# THE EFFECT OF SOCIO-ECONOMIC FACTORS ON SUSTAINABLE FOOD CONSUMPTION IN DEVELOPING ECONOMIES

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**ABSTRACT:** *This study was aimed at determining socio-economic factors influencing sustainable food consumption in developing countries. Nigeria which is regarded as the 'giant' of Africa with a total population of over 200 million was used for the study. The growing global population has given an ardent need to focus specially on sustainability issues arising from food consumption. The Socio-economic domain dwells on food affordability while emphasizing the social acceptability of foods. Various economic and sociological theories such as Engels law, Keynesian theory and Veblenian theory were reviewed and previous empirical works in these areas discussed. Selected households from the south eastern part of Nigeria were used as respondents for the study and the formulated hypotheses tested with the use of multiple regression. Results reveal a significant relationship between product price, income and education, social groups and substitutes on food consumption. Findings were discussed and conclusions drawn thereof.*

**KEYWORDS:** economic, sociological, sustainable foods, consumption.

## INTRODUCTION

The issue of sustainability has been of great natural, social and economic concern. In the face of growing global population, there is an ardent need to focus specially on sustainability issues arising from food systems**.** Sustainability is a combination of economic (profit), ecological (planet) and social (people) concern. According to Drewnowski, (2017), Sustainable food consumption involves consuming nutrient-dense, affordable and culturally acceptable foods while sparing the environment. This is to say that the concept of sustainable food consumption can be seen from four domains namely dietary, socio-economic, cultural and environmental. The dietary domain places emphasis on nutrients and energy levels, the economic domain dwells on food affordability, the cultural domain emphasizes socially acceptable food while the environmental domain dwells majorly on Green House Gas Emissions (GHGEs), also called carbon foot print.

The present food system is unsustainable and this arose from a shift of consumption patterns towards more dietary animal protein, emergence of heavily processed foods, growing gap between the rich and poor, the lack of food security amidst an abundance of food and an increased rate of food waste. There have also been recorded escalating rates of obesity and diet related diseases in

developing economies and if care is not taken, may increase by 10percent within the next 5 years. A sustainable food consumption system should minimize the effect of the above listed issues. HLPE (2014) defined a sustainable food system as one that ensures food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition of future generation are not compromised.

Even the government has shown greater levels of interest in this area, thus, the Sustainable Development Goals (SDGs) which has four out of the seventeen elements talking of food, health and sustainable consumption. For instance, SDG 2 says Zero hunger, SDG 3 emphasizes Good Health and Well being, SDG 6 proposed Clean Water and sanitation and SDG 12 emphasized Responsible Consumption and Production (United Nations Development Program, 2015). This is to say that sustainable consumption stemmed from sustainable development. Ever since the emergence of the United Nations Sustainable Development Goals (SDGs), every nation has keyed into it and made frantic deliberate effort towards its actualization, developing economies not left out. According to Erokin(2007), the government seeks to ensure the sustainability of the food supply and increase the well being of people especially those with a low income. He however noted a fluctuating influence of various internal and external factors.

Most developing economies have witnessed recession and high inflation rates in recent times which have led to rising cost of foods, more so, sustainable products. GFK (2007) noted that organic products are more expensive than its conventional equivalent. Rising price of food has also been seen to create serious difficulties for vulnerable low income households that spend a substantial proportion of their income on food. He also noted that over 2 billion people in the developing part of the world spend up to 70% of their disposable income on food. However, Nigeria just like most African countries has a percentage of individuals with low remuneration than the stipulated European Union average.

There are three major parameters that characterize food markets in developing economies. One of such is macro economy (the volume and dynamic of GDP and agric production). Another is the unemployment level, income of the population and then import and export. GDP determines the standard of living of the population. It is assumed that the GDP of a nation determines what they consume or don't consume. When considering the influence of economic factors on food consumption, two factors are of paramount importance. These are income and price (Deaton and Muellbauer, 1980). It could be argues that income is a personal factor. However, for most people, individual incomes are determined by general economic conditions and therefore, it is discussed as environmental factor. Both factors have been found to affect quantities and types of food bought by consumers.

Lekshvili (2008) stressed the importance of minimum living wage, average per capita income, food exports and imports, domestic food prices and share of agriculture in GDP as the factors having effect on sustainable food consumption. Scafetti (2010) emphasized the importance of education, employment of household members, income, illness that affects a household and health status of a household as all determinants of sustainable food consumption. Conversely, studies like (Argyle 1999, Linnott 1998, Marx Neef, 1995) have questioned the use of income as a progress

evaluator of sustainable food consumption. Therefore, understanding the influences of socio-economic variables on food consumption may be useful to changing food behaviour.

**Theoretical Background**

Engel formulated a law which states that as income rises, the proportion of income spent on food falls even if absolute expenditure on food rises (Engel,1857). This simply means that, "the poorer a family, the greater the proportion of total expenditure which it must use to procure food but the wealthier a family, the smaller the share of expenditure on food in total expenditure". This law also suggests that consumers increase their expenditures for food products in percentage terms less than their increase in income. The validity of Engel's law has been supported in many countries and at different times. Leon (1967) and Pasineti (1981) found an interaction between Engels law and technological progress in explaining sustainable development.

Keynesian theory which was propounded by John Keynes states that current real income is the most important determinant of consumption in the short run. That is to say, one spends according to how much income that comes in. Keynes just like Engel placed a greater level of emphasis on income forgetting other factors that may influence or determine consumption.Duenesberry and Modigiliani introduced the concept of savings before consumption. He propounded the Life Cycle Hypothesis (LCH) which strives to explain the consumption patterns of individuals. The LCH theory states that individuals plan their consumption and savings behaviour over their lifecycle.
In addition, Alfred Marshall came up with the Marshallian Economic Theory which introduced price of substitute product alongside, income and price of the product. The theory states that the lower the price of a product, the higher the quantity sold. Thus, a higher income of consumers will lead to buying more goods. This contradicts the Engels law. Marshall also considered substitute product by proposing that a sale of a substitute product will be greater if its price is lower than the price of the original product.

Since the introduction of these theories and models, several researchers have leveraged on them as a basis for their study. For instance, Moreria and Padrao (2004), income came into play. The low and high income groups tends to be similar in regards to several food groups consumption. These foods ranges from fruits and vegetables to nuts and grains. They also introduced education/literacy which tend to be the key element of better food pattern. Further, Akpan, Patrick, Udoka and Okon (2013) stressed the importance of salary, tax, family size, non-food consumption expenditure and income as determinants of sustainable food consumption. Studies like Kain, Vio and Albala (2003), Tonstad and Sivertsen (1997) have also identified the influence of socio-economic factors on individuals dietary intake and food consumption.

One of the social theories that have been used widely in sustainable food consumption is the Veblenian social-psychological model. This model places emphasis on norms and group memberships to have a greater effect on human behaviour. A consumer is a part and parcel of the society so can belong to several groups which can influence his buying behaviour. Researchers such as Cumbers, Davis and Mcmaster (2015), Sundie, Kenrick, Gnskevicus, Tybur, Vohs and Beal (2010) have leveraged on this theory. Shaw (2002) in his study pointed that it is the limited level of awareness that has led to negative attitude of consumers towards sustainable foods.

Past research studies have mentioned that culture and geographic regions also influence consumer attitude towards Sustainable foods (Bredahl, 2001; Curtis, 2004; Gaskell, 2004). Moon (2001) employed contingent valuation technique in his study to investigate consumer behaviour in the UK. The findings revealed that 13.3 per cent of the respondents were willing to accept sustainable foods even at higher prices, whereas 13.8 per cent of the participants will buy sustainable foods when they are offered at lower prices.

This research work combines both economic and sociological theories in its approach to determine sustainable food consumption unlike previous studies that either choose economic or sociological perspective. This is because of the deficiency in choosing only one perspective. For instance, the economic theories ignore all other aspects such as perception, learning, attitude and so on and assumed homogeneity of the market. So, there is a need for a study which will have a multidisciplinary approach to determining sustainable food consumption.
Therefore, we hypothesize that;

H1: A lower price for sustainable foods will increase its purchase and consumption by consumers.
H2: A higher income of consumers will increase purchase and consumption of sustainable foods.
H3: A lower price in the substitute of sustainable foods will lead to less purchase and consumption of sustainable foods and more purchase and consumption of the substitute.
H4: Social groups will influence consumers purchase and consumption of sustainable foods.
H5: Education will influence consumers' purchase of sustainable foods.
Thus, diagrammatically, these hypotheses are represented in Figure 1 below;

Fig 1 : Research Framework
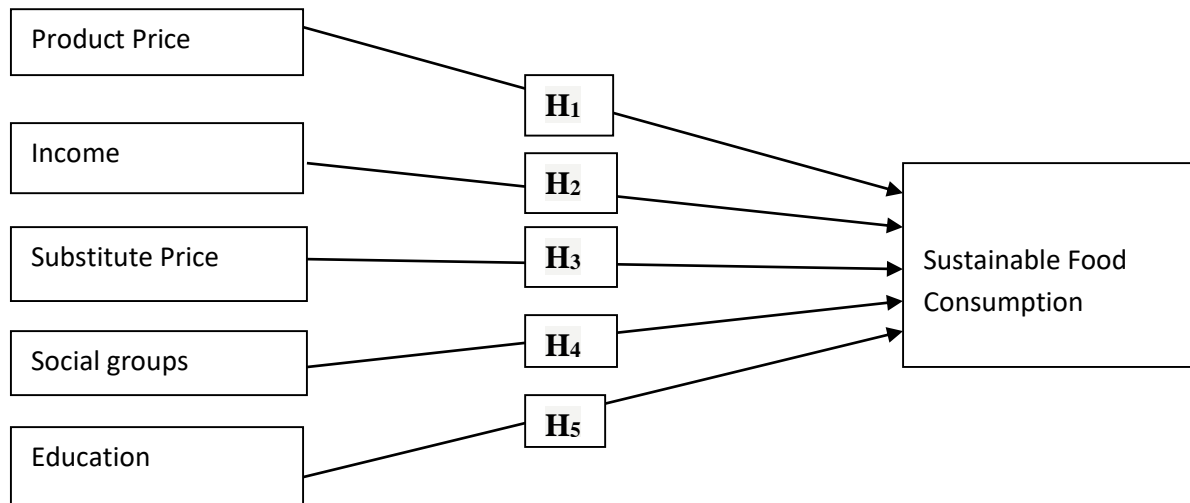


Source : Researchers conceptualization

## MATERIALS AND METHODS

This study is guided by the fact that sustainable food consumption depends on Product price, income, Substitute price, social groups and education. This is a descriptive survey research study which emphasizes asking questions from respondents and collecting data through the use of a structured questionnaire. The population of this study comprises households in South Eastern part of Nigeria. The South Eastern part of Nigeria is made up of five states namely, Anambra, Abia, Imo, Enugu and Ebonyi. This area is characterized by people from all walks of life – civil servants, artisans, farmers, business owners etc. The South Eastern part is the '*Igbo*' speaking region of Nigeria. The population of this study is representative enough as it captures, the rich, the poor and the average. Specifically, the sample size is 500 as the researcher conveniently selected 100 households from each of the above mentioned states. Multiple regression was used to test for the significance of the hypothesis formulated for the study.

### Data Analysis

**Table 1 Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .964[a] | .928 | .928 | .240 |

a. Predictors: (Constant), Education, Substitute, income, SociaLGroups, Price
b. Dependent Variable: SFC

**Table 2 ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 368.943 | 5 | 73.789 | 1280.575 | .000[b] |
| | Residual | 28.465 | 494 | .058 | | |
| | Total | 397.408 | 499 | | | |

a. Dependent Variable: SFC
b. Predictors: (Constant), Education, Substitute, income, SociaLGroups, Price

**Table 3 Coefficients[a]**

| Model | | Unstandardized coefficient | | Standardized coefficient | T | Sig |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .399 | .091 | | 4.360 | .000 |
| | income | -.575 | .057 | -.864 | -10.103 | .000 |
| | Price | .910 | .080 | .993 | 11.424 | .000 |
| | SociaLGroups | .200 | .023 | .301 | 8.686 | .000 |
| | Substitute | -.567 | .019 | -.642 | -30.166 | .000 |
| | Education | .928 | .021 | .845 | 43.975 | .000 |

a. Dependent Variable: SFC


From the model summary box in Table 1 above, the independent variables (Education, Substitute, income, SociaLGroups, Price) explains 92.8 percent of the variance in the dependent variable (SFC). The model also reached statistical significance as Sig=.000 which means P<.005.

The coefficient table in Table 3 shows the variable in the model which contributed to the prediction of the dependent variable , thus, we are interested in comparing the contribution of each independent variable .

The largest Beta value is Price (.993) followed closely by Education (.845), then Social Groups (.301). This simply means that Price makes the strongest unique contribution to explaining the dependent variable followed by education and social groups.

A look at the significance column shows a value .000 for all variables which is less than .005. This means that all variables are statistically significant. We therefore accept all five hypotheses formulated and conclude that socio-economic factors have a statistically significant contribution and relationship with SFC.

**CONCLUSION**

Socio-economic factors have been seen to have significant effect with sustainable food consumption in developing economies. The findings from this research work are in consonance with previous studies which has been reviewed earlier in this study. The importance of socio-economic factors in sustainable food consumption cannot be neglected. The price of sustainable products greatly influences its consumption. Further, social groups such as friends, family, institution and peers influences sustainable food consumption. The prices of substitute product will also affect consumption of sustainable foods. This is because consumers will prefer a substitute product especially if it has a lesser price. Education also was seen to play a major role in sustainable

food consumption. Education enhances literacy and makes one understand the nutritional value, concept and idea behind consumption of certain foods. Income also enables purchase and consumption of sustainable foods.

The government, individuals and the society at large has major roles to play to ensure sustainable food consumption in South East Nigeria.

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