal or external economic crisis.

Therefore, though there are many previous studies on household income and expenditure of food by different scholars from different locations, but most of them have not captured income from employment, the effect of property income, and income from household production of services.

The main objective of the study is to analyse the relationship between household income and expenditure on food among some selected households in Nguru local government area Yobe State. The specific objectives are: to assess the socio-economic status of respondents; to examine the effect of property income on expenditure of food; to assess the effects of income from household production of services for own consumption on expenditure of food and; to examine the challenges faced by households in terms of their income and expenditure.

2.0 Literature Review

2.0.1 Household Income

Household income consists of all receipts whether monetary or in kind (goods and services) that are received by the household or by individual members of the household annually or more frequent intervals. This excludes windfall gains and other irregular and typically one-time receipts. Household income receipts are available for current consumption and do not reduce the net worth of the household through a reduction of its cash, the disposal of its other financial or non-financial assets or an increase in its liabilities. Household income is the maximum amount that a household or other unit can afford to spend on consumption goods or services

during the accounting period without having to finance its expenditures by reducing its cash, by disposing of other financial or non-financial assets or by increasing its liabilities (Gregg, 2008).

2.0.2 Household Expenditure of Food

The amount of funds used in purchasing food items for the consumption of family members over a period of time (Bishnoi, 2004). Household expenditure is the amount of final consumption spending made by resident households to meet their everyday needs, such as food, clothing, housing (rent), energy, transport, durable goods (notably cars), health cost, leisure, and miscellaneous services (Ezzati 2003).

2.1 Theoretical Framework

2.1.1 Economic Model of Household as a Rational Individual

Economic models originate from the work of Gravelle and Reel (1981), assume that the household is a rationally behaving unit. The value of consumption and production of goods are determined by market mechanisms. Traditionally, the consumer economic theory the basis of other neoclassical household economic theories considers the consumer an individual implying that the single head of a household is the consumer.

The unitary model assumes that decisions within a household are made jointly and that the household maximizes a single set of objectives for all its members (Ellis, 1988). A household acts as a single unit when all its members have exactly the same preferences and subsequently the same utility functions. In other word, all household resource is pooled. In the unitary model, social harmony without conflict is the chief characteristics of the household.

Ruuskanen (1997), lists three (3) reasons for utilizing the single utility function to represent the entire household and the preferences of all members: a dictator, an altruistic family (applied in Beeker's new household economic theory) and a social welfare function.

2.1.2 Economic Model of Household as a Producer

The unitary model, like the traditional consumer theory, sees the household not only as a consumer, but also as a producer. In this case, the household is comparable to a competitive firm in a market economy. A household faces a production possibility frontier. Within a given time period, a household has limited resources, but also alternative uses and fixed technologies for home production.

Attempting to explain household production by analogy, i.e. by applying the theory of the firm, also minimizes or totally ignores many production activities performed within the household. From a neoclassic micro-economics point of view, goods which cannot be exchanged in a market are not a commodity. Consequently, as household production is not usually exchanged in markets (except in agricultural households) the commodity produced is not labelled with a market price. This introduces the question: what happen if no markets exist?

2.1.3   Economic Model of Unequal Distribution within the Household

In the past, economists have not paid attention to the distribution of resources and commodities within the household because traditional economic tools are not well suited for their analysis. The model assumed that inequality in resource distribution is generated by preferences shared by all household members that support this inequality.

For the purpose of this study, economic model of unequal distribution within the household suits the study. More so, the study adopts model of unequal distribution the household as the theoretical framework.

 2.2   Empirical Review This section reviews empirical literature on the socio-economic status and food expenditure, the effect of property income on expenditure of food, the effects of income from production, the challenges faced by household in the analysis of their income and expenditure.

2.2.1   Socio-economic Status and Food Expenditure

Socio-economic status can be categorized into high, middle and low, and these describe the three strata which a family or an individual could be grouped (Adegboye, 2016). Families with high socio-economic status often have more success in preparing their young children for successful careers because they typically have more access to resources that support them to develop. The families with low socio-economic status on the other hand usually lack the finance, social and educational support that characterized those with high status. This makes it very difficult for the poor, especially those at the low socio-economic status to move on to the high socio-economic status. Hence, this makes them to remain trapped in the vicious circle of poverty.

Maloma (2016) studied on the socio-economic determinants of household poverty status in a low-income settlement in South Africa. A survey questionnaire was used to collect data from a sample of 300 households in Bophelong Township in Gauteng province during the second half of 2013. The results show that the education level of the head of the household, his/her employment status and age were inversely related to poverty status.

Ando and Modigliani (2017), studied on the effect of property income and expenditure on food of household of Mr. Kaltun in Nepal. The study used primary and secondary methods of data. Questionnaire was the instrument used for data collection. The study revealed that the Mr. Kaltun rents out property Minnie Street which included two unfurnished properties to tenants. Each has a monthly rental of £500, payable in advance on the 6th day of each month. From January 2014 onwards, the following rents were paid.

Akinbile (2007). studied on the challenges to the household income class Below 40% increase in developed country towards 2020 case study: Penang. The study used telephone interview as the research methodology for this study as its primary data. Meanwhile, the secondary data were obtained from the journals by the official website of the government as well as the official website of internationally relevant research. These data were then analysed using textual

analysis. The study revealed that in the 11th Malaysia plan (MP 11), the government has drawn a strategy to develop the economy by increasing the income of household below 40% to achieve a developed nation by 2020.

3.0 Methodology

Nguru is a local government in Yobe State Nigeria, located near the Hadejia at $12^0 52'45^0$N to 10^0 09'E with the land area of 191659km squared. The town is comparatively young being set out on a rapid grid-iron pattern in the 1930s, Nguru is pluralist in ethnic groups composing of Manga, Bade, Yoruba and Igbo. The population of Nguru is 270,632 (National Population Commission, 2006) with 54% males, and 46% females. Most of the people are peasant farmers, livestock herders, small traders and fishers.

3.1 Source of Data

The data source for the study include the primary and secondary sources. Primary sources: These are information obtained from local government official and first-hand information obtained through the use of questionnaire, discussion and visit.

3.2 Population of the Study

Nguru is a local government area in Yobe State, Nigeria. Its headquarters are in the town of Nguru near the Hadejia River at 12^0 52'45^{0}N to 10^0 27'09E. It has a land area of 916km^2 and a population of 270,632 in 2006 census. The postal code of the area is 630.

3.3 Sample and Sampling Techniques

This research work is based on random sampling techniques given actual opportunity to each element of been selected. This technique given actual income and expenditure of some Nguru residents. The sample population consists of one hundred and twenty (120) respondents among which are households. This implies that (120) questionnaires issued to the households. (Yamani formula was used).

3.4 Method of Data Analysis and Model Specification

Data collated are analysed using descriptive (frequency distribution tables, simple percentages) and inferential (Multiple regression) with the aid of SPSS version 22 software. The multiple linear regression model for the study is defined as:

For objective two

$$EOF = \beta_0 + \beta_1 PISL + \beta_2 PINPU + \beta_3 PIRA + \beta_4 PIUFI \qquad (1)$$

Where,

Y = expenditure on food/month (EOF)) = dependent variable

X_1 = Property income are sued for leisure (PISL)

X_2 = Property income are normally used for payment of utilities (PINPU)

X_3 = Property income are used for religious activities (PIRA)

X_4 = Property income are used for food items (PIUFI)

e = Error term

X_1 - X_4 = independent variables

For objective three

$$EOF = \beta_0 + \beta_1 IHPSLSFI + \beta_2 IHPSUIP + \beta_3 IHPSULP + \beta_4 IHPSURA \tag{2}$$

Where,

Y = expenditure of food (EOF) = dependent variable

X_1 = Income from household production of services are largely spent on food items (IHPSLSFI)

X_2 = Income from household production of services are used for investment purpose (IHPSUIP)

X_3 = Income from household production of services are used for leisure purpose (IHPSULP)

X_4 = Income from household production of services are used for religious activities (IHPSURA)

e = Error term

X_1 - X_4 = independent variables

4.0   Results and Discussion

Table 1: Demographic Characteristics of the Respondents   n = 120

Variables	Frequency	Percentage (%)
Sex		
Male	60	50.0
Female	60	50.0
Age (in year)		
15-20	18	15.0
21-25	20	16.7

26-30	22	18.3
31-35	17	14.2
36-40	22	18.3
40 and above	21	17.5
Household position	53	16
Father	33	27.5
Mother	42	35.0
Uncle	26	21.7
Aunt	19	15.8
Total	**120**	**100.0**

Sources: Field Survey, 2023

Table 1 describes the socio-demographic characteristics of the respondents. Out of the 120 respondents participated in this study, male and female are 50-50; 18.3% are between the ages of 26 and 30 years and 35.0% are mothers respectively. This implies that the study shows a good distribution of the sex and age segregation.

Table 2: Socioeconomic Status of the Respondents (A= Agree, D = Disagree)

S/N	Statement	A	D	Total
1.	The household income ranges between ₦0.99,00 – 999	75(62.5%)	45(37.5%)	**120(100.0%)**
2.	The household income ranges between ₦100,000 – 149,000	66(55.0%)	54(45.0%)	**120(100.0%)**
3.	The household income ranges between ₦150,000 – 199,000	51(42.5%)	69(57.5%)	**120(100.0%)**
4.	The household income ranges between ₦200,000 and above	49(40.8%)	71(59.2%)	**120(100.0%)**

Sources: Field Survey, 2023

Table 2 shows that household income ranges between ₦0.99,00 - 999 in the study area. This in line with findings of Schneider (2003) who stated that larger households have higher perception of food prices, as indicated by the coefficient estimated. This is because they are most likely to consume more food and have higher food expenditure.

Table 3: Results of Multiple Regression Analysis on the Effect of Property income on Expenditure of Food in Nguru Local Government Area, Yobe State

Variable	Coif.	S. Error	t-value	P-value	Remark
Property income are sued for leisure (PISL)	0.723	0.306	2.362*	0.018	Significant

Variable	B	S. Error	t-value	P-value	Remark
Property income are normally used for payment of utilities (PINPU)	1.798	0.420	4.282**	0.000	Significant
Property income are used for religious activities (PIRA)	0.302	0.055	5.518**	0.000	Significant
Property income are used for food items (PIUFI)	1.572	0.457	3.439*	0.001	Significant
Constant	1.782	0.473	3.770*	0.000	Significant
F-value = 14.425				0.000	Significant
$R^2 = 0.681$					

Dependent variable: EOF

Dependent variable: PISL, PINPU, PIRA, PIUFI

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

Table 2 shows a significant effect of property income on expenditure of food in Nguru Local Government Area, Yobe State. This is because the P-value (0.000) of the ANOVA is less than the alpha value ($\alpha = 0.05$). The R^2 (68%) indicates that the model has strong explanatory power and is suitable for explaining the effect of property income on expenditure of food in Nguru Local Government Area, Yobe State. All the variables included in the model were significant in explaining the effect of property income on expenditure of food in study area. This is in agreement with the findings of Haggblade and Hazell (1988) who assert that production or consumption linkages produce greater multiplier effects. They argue that in rural African, consumption linkages tend to dominate while production linkages have a much smaller effect.

Table 4: Results of Multiple Regression Analysis on the Effect of Income from Household Production of Services for own Consumption on Expenditure of Food in Nguru Local Government Area, Yobe State

Variable	B	S. Error	t-value	P-value	Remark
Income from household production of services are largely spent on food items (IHPSLSFI).	0.372	0.112	3.321*	0.000	Significant
Income from household production of services are used for investment purpose (IHPSUIP).	0.911	0.146	6.239**	0.000	Significant
Income from household production of services are used for leisure purpose (IHPSULP).	0.725	0.151	4.801**	0.000	Significant

Income from household production of services are used for religious activities (IHPSURA).	0.284	0.053	5.385**	0.000	Significant
Constant	1.782	0.473	3.770*	0.000	Significant
F-value = 14.425					Significant
R^2 = 0.681					

Dependent variable: EOF

Dependent variable: IHPSLSFI, IHPSUIP, IHPSULP, IHPSURA

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

Table 4 shows a significant effect of income from household production of services for own consumption on expenditure of food in Nguru Local Government Area, Yobe State. This is because the P-value (0.000) of the ANOVA is less than the alpha value (α= 0.05). The R^2 (68%) indicates that the model is suitable for explaining the effect of income from household production of services for own consumption on expenditure of food in Nguru Local Government Area, Yobe State. All the variables included in the model are significant in explaining the effect of income from household production of services for own consumption on expenditure of food in Nguru Local Government Area, Yobe State.

Table 5: Challenges Faced by Household in Terms of its Income and Expenditure in Nguru Local Government Area, Yobe State

S/N	Statement	A	Percentage (%)	D	Percentage (%)	Total
1.	The household income is insufficient for expenditure for food.	96	80	24	20	120(100%)
2.	Lack of knowledge on budgeting for food.	91	75	29	25	120(100%)
3.	Placing more priority on non-none food items.	63	52.5	57	47.5	120(100%)
4.	Mismanagement of food lead to extra demand for food.	75	62.5	45	37.5	120(100%)

Sources: Field Survey, 2023

Table 5 shows that insufficient household income for food expenditure, lack of knowledge on budgeting for food, placing more priority on non-none food items and mismanagement of food lead to extra demand for food were the challenges faced by household in terms of its income and expenditure in Nguru Local Government Area, Yobe State. The findings correspond with that of Abdullahi and Crolerees (2001) who examined the incomes of 120 households in the Malian cotton basin (the Sikasso and Koutialacerdes) during the 1994/95 and 1995/96 growing seasons.

5.0 Conclusion

The study concluded that households' income ranges between ₦0.99,00 to 999 in the study area. There was a significant effect of income from household production of services for own consumption on expenditure of food in Nguru Local Government Area, Yobe State. This is because All the variables included in the model are significant in explaining the effect of income from household production of services for own consumption on expenditure of food in Nguru Local Government Area, Yobe State.

Income from household production of services for own consumption has significant effect on expenditure of food in the study are: Insufficient household income for food expenditure, lack of knowledge on budgeting for food, placing more priority on non-food items and mismanagement of food lead to extra demand for food were the challenges faced by household in terms of its income and expenditure in Nguru Local Government Area, Yobe State.

5.1 Recommendation

Based on the findings, the study recommended that:

1. Government should provide entrepreneurship opportunity for Nguru Local Government Area, so that their socio-economic status of the Nguru residence increase. Households will therefore be able to afford food.
2. Residence of Nguru Local Government Area should diversify sources for more household income of property income to enable them improve on expenditure of food.
3. **Residence of Nguru Local Government area should device ways of improving on income from household production of services for their own consumption in order to enhance expenditure of food.**

REFERENCES

Abdullahi, D. & CroleRees, A. (2001). Determinant of Income Diversification, Among Rural Households in Southern Mali. Food Policy, Voll. 26 pp 437-451

Ando, A. and Modighani, F. (2010). American Economics Review. Aggregate Implicating and Test. The Life Cycle Hypothesis of Saving.

Adegboye, M.A. (2016). Socio Economic Status Categories of Rural Dwellers in Northern Nigeria. Journal of Ad.

Akinbile, LA. (2007). Standardization of Socio-Economic Status (SES) Scale for Farm Families in South West Nigeria. Journal of Social Science.

Bishnoi, N.R. (2004) Biosorption of Cu (II) from Aqueous Solution Using Algal Biomass. Journal of Scientific & Industrial Research, 63, 813-816.

Bishnoi, V.K. (2004). Rural and Agricultural Marketing in Nigeria. Journal of Agriculture and Social Science.,12: 25–29.

Ellis, M. (1988). Peasant Economics from Households and Agrarian Developments, Cambridge Shires, New York Cambridge University

Ezzati, MH (2003). Comparative Risk Management Collaborating Group Estimates of Global Regional Potential Health Gains from Reducing Multiple Major Risk Factors. The Laucet 62(9380):271-280.

Haggblade, C. and Hazell, R. (1988). Farm-nonfarm Linkages in Rural sub-Saharan Africa, Policy Research Working Paper Series.

Leon, Z. and Nestor, B. (2005). Consumers During Crisis: Responses from The Middle Classing Argentina. Journal of Business Research.

Maloma, M.B. (20116). The Socio-Economic Development of Household Poverty Status in Low-Income Settlement in South Africa. International Journal of Social Sciences.

National Population Commission (NPC) (2006). Legal Notice on Publication of 2006 Sensus Final Results. Federal Republic of Nigeria Official Gazette, Abuja 2 (96), 1 – 42

Oloyede H. O. (2005). All for the love of Nutrients, The Seventy Eight Inaugural Lecture, Library and Publication Committee, University of Ilorin.

Oloyede, HO. (2005). Principles of Internal financing. Fourth Edition Publisher Lagos. .

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