

Sustainable Development and the Challenge of Food Security in Africa: the Nigerian Perspective

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Abstract

Food security has been underscored as an essential ingredient in the quest for sustainable development. Hence, it has constituted a major cornerstone of many developmental strategies for many nations across the globe in recent times. This study examined the seriousness of this challenge to many African states with special emphasis on Nigeria. Data was obtained from secondary materials such as books, periodicals, journals, magazines, the internet, etc. The food web theory, was adopted as the theoretical framework while its methodology follows content analysis. The paper assumed the structure of the sequence--- introduction, problem statement, literature review (conceptual, theoretical framework, empirical), and the gap. The results showed that Nigeria is yet to address the issue of food security seriously. It recommends that the challenge be given the attention it deserves.

Keywords: *Food security, Sustainable development, Challenge, Food web theory, Africa.*

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Background to the Study

There is a heated debate amongst development experts on how best to deliver interventions in order to minimize failures of development. They hold the view that development theory and practice of post-world War II development projects have failed because the entire concept of development is a Western, non-universal measure of progress. They argue that the problem with development is not about its implementation, but rather that development itself is a flawed concept which should be eliminated from the discourse on human progress.

Post-development theory developed in the 1980s as a critique of development theory and practices which post development theorists perceived as extensions of Western “first world” hegemonic ideology. Foremost of post-development criticisms is that the entire concept of development is a constructed reality in that “development” is a Western standard whereby the west is labeled as “developed” while the rest of the world is viewed as “underdeveloped” (Zia, 2007). According to Kippler (2010), “development is defined by post-development theorists as practices and ideas beginning post-world war II attempting to change the “third world” to better match ..the so called developed countries”. It should be underscored that when post-development theorists refer to the word development, they are referring to the post-World War II attempts to engineer particular changes in the so-called “Third World”. These development theorists do not call for a return to earlier ways of life or eschew the desirability of change for those who suffer poverty. Rather, development is “understood as the intervention of aid structures and practices that world renders better health and nutrition” Cahorro, 2010. This asserts Western societies as the ideal norm and measures the comparative success of all other countries against this norm” (Partiff, 2002). They further argue that these values of progress/development are not universal and are actually “modeled upon the European experience of progress” (Kippler, 2010).

In his reaffirmation, Rahaema (1997), observes that, in the thinking of post-development theorists, “the construction of development first arose in the post-World War era to meet the hopes of new independence leaders, former colonial masters, and the recently liberated masses”. Thus, while it was attractive to all categories of actors, the desire for development, soon took on various meanings for the different actors. McGregor (2007) also reiterates the fact that “the problem with development is not how it is delivered, but rather that the very concept of development itself is flawed”. Thus, attempts to reform post-world war II development projects to eliminate their negative effects are seen as irrelevant because the development solution for the supposed problems of the so-called 'target population' was in the first place incorrect.

The desire and agitation by the post-development theorists for better conceptualization of development paid off in 1987 when the Brundtland Commission published its report, *Our Common Future*. This was a bold attempt at linking the issues of economic development with those of environmental stability. This added the issue sustainability to that of development. Thus, sustainable development was defined as, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987:43). Vague as it may appear, this concept of

sustainable development aims to maintain economic advancement and progress while protecting the long-term value of the environment. It “provides a framework for the integration of environment policies and development strategies” (United Nations General Assembly, 1987). Nevertheless, long before the late 20th century, scholars argued that there need not be a trade-off between environmental sustainability and economic development. The global community has adopted this latest concept just as the goals and targets have constituted a matter of concern to states. In attain such goals and targets, countries experience vary challenges and prospects. this necessitates an investigation into the strategies, prospects and challenges of various countries. One such challenge is in the area of food security.

Statement of the Research Problem

FAO (2006), believes that, “food security exists when all people at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”. The FAO (2006), describes four (4) key aspects of food security: Food must be available in sufficient quantities and quality, food must be accessible; must be utilized properly through adequate diets to meet all physiological needs, food must be stable meaning that all persons must have access to adequate food at all times. Proper utilization of food includes important non-food inputs such as clean water and sanitation to ensure health. All the above aspects of food security constitute serious challenges in the quest for sustainable development particularly for developing countries. There is the need to identify these challenges with a view to assessing the strategies/efforts being made to addressing them in Nigeria. This is the essence of this study.

Objectives of the Study

Generally, this study seeks to examine the challenges of food security in the quest for sustainable development in Nigeria. Specifically, the paper aims at:

- 1) Identifying the challenge of food security in Nigeria as it relates to the nation's quest for sustainable development.
- 2) Assessing the extent to which the country (government) is rising to such challenges.

Research Questions

The study will provide answers to the following research questions:

- 1) What is the major challenges of food security in Nigeria?
- 2) To what extent is the Nigerian government rising to such challenge?

Literature Review

Conceptual Literature

Food Security: Webb, (2009), observes that, “there is no universally accepted measurement of food security”. Proxy measures of food security typically used include; “agricultural production, food storage levels, caloric intake, per capita income, or nutritional status” (Coates, 2003). According to Smith (2003), “food security is the ultimate manifestation of who wields power, and who does not”. According to a currently accepted definitions, 'food security' is achieved when is ensured that “all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life” (FAO, 2000).

Sustainable Development: The key principle of sustainable development underlying all others is the integration of environment, social and economic concerns into all aspects of decision making. “All other principles in the sustainable development framework have integrated decision making at their core” (Derubach, 2003; Stodelgart, 2011). Thus, the UN General Assembly defines the concept as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

Theoretical Framework

The Food Web Theory

Food chains were first introduced by the African-Arab Scientist and philosopher Al-Jahiz in the 9th century and later popularized in a book published in 1927 by Charles Elton, which also introduced the food web concept.

A food chain is a linear network of links in a food web starting from producer organisms. Such producer organisms include grass or trees which use radiation from the sun to make more food and ending at apex predator species like grizzly bears or killer whales, detritivores (like earthworms or woodlice, or decomposer species such as fungi or bacteria). A food chain also shows how the organisms are related with each other by the food they eat. Each level of a food chain represents a different trophic level. A food chain differs from a food web. This because the complex network of different animals' feeding relations are aggregated and the chain only follows a direct, linear pathway of one animal at a time. Natural interconnections between food chains make it a web. A common metric used to quantify food web trophic structure is food chain length. In its simplest form, the length of a chain is the number of links between a trophic consumer and the base of the web and the mean chain length of an entire web is the arithmetic average of the lengths of all chains in a food web.

Empirical Review

Before now some empirical studies had earlier been conducted in the area of sustainable development and the challenges of food security in Nigeria and beyond.

Ojo, (2012), presented an overview on the scenario of food security in Nigeria. The paper observed that “food is life, hence it has become an instrument of national power. It is within that imperatival need for food that his paper took on the issue in all its ramifications. In its comprehensive review of Nigeria's agricultural policy, the paper noted that much still needs to be done if the crisis in the sector will not escalate more so, in a supposedly democratic dispensation which expectedly should promote the value of welfarism. Thus, the paper infers that Nigeria needs to come up with food policy which it lacks for now. What policy makers pursue is merely an agricultural policy that still suffers enormously from a wide gap between intent and actual practices.

Metu, Okeyika and Maduka (2016), conducted a study on “Achieving Sustainable Food Security in Nigeria: Challenges and Way forward. The paper began with an observation that the production of enough food to ensure less dependence on importation and achieve adequate and affordable food for all, is one of the goals of Nigeria's Agricultural policy. Using

descriptive statistics, the study attempted to evaluate the food security situation in Nigeria from 1991 – 2015. The paper shows that there is a shortfall in domestically produced food in Nigeria because the growth in the population is at the rate of 3.2% while the growth in food production has been less than one. This shows that the demand for food is greater than the supply (agricultural production) due to factors like inconsistent government policies, environmental degradation and non-sustainable agricultural production. The paper also shows that Nigeria depends so much on food importation. To achieve sustainable food security in Nigeria, the paper recommends an improvement in environmental management in order to increase agricultural productivity.

Ahungwa, Umeh and Muktar (2013), carried out an empirical analysis of food security status of farming households in Nigeria (Benue State). Thus, in analyzing the food security status of farming households in Benue which is the nation's 'food basket', the paper employed a stage-wise random sampling technique to obtain 180 households. Descriptive statistics were used to assess the socioeconomic characteristics of the households while the food security index was used to measure the household food security status. Using the FAO benchmark of 2500kcal per capita per day, households were profiled into food secure and food insecure where 36.6% were food secure while 63.33% were food insecure. The shortfall or surplus index (P) indicated that, the food insecure households exceeded the benchmark by 33.80% while the food insecure categories fell short by 29.60%. The paper recommended that government and all stakeholders should take advantage of existing structures such as the Fadana Development Project to improve the means of livelihood of the population thus improving their food security status; enhance nutrition, education for effective home management and balance dietary intake rather than 'full the stomach syndrome' to achieve the goals of sustainable development.

The Gap

Studies have been conducted on sustainable development and the challenges and prospects for Nigeria. None of these studies adopted content analysis as a methodology. It is an obvious gap which the current study intends to fill.

Methodology

In this study, data is obtained from secondary sources such as books, journals, periodicals, research papers, and the internet. Carefully, the relevant content of such data is therefore analyzed taking cognizance of our theoretical framework – the FOOD WEB THEORY of Charles Elton. This analysis proceeds in sequence such as: Research Question one (1): What is the current major challenges of food security in Nigeria in the light of sustainable development?

The major challenge of the sustainable development Agenda in the area of food security is easily discernible from tables one (1) and two (2) below:

Table A: Value of Import and Export of Food in Nigeria (%) (1991 – 2013)

Year	1991	1996	2001	2006	2011	2012	2013
Import (%) Merchandise	1.6	17.7	21.7	18.0	30.6	27.7	17.8
Export (% of) Merchandise	1.5	1.5	0.0	0.1	1.8	5.3	5.1

Source: WDI (2016).

Table B: Minimum Dietary Energy Requirement (DER), share of Dietary Energy Supply (DES) and Prevalence of Undernourishment in Nigeria. (1992 – 2015)

Year	MinimumPER (kcal)	DES (%)	Prevalence of Undernourishment (%)	Number of People Undernourished (%) (million)
1992	1710	113	17.9	20.8
1997	1720	118	11.2	13.2
2002	1720	121	9.0	11.2
2008	1730	126	5.7	8.9
2015	n.a	123	7.3	11.9

Source: WDI, 2016

Tables one (1) and two (2) clearly reveal the inability of Nigeria to achieve food security/sufficiency by year 2030 except major radical steps are taken to address the situation. The enormity of the problem is that the country has been unable to produce even half of its food requirements. Thus, table one (1) clearly shows the country's heavy dependence on food imports with its obvious implications for nutrition and foreign exchange (economy). This identifies gross inadequacy of local production to meet the food demands as the major problem/challenge of food security in Nigeria. Table two clearly reveals the nutritional implications of the dis-equilibration of the energy demand and supply scenario.

Research Question two (2): To what extent is the state (government) rising to this challenge? "To achieve food security, a number of food security initiatives were launched" (Bello, 2004). They include:

- a) Special programme for food security (SPFS).
- b) Root and Tuber expansion programme
- c) Fadama Development Project
- d) Community-based agricultural and rural development schemes
- e) Provision of infrastructure

These programmes have been in place for several years. Thus, their inability to steer the situation from the scenario on tables one (1) and two (2) above reveals complete failure. Worse still, our theoretical framework underscores the interconnectedness in the ecological web. This interconnectedness is difficult to locate in the context of the five programmes itemized as government programme of action to realize sustainable agricultural productivity in Nigeria.

Empirical evidences abound to support our analysis in respect of research questions one and two. For instance, the study by Metu, Okeyika and Maduka (2016), using descriptive statistics to analyse prospects for food security for sustainable development in Nigeria, reveals that there exists a shortfall of supply in relation to demand.

Findings

- 1) Fundamental challenges facing of food security in Nigeria, hinge on the shortfall of food supply in relation to demand.
- 2) Government programmes over the years have not been effective enough to boost the nation's prospects for sustainable food production in Nigeria.
- 3) The programmes are not making the expected impact in food production for reasons ranging from inadequate funding, inadequate research in agriculture.
- 4) Such inadequate research results in the failure of the nation's food security to be focused in the right direction.
- 5) The food web theory has not been considered in tailoring the agricultural policy.
- 6) Workers in the agriculture/food sector lack the knowledge/skills required to give the sector the required impact on food productivity.

Conclusion

Evidence from the study indicates that in the 1970s, Nigeria produced all its food needs and surpluses for its agro-based industries. This shows that the country has what it takes to be self-sufficient in food production and supplies. However, the reality on ground is that the nation's local production is far below its requirements. Worse still, the programmes of government designed to achieve food security are not yielding the desired results. This makes its journey to attaining food security by 2030 a very difficult one.

Suggestions

The study makes the following suggestions following our findings:-

- 1) Government efforts should be doubled towards achieving a demand/supply scenario in food production that would enhance food security.
- 2) An evaluation must be conducted to ascertain reasons for the failure of previous and existing agricultural policies before introducing new programmes.
- 3) Funding of agricultural programmes must be increased.
- 4) Research in the area of food production should consider the nature of the food chain and food web.

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