

Towards a Political Ecology of Food Security and Sustainability in Nigeria

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Abstract. The concern of food security and sustainability constitutes an integral part of Nigeria's contemporary national security problematic. This paper explores the food security and sustainability discourse in Nigeria within the paradigm of political ecology with a view to situating the notions and nuances that are associated therewith. By means of a discursive analysis, predicated on secondary data, the paper x-rays the socio-structural issues underlying food security as well as food vulnerability in Nigeria, positing that Nigeria's quest for food security/sustainability has been vitiated by a myriad of complex social, political, ecological and developmental factors negating food availability, access, safety and sustainability. The paper submits that these factors must be organically understood and addressed in order to overcome the threat of food insecurity/crisis in Nigeria.

Keywords: Agricultural productivity, food (in)security, food vulnerability, food sustainability, political ecology.

1. Introduction

Food is a prime sustainer of human life. It consists of the essential organic and inorganic substances consumed by man to ensure a functional life. The importance of food to mankind cannot be overemphasized. Food constitutes the basis of human energy and vitality, without which effective human living is threatened. Apart from sustaining life, food

provides the essential nutrients and nourishment that account for human health, stability and functionality. In effect, life without food is hardly sustainable.

Food security refers to the availability, access, and safety of useable food for the population while food vulnerability refers to the susceptibility of a population to food insecurity (Idachaba, 2006). Food security is determined by the quantity and quality of the food stock available and assessable to a population over a period of time. It is influenced by demographical and macro-economic factors such as population growth and dynamics, per capita and household income, purchasing power, agricultural productivity and output, etc. Fundamentally, these factors are contingent on the prevailing societal dynamics as well as the character of the policy-cum-governance regime.

Globally, sustainable food security has been hampered principally by climate change and violent conflicts. Weather extremities and volatilities associated with climate change have been found to be driving drought, desertification, erosion, and flooding (Okoli, 2014). These occurrences bring about critical outcomes that negate agricultural productivity and output. Allied to the climate-induced threats is the issue of violent conflicts, often occasioned by stiff political and ecological contestations (Okoli & Atelhe, 2014). The impact of the foregoing on agricultural output and food supply has been devastating. For instance, both climate-

related and conflict-related agricultural emergencies have often led to mass displacement of farmers, loss of farmlands, loss of agricultural capital, forced volatile agrarian migration and vandalism of agricultural resources. The implications of the above for food security are obviously ominous.

Nigeria's aspiration to food security is indispensably a national security imperative. This aspiration, however, has been, over the years, impeded by a variety of factors relating to the socio-ecological and structural dynamics of society. This paper engages the subject of food security cum vulnerability in Nigeria from the theoretical standpoint of political ecology. The remainder of the paper is structured around the following themes: theoretical framework; conceptualizing food security/vulnerability; indexing Nigeria's food security/vulnerability status; political ecology of food security in Nigeria; and conclusion.

2. Theoretical Framework

This paper appropriates political ecology theory as its analytical anchorage. Political ecology has its epistemological foundation in cultural ecology but assumed an independent paradigmatic status in the mid-1980s (Buseth, 2009). The theory combines the concerns of ecology and a broadly defined political economy (Blakie & Brookfield, 1987). It probes the intricate and often interwoven political, social, and historical underpinnings of ecological issues in an attempt to proffer a holistic understanding (Buseth, 2009).

Political ecology is predicated on a number of basic assumptions to wit:

- (i) There is an organic relationship between ecological sphere and wider society.
- (ii) Ecological issues are influenced and often defined by socio-political forces and dynamics of the society
- (iii) Ecological phenomena have deep-seated political and economic underpinnings and dimensions

- (iv) Ecological issues are better interpreted and understood in the context of the historical, socio-economic and political dynamics that determine them
- (v) Ecology and politics, but also nature and society, are structurally and organically related (Blakie and Brookfield, 1987; Buseth, 2009; Stock, 2012; Okoli & Atelhe, 2014).

In effect, political ecology posits that environmental or ecological outcomes are largely determined by the socio-political and economic processes. Thus, the structural dynamics that affect household, community and state relations vis-à-vis the environment is salient to understanding the ecological discourses in those contexts. Also of the essence is the character of public policy and governance regimens in relation to environmental issues.

Applied to the context of the food security discourse, political ecology proffers useful insights into the socio-structural imperatives of food production, access and consumption. Food production is an agrarian activity that is affected by the ecological processes and dynamics. More importantly, food access and consumption are socio-economic concerns that are mediated by socio-structural factors, which are politically relevant and nuanced. A meaningful discourse on food security and vulnerability must, therefore, seek to situate the organic and complex relations between the socio-ecological and socio-structural forces and how they bring about certain outcomes that hold critical implications thereof. This is the theoretical predisposition of this paper.

3. Conceptualizing Food Security, Insecurity and Vulnerability

Food security simply means availability of safe food and accessibility to it (Otaha, 2013). More elaborately, it refers to physical, social, and economic access to sufficient safe and nutritious food to meet the dietary needs required for an active and healthy life (Idachaba, 2006). For a population to be food-secure, it must be able to enjoy predictable availability of, and

accessibility to, sufficient, affordable and safe quality and quality of food stocks for its households.

The Global Food Security Index (2015) identifies the three critical constituents of food security as; (i) affordability (ii) availability (iii)

quality and safety. The notion of affordability refers to the ability of a household or a country to pay for its food needs and preferences. Availability presupposes access to sufficient food while quality and safety have to do with the nutritional and health integrity of food supplies available for a population.

Table 1: Constituents and Determinants of Food Security

Constituent	Critical Determinants
Affordability	Food consumption as a share of household expenditure Proportion of population under global poverty line Gross Domestic Product (GDP) per capita Agricultural import tariffs Presence of food safety net programmes Access to financing for farmers
Availability	Sufficiency of food supply Public expenditure on agricultural research and development (R&D) Agricultural infrastructure Volatility or stability of agricultural production Urban absorption capacity of food Food loss
Quality and Safety	Diet diversifications Nutritional standards Micronutrient availability Protein quality Food safety

Source: Global Food Security Index (2015).

Clearly understood, food security does not consist in the quantity of available food stocks, not is it a question of food production volumes or agricultural output. It is rather an issue of access and safety in relation to the available food supplies (Global Food Security Index, 2015). Food security is, therefore, understood in the context of this paper as a condition that exists when a population has access to adequate, qualitative and safe food to maintain a wholesome and productive life.

Food vulnerability connotes susceptibility of society to food insecurity. Food insecurity exists when a population is undernourished as a consequence of physical unavailability of food, or lack of social and physical access to sufficient and qualitative food (Otaha, 2013: 30). Globally, food vulnerability is a function of interplay of factors, including disruptions in the global food system (Emerging Risk Report, 2015), food shortages, and diminishing food stocks (UNCTD, 2008), and the escalating food demands and prices in the era of food crisis (Otaha, 2013). Complications and implications of food vulnerability include hunger and starvation, livelihood insecurity and allied

humanitarian consequences that affect human health and security (Global Hunger Index, 2015: 18).

4. Indexing Nigeria's Food Security/Vulnerability Status

Nigeria is a populous country with a vibrant and growing human population estimated at over 170 million people (NBS, 2012). The contemporary trajectory of the national demography of Nigeria indicates that the country is experiencing rapid population growth with a concomitant burgeoning burden on food resources. However, accelerated growth in human population in the country without commensurate increases in food output has resulted in a sapping pressure on the available food resources. This trend has been driving the country progressively to the threshold of food crisis.

The scale of the contemporary food crisis in Nigeria has been vividly demonstrated by the incidence of hunger and food insecurity in the country. The 2015 Global Hunger Index (GHI) ranks Nigeria as the world's 91st hungry-nation

(Global Hunger Index, 2015: 18). Of the total of 104 countries covered in the report, Nigeria has an aggregate score of 32.68 percent to book a position among the league of world’s twenty (20) worst-fed nations. Table 2 reproduces the list of least performing countries in terms of global hunger index based on the 2015

assessment. The table shows Nigeria’s position in bold print for the sake of emphasis. It is instructive to note that Nigeria is ranked below some notable fragile and ostensibly less-endowed states in Africa such as Liberia, Burkina Faso, Namibia, Zimbabwe and Mozambique.

Table 2: *Nigeria’s Global Hunger Ranking, 1990-2015

Rank	Country	1990	1995	2000	2005	2015
85	Liberia	54.4	55.2	46.8	41.5	30.8
85	Zimbabwe	33.3	38.1	40.8	39.2	30.8
87	Burkina Faso	53.0	46.1	48.4	49.6	31.8
87	Namibia	35.8	37.0	32.5	28.8	31.8
89	Mozambique	64.5	63.2	49.2	42.4	32.5
90	Angola	67.3	66.8	58.3	45.3	32.6
*91	Nigeria	47.7	47.1	41.10	35.2	32.8
92	Djibouti	56.1	56.1	48.5	45.1	33.2
93	Ethiopia	71.7	67.3	58.6	48.5	33.9
93	Pakistan	43.6	40.9	37.9	38.3	33.9
95	Yemen, Rep.	44.4	44.4	42.9	42.1	34.2
96	Niger	64.7	62.7	53.0	42.8	34.5
97	Afghanistan	47.4	55.9	52.5	44.9	35.4
98	Madagascar	47.4	55.9	52.5	44.9	35.4
99	Haiti	52.1	52.1	42.8	45.4	37.3
100	Sierra Leone	58.8	56.0	53.5	52.4	38.9
101	Timor –Leste	--	--	--	42.7	40.7
102	Zambia	47.0	49.0	50.9	46.7	41.1
103	Chad	65.0	60.6	52.2	53.1	46.4
104	Central African Republic	51.9	51.0	51.4	51.0	46.9

Source: Global Hunger Index (2015:18) ('--' indicates 'not available').

Similarly, the Global Food Security Index (2015) also ranks Nigeria as one of the World’s most food-insecure nations. The report indicates that Nigeria has an aggregate percentage score of 37.1, which places her on the 91st position on the GFSI chart. Table 3 shows Nigeria (in bold type) listed among twenty (20) worst countries in terms of food security based on the 2015 Global Food Security Index. Again, Nigeria books a place among some of the world’s most troubled political economies such as Sudan, Yemen, Rwanda, Cambodia, etc. This is curious considering the continental stature of Nigeria as the giant of Africa as well as the country’s manifest comparative advantage in agrarian endowment (Idachaba, 2006).

96	Cambodia	34.6
97	Guinea	33.9
98	Tanzania	33.7
99	Burkina Faso	33.6
99	Niger	33.6
101	Togo	33.4
102	Zambia	32.9
103	Mozambique	32.6
104	Haiti	31.1
105	Congo (Dem. Rep)	30.1
106	Sierra Leone	29.0
107	Madagascar	28.8
108	Chad	27.9
109	Burundi	25.1

Source: Global Food Security Index (2015).

Table 3: *Nigeria’s Global Food Security Ranking, 2015

Rank	Country	Score/100
90	Yemen	37.3
*91	Nigeria	37.1
92	Sudan	36.5
93	Malawi	35.3
94	Angola	35.1
94	Rwanda	35.1

5. Towards a Political Ecology of Food Security cum Vulnerability in Nigeria

Political ecology has been understood in this writing as an attempt to combine the concerns of ecology to those of political economy. Political ecology of food security, thus probes the nature and implications of food security in relations to its socio-ecological dialectics. Core to our understanding of food security are the notions of availability, accessibility and quality-cum-

safety. Political ecology of food security is concerned with situating how the aforementioned are affected by the complex and dynamic societal processes. The structural dialectics and dynamics of societal processes can, and often do, engender socio-political and

economic outcomes that affect food production, distribution and consumption. Some of these processes and outcomes are interrogated in the following sub-sections in an effort to advance a discursive political ecology overview of food security/vulnerability in Nigeria.

Table 4: Factoring the Political Ecology of Food Security cum Vulnerability in Nigeria

Prime Factor	Empirical Indicators	Structural Determinants	Sundry threats and inhibitions
Availability of food	Quantity of food stocks/supplies Agricultural Productivity/ output Food processing and preservation	Agricultural productivity and output Sufficiency of food supply Agricultural infrastructure Agricultural R&D Stability of Agricultural production Agroindustrialization Food absorption and loss Enabling policy/governance environment	Unfavourable land-holding and land-use systems and practices Poor agricultural policies Lack of modern equipment for mechanized agriculture Conflict Environmental disaster (e.g. flooding, drought, etc). Rural insecurity Urbanization and rural-urban drift
Accessibility of food	Affordability Personal or cultural tastes and Preferences Food distribution	Livelihood security Purchasing power Household and personal income Food distribution Personal and cultural tastes/preferences	Poverty Lack of basic infrastructure Lack of enabling technology iv. Conflict v. Natural barriers arising from inaccessible terrain
Quality/Safety of food	Nutritional standard Health assurance	Quality control assurance Food regulation and control Food safety and health education Ethical standards	Ignorance Lack of technical know-how Corruption Governance failure (lack of effective regulation). Poor soil quality Inappropriate preservation or processing Unhealthy consumption habits Climatic conditions
Sustainability of food	Advancement Transformation Resilience Stability	Political stability Economic development Disaster risk reduction Agromechanization Agroindustrialization Enabling policy/governance regime	Poor land use systems and practices Government neglect Policy neglect iv. Climate change v. Environmental hazards vi Ecological abuse Wasteful consumption Abusive agricultural practices

Authors' original compilation, 2017.

5.1 Food availability: Food availability is a vexed issue in the Nigerian food security narrative. Although agriculture accounts for about 33% of the GDP and 60% of the national employment quotient (USDA, 2011), Nigeria has nonetheless remained barely capable of optimally feeding herself. Available records suggest that Nigeria is a net importer of food and agricultural products. The current Minister of Agriculture, Chief Audu Ogbeh (2016) alarmed that Nigeria's food import bill amounted to USD32 billion annually.

There is no gainsaying the fact that Nigeria is food dependent. What is perhaps curious is that

she is getting rather too consumerist in that regard. According to USDA:

Nigeria is a net importer of agricultural products with imports approximately USD 3.7 billion and exports of about USD 600 million in 2010. Imports are dominated by bulk/ intermediate commodities such as wheat, rice and sugar. The United States us a substantial exporter of agricultural products to Nigeria, with exports estimated at approximately USD 800 million in 2010. Although US exports are primarily wheat, export of US value-added and consumer –ready products have also risen in recent years. Major competitors for the Nigerian market are Europe, Asia, and South Africa. Nigeria's traditional links with Europe remain strong, and EU

agricultural exports to Nigeria account for about 50 percent of the total (2011, para.1).

Factors that account for the apparent food deficits in Nigeria are legion and sundry. Prominent among these factors is the phenomenon of environmental disaster, exemplified in flooding, drought landslides and desertification. These occurrences often result in huge collateral damages to land and agricultural resources. Besides, they dislodge farmers from their localities of optimal productivity. Some of the displaced farmers are plunged into desperate ecological sojourn in search of safer farming or grazing fields. In the process, they are plunged into various degrees of confrontation with settled communities. This often results in volatile outcomes that impede agricultural productivity and output (Okoli & Atelhe, 2014).

There is also the issue of armed conflicts and rural insecurity. For instance, the Boko Haram insurgency has brought about marked decline in agricultural production in the North East of Nigeria (Okoli & Iortyer, 2014). The ripples of Boko Haram violence has led to the mass exodus of farmers and farming communities from the far North East to the North-Central part of Nigeria. This trend has incidentally reduced the North-Central region to a volatile axis in terms of the incidence of land-based resource conflicts and contestations. The escalating waves of herder-farmer violence and Fulani-militancy in the region are cases in point (Okoli, 2014). Allied to this scenario is the issue of rural banditry instantiated by cattle rustling and market raids in many parts of northern Nigeria (Okoli & Okpaleke, 2014).

The above situation is not helped by the prevailing land-holding and land-use systems and practices in Nigeria. The extant Land Use Act (1978) marginalises the rural peasant farmers/herders who contribute the bulk of the country's agricultural output (Chikaire, Anyaoha, Ani & Atoma, 2014). Yet these farmers are still largely rudimentary and subsistence-based. More importantly, they operate within the public policy ambience that is characteristically indifferent and hostile to their optimal productivity. The foregoing complex

scenario constitutes a critical dimension of the organic context that systematically negates assured availability of food in Nigeria.

5.2 Food accessibility: Food access is a critical determinant of food security and vulnerability. In effect, the crucial question is not about the quantity of food available but the amount of the national food stock that is accessible to the population. The question of food access is mediated by both ecological and structural dynamics of the society. Suffice it to note that the factors already highlighted in the preceding sub-section as affecting food production and agricultural output in Nigeria also affect food access in varying significant ways. But beyond these factors, food access in Nigeria has been fundamentally influenced by the structural factors such as poverty, infrastructural deficit and technological lack (cf. table 1).

In the recent years, more than sixty (60) percent of the Nigerian population has been living below the World Bank's one dollar per day threshold (NBS, 2012). The implication of this is that most of the Nigerian population possess grossly weak purchasing power (PP). This means that they can hardly afford their basic household and personal needs, including food. This is more-so, given the soaring prices of food commodities in the current era of global food crisis. Little wonder then that Nigeria find itself on the threshold of food crisis, apparently to the tune of famine. Infrastructural deficit has also posed a challenge to food access in Nigeria. For instance, lack of access roads in most parts of rural Nigeria has impeded the movement of food products from the hinterlands to places of critical consumption needs. So, in addition to the shortfalls in the national food stocks and supplies, a significant chunk of the available food products does not get to areas where they are mostly needed (Ojo & Adebayo, 2012).

There is also the issue of needless waste of food resources owing to lack of technology for food preservation and processing. In effect, most of the food surpluses obtainable in the rural areas during harvest seasons are often wasted away due to this technological challenge. In the end, most Nigerian households are starved of food either as a result of physical access occasioned

by lack of infrastructural cum technological facilities, or due to structural impediments arising from poverty or material lack. This explains the level of hunger, mass starvation and food insecurity in Nigeria as tables 2 and 3 tend to suggest.

5.3 Food Quality and Safety: Food quality and safety is related to nutritional standard and health assurance in food production, processing, preservation and consumption. At the level of production, food quality may be affected by soil quality or the ecological chemistry of farmland. At the level of preservation and/or processing, the quality and safety of food can be compromised or improved by human and systemic factors. Also at the level of consumption, the integrity of food can be violated by way of wrong preparation or abusive consumption. Ignorance or lack of technical knowhow can form the pretext for such violations. Corruption, functional abuse and failure of regulation as it relates to food administration and control can complicate the situation. Nigeria's National Agency for Food and Drug Administration and Control (NAFDAC) as well as Standard Organization of Nigeria (SON) has been at the fore-front of the enforcement of food quality and safety standards. Food quality and safety is crucial to food security; after all poor or unsafe food is as bad as lack of it.

5.4 Food sustainability: Food sustainability consists in the achievement of advancement, stability, transformation and resilience in relation to a country's food economy. Advancement implies technologically innovative and adaptive means of promoting crop and livestock yields; stability has to do with attainment of functional equilibrium in respect of food supply, distribution and pricing; transformation refers to the transubstantiation of food products through advanced industrial modifications; resilience entails the ability of the national food system to withstand systemic shocks, disruptions and encumbrances arising from fatal socio-ecological or structural occurrences. Each of these indicators encompasses veritable ingredients required for

the trans-generational sustenance of the national food patrimony.

Nigeria's aspiration to food sustainability is veritably challenged by the untoward impacts of climate change and environmental disasters. Unmitigated impacts and complications of climate change, such as drought, erosion, flooding, desertification and windstorm can drive a country to the fault-lines of famine and of food crisis (Global Hunger Index, 2015). As has been observed earlier, these have correlations with other critical threats to food security, such as rural conflict and instability. Food sustainability in Nigeria has also been threatened by structural factors such as poor policy environment, government neglect, unfavourable land-use systems and practices, and the like. Other factors such as wasteful consumption, ecological abuse and abusive agricultural practices are equally highly culpable. Although it is difficult to attain, food sustainability is indispensable to human security.

6. Conclusion

Political ecology seeks to synthesize the concerns of ecology and those of political economy in an attempt to evolve a holistic mode of social analysis. It assumes that ecological phenomena have deep seated socio-political cum socio-economic underpinnings and implications. In respect of food security and vulnerability, political ecology takes the discourse beyond the realm of uncritical ecology by underscoring the role of historical and contemporary societal dynamics. In the case of Nigeria, such discourse would reveal that the prospect of food security and, of course remediation of food vulnerability, in the country is contingent on a myriad of socio-political, socio-ecological and structural determinants (cf.5.1-5.4 above). Addressing these factors through a pragmatic policy that organically comprehends the concerns of ecology, politics, economy, governance, development, and security is a desideratum for a food secure and food resilient Nigeria.

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