

# DETERMINANTS AND STRATEGIES POLICIES FOR RESOLVING PROBLEM OF FOOD SECURITY IN NIGERIA

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## ABSTRACT

*In Nigeria, the last ten years or so have witnessed considerable attention being given to various dimensions of the country's perceived food problem (some say food crises) in research studies, in policy formulation and in perspective planning. This is partly a fall-out from structural adjustment programme (SAP) which, many believe, has not aggravated the country's food problem but also given the problem an added complexity.*

**Keywords:** Food, Security, Determinants, Programmes and Nigeria

## INTRODUCTION

Many definitions have been offered for food security in the literature. According to Siamwalla and vales (2004), food security is the ability of countries, regions, households to meet target levels of food consumption on a yearly basis. As endorsed at international conferences on nutrition in 2005, food security is a state of affairs where all people at all times have access to safe and nutritious food to maintain a healthy and active life (gurken, 2006).

Similarly, according to committee on world food security, it connotes physical and economic access to adequate food for all household members, without undue risk of losing the access. However, while food security for individuals is often the main focus of attention, there are also household, national and international dimensions of food security. For individual food security, household food security level are non-food factors such as health conditions, social and cultural practices which can affect individual nutrition (Sherma, 1992).

Also, at the household level, food security implies adequate access to food over time. There is adequate access when there is adequate food availability to the household and, at the same time, the household has adequate capacity for effective demand for the available food. At the national level, food security connotes adequate availability of food from all sources to meet per capita food requirement of the population over time.

As point out by Sharma (1992), food security has three components all of which feature in the definitions presented above. The three components are physical access to food, economic access to food and sustainability of access to food. Physical access related to issues of food

supply and food availability. Physical access at national level is measured by food availability per capita related to food requirement per capita.

National food availability mainly is by domestics net food supply and food import. Capacity to import food, in turn, depends on export earnings, foreign exchange reserves, value of essential non –food import and debt service obligation (sherma, 1992).

### **Determinants of Food Security**

Two broad groups of factors determine food security. These are supply-side and demand-side factors. The supply side-factors are those that determine food supply or food availability. In other words, they are determines of physical access to food at national household, and intra-household levels. Demand-side factors, on the other hand, are factors that determine the degree of access of nations, regions within nations, households and individuals to available food. They are determinants' of economics access to food or determinants of entitlement to available food. Common to these two set of factor is, however, another set of factors that affect the stability of both physical and economic access to food.

### **Determinants of National Food Security**

World Bank (1991) has stated that the food security situation in a country is largely determined by economic, political and institutional factors. In this regard, government policies are particularly important to the food security situation in the country but climatic factors as well as the quality and quantity of natural resources endowment are also key determinants of national food security.

### **Supply-Side Factor**

Major supply-side factor that affect national food security includes(1)national food production per capita; (2)input and output price in food production;(3)per capita land in food production;(4)land productivity as determined by technology and other yield-enhancing factors;(5)proportion of total production in agriculture;(6)agro-climatic factors and natural resource endowment;(7)food import capacity;(8)external debt burden;(9)export capacity; and(10)national food inventory policy.

### **Demand-Side Factors**

Food demand factors at national level includes:(1)national income per capita;(2)rate of price inflation;(2)population growth rate and other demographic factors;(3)level and growth rate of intermediate demand for food as largely determined by the level and growth rate of industrial population.

### **Stability Access to Food**

Factor that determine the stability of access to food includes:(1) seasonality and inter annual variability in food production and food supply (which in turn, is determined by agro-climatic factors, food storage and processing technologies, irrigation technology, national food inventory policy, etc) ;(2) variability in national income;(3) variability in food price;(3) degree of food import dependency, which may be measured as the ratio of the value of food import to total import value.

## **Determinants of Household Food Security**

World Bank (1991) classified the determinant of household food security into:

### **(a) Supply-Side Factors**

These includes(1)household food production level;(2)quantity and quality of food production inputs;(2)food producer prices;(3)land and labour productivity as influenced by food production technology;(4)household natural resource endowment;(5)household-level food losses, including losses during food preparation as well as plate waste.

### **(b) Demand-Side Factors**

These includes:(1)nominal household income;(2)rate of consumer price inflation;(3)socio-cultural factors like health and sanitation conditions, education attainment, cultural practices, food habits etc and(4)household demographics factors such as size, gender and age composition of household.

### **(c) Stability of Access To Food**

Factors that determine stability of household access to food comprise mainly:(1)household food and non-food production variability(both seasonal and annual);(2)household economic assets;(3)quality of human capital within the household;(3)household income variability;(4)degree of producer and consumer price variability;(5)household food storage and inventory practices.

## **Policies, Strategies and Programmes for Food Security in Nigeria**

The World Bank (1991) has broadly classified policies, strategies and programmes for food security into three categories. First are those general policies, strategies and programmes designed to promote rapid economic growth and increase real per capita income. Second, are those specific policies, strategies and programmes targeted at the poor to enhance their capacity to benefit from economic growth, improve food availability to them and improve their economic access to food. Third are those targeted safety-net policies and programmes which are designed for vulnerable groups in the society who required immediate relief from transitory poverty and food insecurity mainly through social welfare measures.

In Nigeria, it is difficult to classify socio-economic policies and programmes neatly into these categories. For while, in the aggregate, all policies and programmes have essential objectives of economic growth, poverty reduction and or food security, the focus of most individual policies is general and undifferentiated, targeting the general population-rich or poor, food secure or food-insecure in the expectation that the impact of policies would trickle down to improve the socio-economic conditions of the food-insecure.

Also, within the framework of food security and in particular, with reference to food production, food import and export, food supply and demand, food and non-food prices in Nigeria, most of the economic policies of relevance during the structural adjustment period were macro-economic in nature. But, there were also a number of sectoral and institutional policies and programmes in and outside the agricultural sector which had relevance to food security.

Major macro-economic policies include:

- Fiscal policies
- Monetary and credit policies
- Trade policies
- Foreign exchange policies and,
- Macro-price policies e.g. exchange rate, interest rate and wage rate

### **Fiscal Policies**

These consist of budgeting and tax policies:

**Budgeting Policies:** These objectives of budgetary policy were to instill fiscal discipline, reduce budgeting deficits and rationalize government expenditure in favour of future productive sectors of the economy. Fiscal discipline called for restraint on the rate of growth of government expenditure and especially on the size of budget deficits.

**Tax Policy:** the thrust of tax policy was the creation of incentives for private investment in all priority sectors, including agriculture. In pursuance of these objectives, the following measures were adopted:

- a) In 1987, the corporate income tax was reduced from 45 percent to 40 percent. For the small business operating in manufacturing, agriculture and mining, the rate was reduced to 20 percent.
- b) Capital allowance on machinery and equipment used in agriculture, manufacturing, construction and transport were increased.
- c) Personal income tax rate were further reduced in the 1995 budget, with tax bond declined from 10-35 percent to 5-10percent. Tax reliefs on personal income were also increased.

### **Monetary and Credit Policies**

The objectives of monetary and credit policies were to reduced the rate of growth in money supply in order to reduced the rate of inflation, to institute a market- oriented financial system and permit market- determine interest rate, thereby providing incentives for more efficient allocation of financial resources in the economy.

### **Trade Policies**

Trade policies had the following export and import component:

(a)Export Trade Policies: major elements of export trade policies were the abolition of commodity marketing boards (including the grain board), export trade liberation and the promotion of agricultural export trade. As an incentive, exporters were allowed to keep their foreign exchange earnings in a domiciliary account from which they could draw freely.

(b)Import Trade Policies: since 1990, Nigeria has witnessed alternating liberal and restriction import policy regime. Initially, the main thrust of import policies was on tariff reductions, the lifting of import bans and prohibitions on a number of essential commodities and abolitions of import duties on some others.

Advance payment of import duties required at the time of opening letter of credit was to reduced from 100 to 25 percent. These measures remain fairly consistency in force until 1994 but between 2000 and 2004, tariffs were raised on a number of import products, including food commodities, transport equipment, chemicals and footwear.

### **Foreign Exchange Policies**

The major objectives of foreign exchange policies under Structural Adjustment Programme(SAP) was to free foreign exchange transactions from administrative controls and to rely more on free market forces to determine the exchange rate of the local currency. This policy was pursued fairly consistently until 1993 through the Inter-Bank Foreign Exchange Market. It was complete reserve in 1994 under deregulation administration control by Central Bank of Nigeria till date.

### **Macro-Price Policies**

It was made up of largely interest rate, exchange rate and wage rate which is determined in the context of momentary and credit policies and income and wage policies.

### **Institutional Policies**

The following are the major institutional policies which are relevance to agriculture and food security are:

- (a) National Food Marketing System: with the abolition of the marketing board system in 1987 under Structural Adjustment programme, agricultural marketing in Nigeria, for food and non-food commodities become directly regulated by free market forces. In the main, the food market, as an institution in Nigeria, has, therefore, been characterized by policy neglect under Structural Adjustment Programme. However, several other policies have had varying effects on the food market institution. These include, price subsidy withdrawal policy and foreign exchange policy.
- (b) Directorate of Food, Roads and Rural Infrastructures (DFRRI):it was established in 1986 to execute certain rural development programmes involving the construction of rural water supply and electrification facilities and offer of support for seed and fingerling production and distributions.
- (c) River Basin Development Authorities: Eleven of these were established in 1977 to undertake wide-ranging food production and rural infrastructure projects. But they were recognized in 1986 to focus more narrowly on land and water resources development, especially irrigation facilities. They were later partially commercialized in 1992/93 under the privatization and commercialization policy of government.
- (d) The Agricultural Development Programmes (ADPs): The network of ADPs which started with only three enclave project in 1975 has now been increased to 31(one per state and Abuja federal Territory).The network is jointly financed by the World Bank (through a loan agreement),the Federal Government and State Government.
- (e) National Directorate of Employment(NDE):The Directorate was established in 1986 to promote employment throughout the country its specialized training and apprenticeship programmes to develop skills in school levers and others. It also

oversees a number of special school levers and agricultural graduate employment programmes.

- (f) Consumer Protection Councils: This was a consumer empowerment measure prepared under the 1995 budget. The council would have power to cause suppliers of defectives good and services to replace them and to ensure that “parasites activities of middlemen” were curbed.
- (g) Commodity Exchange Market: This was proposed under the 2000 budget, when established, it would fill the vacuums created by the abolition of commodity boards, but its operations would be in the hand of the private sectors.
- (h) National Grain Storage Programme: this programmes, launched in 1977, has three components; viz:
  - A federal government operated strategies grain reserve scheme under which 5 percent of annual grain outputs in a country are supposed to be kept in reserve to meet national emergency.
  - A state-operated buffer stock scheme under which every state is supposed to store 10 percent of the annual grain output, and
  - A private sector grain storage scheme for farmers, agro-industrialist and traders.
- (i) This was established in 1987 as an institutional arrangement for tracking the problem of small farmers who were unable to satisfy the collateral requirements of banks when seeking for loans. Official thinking was that the insurance certificate would serve as collateral while funds mobilized from Insurance scheme would go into agricultural Investment. But the scheme is still in a pilot phase, with insurance cover being available for only maize, rice, poultry and cattle

**National Food Security Situation in Nigeria**

The analysis of Nigeria’s food security situation at the national level will involve a detailed evaluation of the major variables associated with food supply, food demand and stability of access to food. The analysis will focus largely on pattern of change in relevant food security variables over time and, in particular, from 1995 to 2010 with a view to evaluating the extent to which Nigeria’s national food security status has improved or deteriorated over time and in what particular respects it has done so.

**Table 1.** Trends in Annual Output of Major Food Commodities in Nigeria

Commodities	Average annual output ('oo/tones)		Average Annual Growth Rate (%)		Coefficient of Variation (%)	
	1995-2000	2001-2010	1995-2000	2001-2010	1995-2000	2001-2010
maize	5820.88	6189.33	4.61	1.22	7.40	4.70
millet	3947.00	4518.67	2.89	-0.80	5.13	7.48
sorghum	4185.60	5236.83	3.50	4.30	25.02	17.54
Rice	1980.61	2771.67	33.47	-0.65	42.60	15.31

Cassava	12714.00	21632.67	19.77	5.48	31.40	7.32
Yam	7667.20	19832.67	19.77	5.48	31.40	18.63
Cocoyam	579.67	996.67	20.97	5.05	27.57	18.63
Plantain	1483.80	1516.17	13.33	3.55	25.90	12.61
Cowpea	1060.00	1499.83	21.47	2.15	30.66	8.79
Groundnut	731.40	1359.17	6.93	1.50	13.59	7.59
Mellon	190.71	235.00	10.37	2.05	22.73	7.42
Palm oil	697.00	799.50	3.29	1.50	3.98	5.42
Beef	253.80	185.50	5.63	-1.32	9.93	7.35
Goat meat	73.95	79.00	3.25	2.37	4.95	11.69
Mutton	79.20	80.50	5.50	1.72	9.76	11.24
Poultry meat	55.60	65.83	-4.14	3.28	12.23	13.93
Pork	39.40	38.00	9.50	-12.01	17.92	50.71
Egg	286.00	384.84	-10.40	2.17	27.31	7.86

**Source:** Computed from National bureau of statistics Report (2010).

**Note:** All growth rates in this study are computed from the exponential trend equation of form:  $Y_t = \gamma_0 e^{bit}$  where:

Y=Variable with growth rate

e =Euler's constant

t =Time trend variable

**Table 2.** Trends and Instability in the Real Producer Prices of Selected Food Crops in Nigeria

	Average Real Producer Price(#/Tonnes)	Average Annual Growth Rates(%)	Coefficient of Variation	Real Producer Price Elasticities
Commodities	1995-2010	1995-2010	1995-2010	1995-2010
Maize	476.68 to 824.71	-6.39 to 0.23	35.38 to 24.32	0.23
Millet	502.92 to 832.07	24.01 to 12.22	37.58 to 29.03	0.41
Sorghums	470.92 to 796.70	28.12 to 10.47	43.28 to 24.83	0.20
Rice	1734.42 to 2195.00	22.65 to -0.72	28.94 to 9.85	0.29
Cassava	524.86 to 960.83	2.48 to 11.44	17.82 to 19.83	0.34
Yam	720.82 to 1002.39	17.25 to 7.83	32.22 to 22.53	0.17
Cowpea	1534.10 to 2043.19	2.58 to 3.41	18.56 to 8.66	0.47

**Note:** Rural all-items consumer price index was used as deflator for Producer Price

**Table 3.** Percentage Share of Food in Nigeria’s Total Import Value

Years	Percentages Shares
1995-1996	17.0
1997-1998	13.4
1998-1999	10.5
2000-2001	7.9
2002-2003	6.5
2004-2005	8.2
2006-2007	8.2
2008-2009	8.4
2010	10.6

**Source:** same as Table 1

**Table 4.** Estimated Net Food Supply for Human Consumption in Nigeria, 1995 and 2010(in’000 tones grain equivalent)

	1995	1995	1995	2010	2010	2010
Commodities Groups	Gross Supply	Net Supply	Percentage Share of Net Supply	Gross Supply	Net Supply	Percentage Share of Net Supply
Cereals	11419.19	10426.68	48.58	21856.52	12802.51	40.16
Starchy Foods	6111.91	5395.65	25.14	16205.72	11459.86	35.95
Grain Legumes	1907.92	1469.02	6.84	4040.93	2277.59	7.14
Vegetables &Fruits	643.14	602.34	2.81	690.18	660.76	2.07
Vegetable Oil	2007.60	2007.60	9.35	3334.60	2831.20	8.88
Sugar	233.90	233.90	1.09	469.73	365.94	1.15
Livestock & Fish product	1043.20	1004.38	4.68	915.00	873.06	2.74
Beverages	48.16	48.16	0.22	66.33	59.76	0.20
Oilseed	301.92	277.12	1.29	594.65	545.50	1.71
Total	23716.94	21464.85	100.00	48173.66	31876.18	100.00

**Source:** Same as Table 1



**Table 5.** Estimated Per Capita Food Nutrient Intake in Nigeria (1995 to 2010)

Commodity Groups	Net Food Supply('000 tonnes grain equivalent)	Per Capita Food Supply(kg)	Per Capital Daily Food Supply(gm)	Per Capita Daily Calorie Intake(Kcal)	Per Capita Daily Protein Intake(gm)
Cereals	12,802.51	129.26	354.13	1,044.74	25.26
Starchy Food	11,459.86	115.70	317.00	912.64	14.48
Grain Legumes	2,277.59	22.99	63.00	226.21	13.23
Oilseeds & Nuts	545.50	5.51	15.09	58.22	2.56
Vegetables & fruits	660.76	6.67	18.28	50.58	1.72
Vegetable Oils	2,831.20	28.58	78.32	269.44	-
Sugar	365.94	3.69	10.11	36.57	-
Livestock Fish	873.06	8.82	24.15	72.10	6.01
Beverages	59.76	0.60	1.64	5.37	0.05
TOTAL	31,876.18	321.82	881.71	2675.87	63.31

**Note:** The 1991 census national population census figure was projected to 2010 at an annual growth rate of 2.9% & then used in estimating per capita food and nutrient intakes.

### Issues in National and Household Food Security

This are:

- a. There is evidence of an imbalance in the relative growth rates of various food groups. Annual fluctuations in their production also high.
- b. Rates of growth in producer food prices are low relative to those of consumer prices, while instability in producer food prices is higher.
- c. There is also a dearth of information on the quantities of various food commodities used by agro-processor and non-food manufactures.
- d. Rates of post-harvest food losses are high due to the ineffectiveness of national food storage and food processing policies and programmes.
- e. Rates of food inflation are high, but it is still lower than that of non-food consumer goods and services.
- f. Policies on food export and import are erratic. Furthermore; there is virtually no information on unofficial food export and import trade.
- g. Average household income is lowest in the southern belt and highest in the northern belt.
- h. There is a wide diversity in incomes and food expenditure patterns among households in the southern, middle and northern belt of the country.

- i. Household income distribution is highly skewed, with a small percentage of household accounting for a disproportionately large percentage of the total income of all household.
- j. The percentage of household income spend on food is lowest in the middle belt and highest in the southern belts.
- k. Urban households tend to spend relatively higher percentages of their incomes on food than rural households.

### **Policy Options for Poverty Reduction And Food Security**

Policies for national and household food security cannot be divorced from those of socio-economic development and poverty reduction. For socio-economic underdevelopment or mal-development is at the root of poverty which, in turn, is a key factor in food insecurity. However, general socio-economic growth and development alone cannot eradicate poverty and food insecurity. Complementary policies and programmes specifically targeted to the poor and food-insecure would also be required to promote the redistribution of the benefits of socio-economic growth and development to the poor, the food-insecure and the vulnerable who cannot normally take adequate advantages of the opportunities offered by general socio-economic policy incentives and benefits of growth.

### **CONCLUSION AND RECOMMENDATION**

It is shown in this study and others that stability of access to food in Nigeria is poor, as evident from the wide seasonal, annual and spatial fluctuations observed in food production, supply and consumption. As at now, the capacity of the country and of a high percentage of households to sustain food security on a long-term basis is very low.

A wide range of policy and programmes options have been discussed in this study to reflect the wide diversity in the factors that determine food security. Poverty and food insecurity are closely related, and both are by-products of underdevelopment or mal-development.

Furthermore, there is no illusion that most or even many of the suggested policies and programmes are new in Nigeria. Nigeria is known to be rich in socio-economic policies and programmes but very deficient in effective implementation. This is a persisting problem which only a fundamental reorientation in the concept and purpose of government, purpose of policies and the essence of development can be rectify.

More than anything else, what the country needs is a good governance, which implies an effectives partnership among all interest groups in the society in decisions affecting their socio-economic development, the efficient management of national resources, and the practice of a people-centered development strategy. This is the only environment under which socio-economic development policies can have any meaning.

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