

AN ANALYSIS OF FOOD SECURITY SITUATION AMONG NIGERIAN URBAN HOUSEHOLDS: EVIDENCE FROM LAGOS STATE, NIGERIA.

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ABSTRACT

This paper presented the food security situation among urban households in Nigeria. Primary data were used in this study and these were obtained with a structured questionnaire. The households were randomly selected from 7 locations with the number selected proportionate to the size of each location. The analytical tools used include tables, percentages and food security incidence. The food insecurity incidence for the study area is 0.49. Food insecurity incidence increases with increase in age of household heads. It is highest when household heads are within the range of 61 – 70 years at 0.58 and least within range 21 –30 years at 0.30. Food insecurity incidence is higher in female-headed households at 0.49 than in male-headed households at 0.38. Food insecurity incidence decreases with increase in level of education. Food insecurity incidence is relatively low for those engaged in professional occupation and highest for traders. Food insecurity incidence is highest at 0.48 and lowest at 0.33 for the traders and unemployed respectively. Food insecurity incidence increases with increase in household size. This ranges between 0.27 and 1.00 for those households made up of 1-4 and greater than 12 members respectively. There is a decline in food insecurity incidence as income increases from 0.41 for the low-income group to 0.20 for the high-income group. On the basis of dependence ratio, food insecurity incidence increases with increase in dependency ratio. This increases from 0.30 for households with no dependence to 0.50 for households with greater than 1 dependency ratio.

Key words: Food security, urban households, and Lagos state, Nigeria.

Problem Statement

Food is a basic necessity of life. Its importance is seen in the fact that it is a basic means of sustenance and an adequate food intake, in terms of quantity and quality, is a key for healthy and productive life. The importance of food is also shown in the fact that it accounts for a substantial part of a typical Nigerian household budget.

Various foods serve as important “vehicles” for taking nutrients into the body and the body and bringing about human pleasure, hence, the need for food to be taken in the right quantity and quality. To measure the quality of any food taken, there are classes of essential nutrients, which must be combined, in appropriate proportion to ensure a balanced food intake. These include carbohydrates, protein, fats and oil, vitamins and minerals [1]

The economic development of a nation is dependent on its factor endowment. This includes the non-human and human resources. The productive capacity of the human resources is however a function of how well fed they are. Food problem, with regards to quality and quantity, is one of the characteristics of developing countries like Nigeria. According to [2], the concern for food security and nutritional well being in an economy is predicated by role of human element in economic development. This shows why at national level food is of economic and political significant especially in issues relating to national security, maintaining political stability and ensuring peace and stability among the populace.

The dimensions of food security make it clear that the concept of a food problem is a complex one with many dimensions. At one level the concern is with national food security, which is the ability of countries to produce or import sufficient food in all year to meet their requirement for both private and public distribution. At another level the concern is more with the problem of malnutrition. The levels of nutrient requirement have been determined by the world Health Organization (WHO) and the Food and Agricultural Organization (FAO). The basic minimum requirement figure has been found to be 65 grammes of protein and 2500 kcal of energy per capita intake of which if consumed otherwise, leads to a state of malnutrition [3]

Food security may be defined as access by all people at all times to sufficient food for a healthy and productive life. This definitional framework implies that four major elements that constitute food security. These are availability, adequacy, accessibility and sustainability of access. Availability connotes the physical presence of food in large amounts, accessibility suggests sufficient

purchasing power or ability to acquire quality food at all times while utilization demands sufficient quantity and quality of food intake. The elements of availability, accessibility, utilization and sustainability in a larger context embrace the supply, demand and adequacy of food at all times.

Several studies have been carried out on food security on Nigeria [1, 4, 5, 6, 7]. However, most have focused on measuring food security using consumption expenditure and suggesting ways of solving the food problem. A school of thought for instance believes that there is enough domestic production of food in Nigeria and that the problem with food security lies in poor storage, marketing and distribution arrangement, which greatly reduce available, market supplies of food. Policy according to this view should focus on improving the market and distribution chain, as there is enough domestic production. A variant of this school believes that there is enough aggregate production but that the observed food security problems are the result of unequal economic access to available food supplies, rooted in unequal distribution of income and wealth

Conceptual Framework

The concept of food security

Food security is a concept that has evolved during the 1990s far beyond a traditional focus on the supply of food at the national level. This concept has been given general definitions in time past but in recent times, there has been a divergence of ideas on what food security really means.

According to [4], food security was defined as access by all people at all times to enough food for an active and healthy life. The committee on world food security defined it as physical and economic access to adequate food by all household members without undue risk of losing the access. However, the definition adopted by the countries attending the world food summit of 1996, and reconfirmed in 2002, accepts the USAID’S concept which has three key elements viz; food availability, food access and food utilization. However, a fourth concept is increasingly becoming accepted namely, “the risks that can disrupt anyone of the first three factors”

There are therefore four major elements of food security. They are food availability, food access, food utilization and not losing such access. Availability, access and utilization are hierarchical in nature. Food availability is necessary but not sufficient for food accessibility and access is necessary but not sufficient for utilization. In a larger sense, two broad groups of factors determine food

Table 1: The food insecurity line for the households

Deciles	Mean per capita food expenditure - MPCFE- (₦)
First	1,630.83
Second	3,289.95
Third	4,882.23
Fourth	6,698.94
Fifth	7,934.30
Sixth	9,890.18
Seventh	12,339.85
Eighth	16,041.02
Ninth	21,297.31
Tenth	35,503.27
Total	11,950.79
2/3 MPCFE	7,967.19

* MPCFE = Mean per capita food expenditure

Source: Field survey, 2004

Table 2: Distribution by age of household heads

Age of household head	Food insecure		Food secure		Food insecurity incidence
	Frequency	Percentage	Frequency	Percentage	
21-30	7	10.8	16	16.0	0.30
31-40	13	20.0	28	28.0	0.32
41-50	12	18.5	26	26.0	0.32
51-60	15	23.1	15	15.0	0.50
61-70	14	21.5	10	10.0	0.58
>70	4	6.1	5	5.0	0.44
Total	65	100.0	100	100.0	0.39

Source: field survey, 2004

security. These are supply side factors and demand side factors. The supply-side factors are those that determine food supply or food availability. In other words, they are determinants of physical access to food at national, household and intra-household levels. The demand side factors on the other hand are factors that determine the degree of access of countries, households and individuals to available food. They are, in other words, determinants of economic access to food or determinants of entitlement to available food. Common to these two sets of factors however is another set of factors that affect the stability of both physical and economic access to foods.

Food insecurity or lack of access to nutritionally adequate diet in a household or country can take various forms. For example, chronic food insecurity exists when food supplies are persistently insufficient to supply

adequate nutrient for all individuals. Transitory food insecurity occurs when there is a temporary decline in access to adequate food because of instability in food production, food price increases or income shortfalls.

We may distinguish between national food security and household food security. This distinction is necessary because an aggregate supply of food, from domestic sources or import or both, are prerequisite but certainly not a sufficient condition for a food secure situation in a country. In other words, adequate availability of food in Nigeria on a per capita basis does not necessarily translate to sufficient and adequate food for every citizen. Food security at household level is a subset of the national level and it requires that all individuals and households have access to sufficient food either by producing it themselves or by generating

Table 3: Distribution of household heads by sex

Sex	Food insecure		Food secure		Food insecurity incidence
	Frequency	Percentage	Frequency	Percentage	
Male	50	76.9	83	83.0	0.38
Female	15	23.1	17	17.0	0.49
Total	65	100.0	100	100.0	

Source: field survey, 2004

Table 4: Distribution of household heads by educational status.

Educational status	Food insecure		Food secure		Food insecurity incidence
	Frequency	Percentage	Frequency	Percentage	
No formal education	6	9.2	3	3.0	0.67
Primary	6	9.2	12	12.0	0.33
Secondary	19	29.3	16	16.0	0.54
Tertiary	34	52.3	69	69.0	0.33
Total	65	100.0	100	100.0	0.39

Source: Field survey, 2004

sufficient income to demand for it.

Food availability is a function of the combination of domestic food stocks, commercial food imports, food aid, and domestic food production, as well as the underlying determinants each of these factors. Use of the term availability is often confusing since it can refer to food supplies available at both household level and at a more aggregate (regional and national) level. However, the term is applied most commonly in reference to food supplies at a regional or national level.

Food access is influenced by the aggregate availability of food through the impact of the latter on supplies in the market and therefore, on market prices. Again, figure 1 above indicates that access is further determined by the ability of households to obtain food from their own production and stocks, from the market and from other sources. These factors are in turn determined by the resource endowment of the household, which defines the set of productive activities they can pursue in meeting their income and food security objectives.

Food utilization, which is typically reflected in the nutritional status of an individual, is determined by the quantity and quality of dietary intake, general childcare and feeding practices, along with health status and its determinants. Poor infant care and feeding practices, inadequate access to, or the poor quality of, health services are also major determinants of poor health and

nutrition. While important for its own sake as it directly influences, human well being, improved food utilization also has feedback effects, through its impact on the health and nutrition of household members, and therefore, on labour productivity and income earning potential.

Literature Review

Food security may have different meaning for different people. Many definitions have been offered for food security in the literatures. According to [8], food security is the ability of countries regions or households to meet targeted level of food consumption on a yearly basis. The international conference on Nutrition (ICN) held in Rome (1992), defined food security as access by all people at all times to the food needed for a healthy life [9]. According to [10], food security is a state of affairs where all people at all times have access to safe and nutritious food to maintain a health and active life.

Admittedly, food security to strategic in that if is a measure of stability of the Nigerian Agriculture, the achievement of food self-sufficiency and self-reliance objectives of Nigerian, government [1]. Various schools of thoughts have attributed food security problems to different things including distribution, storage and marketing. Further, some believe that the Nigerian food security problem is the product of Structural Adjustment Programme (SAP), which simultaneously made food

exports very attractive, while it raised phenomenally the cost of producing food. Another school of thought believes that food security problems are as a result of over dependence on the small-scale farmers. According to this view, the large-scale mechanized farmers like her American counterpart should replace the small-scale farmers. Others believe however, that small-scale farmers have not done badly, even though they are illiterates, but behave rationally to economic incentives.

Also, a school of thought believes that public policy on food and Agriculture is itself at the root of Nigerian food security problems. According to this school, food policy has been characterized by inappropriate role of government in food and Agriculture, which manifest in badly formulated and poor executed food policies and the perennial emergence of the unintended consequences and beneficiaries of the food and Agricultural policies [1].

According to [11], national food availability is determined mainly by domestic net of supply and food importation. The capacity to import food in turn depends on export earnings, foreign exchange reserves, and value of essential non-food import and debt service obligations. There is almost no end to the identified factors, which affect food security status of a nation. But in the final analysis, it can be generalized that factors associated with socio-economic development are also those that influence national food security status.

Food insecurity is generally accounted within fluctuations in household own-food production and food prices [8]. Also, [12] indicated that food price inflation constitutes that greatest threat to the living standard of Nigerians. [13] mentioned that the factors contributing to food problems in Nigeria varies from man-made problems to natural forces. [10] has aptly demonstrated the complexity of food security matrix by pointing out that food security is consistently not only linked with food production but also general economic and social development variables. But to improve the food production element of the food security matrix alone requires consistent improvement in yield and labour productivity, an improvement which in turn requires improvement in socioeconomic infrastructures in Agriculture, upgrading the quality of human resource, instituting virile Agricultural research and extension, system and providing price and non-price incentives for the adoption of new technology.

Most of the origins of food insecurity have an element of economic access to food, directly or indirectly. Economic access is not limited to monetary access, it includes access to land, to credit, to education and to health services that food security is more a problem of

whether or not food can be accessed. [14] showed from his studies clearly that food insecure people are usually not able to meet their needs from the market.

The likelihood of Nigerians to have economic access to food can quickly be measured from what is happening to employment and income. Unemployment and underemployment rates have been quite high and have not improved significantly over the years. Meanwhile, the per capita income has been declining progressively, making Nigerians not to have economic access to food on continuous basis. Progressive increase in population from 88.9 million in 1991 to 103.3 million in 1996 without corresponding increases in food output seem to have worsened the food security situation in Nigeria.

As [15] has noted, there is normally an overlap between poverty and food security due to inadequate income and wealth and hence, their inadequate access to available food. In addition, income growth, however, helps improve food demand and hence, food security. Food demand and supply trends are known to influence prices as well as the composition in their diets and other factors related to food security. Although food insecurity is usually associated with rural households and urban poor who are more vulnerable to high food price and limited access to food as a result of low income, there are differences between household food security within the urban and rural areas. While real wage and employment are the main determinants of food security in the urban areas, the level of domestic food production dictated by the extent and ease of access to production inputs and services is a primary determinant of food security in rural areas.

Research Methodology

Area of study

The selected area of study is Kosofe local government area of Lagos state. The local government area is bounded to the north by Ogun state, to the east and west by Ikorodu and Shomolu local government areas respectively and on the south by the Lagos lagoon. It has a total land area of 178.85 square kilometers. The 1991 population census puts the population of the local government at 325,552 people and by 1996, projection was approximately 394,996 people.

Sample Design and Data Collection.

Primary data were used in this study. Structured questionnaires were used in the collection of primary data with the household being the unit of analysis.

Questionnaires were administered according to the various locations in the local government. These

Table 5: Distribution of household heads by occupation

Occupation	Food insecure		Food secure		Food insecurity incidence
	Frequency	Percentage	Frequency	Percentage	
Professional	31	47.7	55	55.0	0.36
Artisan	12	18.3	19	19.0	0.39
Trader	20	30.8	22	22.0	0.48
Unemployed	2	3.1	4	4.0	0.33
Total	65	100.0	100	100.0	0.39

Source: Field survey, 2004

Table 6: Distribution of household by size

Household size	Food insecure		Food secure		Food insecurity incidence
	Frequency	Percentage	Frequency	Percentage	
1-4	21	32.3	57	57.0	0.47
5-8	36	55.4	40	40.0	0.67
9-12	6	9.3	3	3.0	1.00
>12	2	3.0	0	0.0	
Total	65	100.0	100	100.0	

Source: field survey, 2004

include Ojota, Ogudu, Ketu, Mile 12, Owode, Agboyi and Ajegunle. This was done randomly making sure all major areas were represented in the local government area. 35 questionnaires were administered in Ojota, 24 in Ogudu, 25 in Ketu, 21, 23 17 and 20 were administered in Mile12, Owode, Agboyi, and Ajegunle respectively. This was done proportionately with respect to the number of households in each location. Variation in the administration of questionnaires was due to varying population size.

Information was collected on age, occupation, and sex of household head as well as other household characteristics including monthly income, dependency ratio (number of non-working member divided by the number of working household members) and the household composition (using the age of every member of each household). Data were collected on monthly household expenditure on food and non-food items.

Analytical Techniques

Descriptive Statistics

Households were classified based on their socio-economic characteristics using table and percentages. The percentage used was to represent the proportion of

food secured and food insecure household population within socio-economic classes. The tables were used to represent all information about respondents, food insecurity incidence and the different results of analysis.

Food Security Index

The households were classified into food secure and food insecure households using food security index, which was used to establish the food security status of various households. It is given by;

$$F_i = \frac{\text{Per capita food expenditure for the } i\text{th household}}{\dots}$$

$\frac{2}{3}$ mean per capita food expenditure of all households

Where F_i = food security index

When $F_i \geq 1$ = food secure ith household

$F_i \leq 1$ = food insecure ith household.

A food secure household is therefore that whose per capita monthly food expenditure fall above or is equal to two-third of the mean per capita food expenditure. On the other hand, a food insecure household is that whose per capita food expenditure falls below two-third of the mean monthly per capita food expenditure.

Table 7: Distribution of household by monthly income

Monthly household income ('000)	Food insecure		Food secure		Food insecurity incidence
	Frequency	Percentage	Frequency	Percentage	
0-20	13	20.0	19	19.0	0.41
21-40	23	35.4	14	14.0	0.62
41-60	10	15.4	12	12.0	0.45
61-80	8	12.2	13	13.0	0.38
81-100	4	6.2	16	16.0	0.20
>100	7	10.8	26	26.0	0.29
Total	65	100.0	100	100.0	0.39

Source: field survey, 2004

Table 8: Distribution of households by dependency ratio

Dependency ratio	Food insecure		Food secure		Food insecurity incidence
	Frequency	Percentage	Frequency	Percentage	
No dependency	10	15.4	23	23.0	0.30
<1	14	21.5	31	31.0	0.31
=1	9	13.9	14	14.0	0.39
>1	32	49.2	32	32.0	0.50
Total	65	100.0	100	100.0	0.39

Source: Field survey, 2004

Results of Analyses and Discussions

Socioeconomic Characteristics of Households

The socioeconomic characteristics of the households are represented by the following descriptive statistics. The household characteristics examined include age, sex, educational status, religion and occupation of household head. Others include household size, number of working household members and income. These household characteristics, may or may not be a factor affecting the quantity of food demanded by households, which determine their food security status.

Households are profiled into food secure and food insecure groups based on their per capita food expenditure. The food insecurity line is defined as two- third of the mean per capita food expenditure of the total households studied. The food insecurity line as defined, is shown in the table below.

Therefore, household whose per capita expenditure fall below ₦ 7,967.19 are designated food insecure while

households whose mean per capita food expenditure equals or is greater than ₦ 7,967.19 are food secure. The food insecurity incidence for the households studied is found to be 0.49. The food insecurity incidence shows the pattern of food insecurity based on these household characteristics.

Age of household heads

The table below shows the distribution of households by age and the food insecurity incidence.

In both the food secure and food insecure groups, household heads within the age range of 31 - 40 years constitute a relatively high percentage of the population while those within the age range 51-60 have equal frequencies. In general, a major percentage of household heads fall within the age range 31-60 years.

The food insecurity incidence increases with increase in age from 0.30 to 0.58 for household heads between 21 and 70 years. It then declines to 0.44 for household heads above 70 years of age. This may be as a result of age distribution of the active labour force in the country.

Those within the ages of 21-30 generally constitute a lower level of the labour force and as such, earn a relatively low income but with small household size. Those within 31-50 years usually occupy the top managerial position with corresponding high income while between the ages of 51-60, household head are getting retired already. Above 60 years, household heads are expected to be retired with attendant reduced income and therefore, a higher food insecurity incidence

The decline in food insecurity incidence of households with heads over 70 years may be as a result of additional income from "adult children" of the households which are expected to be part of the labour force at this time and also, there might have been a great reduction in the household size of such households headed by persons in that age category.

Sex of household head

Among the food insecure households, 76.9 percent of the household heads are males while 23.1 percent are females. These percentages are almost in line of the food secure households where male-headed households are in the majority (83 percent) while the female-headed households constitute 17 percent.

From the table, food insecurity incidence is higher in female-headed households. This may be as a result of lower dependency ratio observed in male headed households where both the head and their spouse are engaged in income generating activities while in the female headed households, the dependency is mainly on the head who are either widowed or unmarried.

Educational Status of Household Heads.

The household heads in the food insecure group with no formal education and primary education are 9.2 percent each of the population; those with secondary education constitute 29.3 percent while 52.3 percent of the food insecure household heads have tertiary education. For the food secure group, the proportion of household heads in the population increases with increase in level of education. It was 3 percent for households headed by persons without formal education and 69.0 percent for those with tertiary education.

As one moves from households headed persons with no formal education, food insecurity incidence decreases with those with tertiary education having the lowest food insecurity incidence.

The highest percentage of the population in the food insecure group has tertiary education. This may be as a result of unemployment while the decline in food insecurity incidence from 0.67 for households whose heads have no formal education to 0.33 for those with tertiary education can be explained by the increase in

income as their educational status improve as this has direct influence on occupation and income.

Occupation of household heads

In the food insecure group, 47.7 percent are professionals, 3.1 percent are unemployed while 49.2 percent are artisan or traders. Majority of those that are food secure are professionals. They constitute 55 percent of the population, 22 percent are traders while those unemployed make up the remaining 4 percent.

The food insecurity incidence for those engaged in professional occupation is relatively low at 0.36. This may be as a result of high income associated with this category. Artisan records a food insecurity incidence of 0.39 while it is 0.48 and 0.33 for traders and the unemployed respectively. These would be as a result of low income on the part of artisans and inconsistencies in income and expenditure of traders since they spend as they earn.

Household size

Food insecurity incidence increases with increase in household size. This could be as a result of increase in the dependency ratio in the households. The insecurity incidence ranges between 0.27 for household with 1-4 members and 1.00 for households with greater than 12 members. The food secure group registered no household with size greater than 12 as shown in the table below.

The food insecure group has 32.3 percent of its population having 1-4 household members, 55.4 percent have 5-8 members, 9.3 percent have 9-12 household members while 3 percent have a household size greater than 12 members.

In the food secure group, household sizes which range between 1-4, 5-8, 9-12 and greater than 12 constitute 57.0, 4.0, 3.0 and zero percent respectively.

Monthly household income

The distribution of households on the basis of their monthly income is as follows.

The food insecure group has the highest proportion of its population in the low income category earning 0-40 thousand Naira. This category represents 55.4 percent of the population. For the middle-income group, earning 41-60 thousand Naira, they constitute 27.6 percent while those in the high income (above ₦81000) represent 17 percent

In the food secure group, the low income, middle income and high-income groups constitute 33, 25 and 42 percent of the population respectively.

Food insecurity incidence, as expected, declines with increase in income from 0.52 on the average for the low-income group to 0.19 for the high-income group.

Dependency ratio

The dependency ratio of household, defined as the proportion of household members that are not working to those that are working, may affect their food security status. This is expected to decrease the food security status of households as it increases. However, the income earned by the working members of the household must be taken into consideration since it is possible for all the members of a household to be working but their income altogether may be small.

Food insecurity incidence as shown in the table declines with increased dependency. Food insecurity incidence among households therefore increases from 0.30 for no dependency to 0.50 for greater than 1 dependency ratio. This may be as a result of the increase in household size without corresponding increase in income. The majority of households in both food secure and food insecure groups fall in the greater than 1 dependency ratio.

Summary of Key Findings.

- The food insecurity incidence for the study carried out among the households is 0.39.
- In the socioeconomic characteristics of households, food insecurity incidence increases with increase in age of household heads. It is highest when household heads are within the range of 61 – 70 years at 0.58 and least within range 21 –30 years at 0.30.
- Food insecurity incidence is higher in female-headed households at 0.49 than in male-headed households at 0.38.
- Food insecurity incidence decreases with increase in level of education. The highest percentage of the population fall into those with tertiary education.
- Food insecurity incidence is relatively low for those engaged in professional occupation and highest for traders. Food insecurity incidence is highest at 0.48 and lowest at 0.33 for the traders and unemployed respectively.
- Food insecurity incidence increases with increase in household size. This ranges between 0.27 and 1.00 for those households made up of 1-4 and greater than 12 members respectively.
- There is a decline in food insecurity incidence as income increases from 0.41 for the low-income group to 0.20 for the high-income group.
- On the basis of dependence ratio, food insecurity incidence increases with increase in dependency ratio. This increases from 0.30 for households with no dependence to 0.50 for households with greater than 1 dependency ratio.

Recommendations

Based on the findings of the study, the following recommendations are made in an attempt to improve the food security status of households and therefore, the regional and national food security status.

1. Since food insecurity incidence increases with increase in household size, efforts should be made at improving programmes and policies that will ensure a proper family planning which will reduce the number of children to that which the household can adequately cater for.
2. Nutrition-oriented programmes should be organized in an attempt to improve the food substitution knowledge of households as educational status affect food security.

Conclusion

The socio-economic characteristics of households and price of livestock products have been found to affect their food security level. The food security status does not necessarily affect the demand pattern of household for livestock products. From the study, price, household size, per capita quantity consumed, age and level of education of household head have been found to be the important variables affecting livestock demand among households and therefore, their food security status.

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