

Food Security and Food Sovereignty Challenges in Africa

Edited By

Lere Amusan

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Introduction

There is no doubt that Africa is in a crisis of food security. Talking about food sovereignty¹ has become a nightmare for the continent from the time of colonialism because the continent is producing what it does not consume and consumes what Africa can hardly produce, although Africa is considered a potential food basket for the global system. This instability is caused by myriads of factors ranging from the inability of the African government to take action on the climate in terms of investing in technologies that can resolve inherent challenges associated with harsh weather and atmosphere. In addition, the undue influence of the introduction of genetically modified organisms (GMOs), which tends to increase food production at the expense of good health and nutritional stability of consumers. This invariably weakens Africa's food sovereignty. The reality is that most farmers in the continent have been highly influenced by the new media advertisements in favour of GMOs due to the profitability of quantity food-producing out of the inorganic plants and animals. This eventually promotes humanitarian aids with an emphasis on food from developed states since farmers in many of the African states focus on animal feeds and alternatives to fossil fuel crops (Cotula, 2013; FAO, 2012; Love and Bryant, 2017). This is at the cost of food sovereignty that agroecological and regenerative farming is in favour of. Africa supposes to be a food sovereign considering her arable lands, resources, and conducive atmosphere for food and cash crops, but the reverse has been the case due to poor collaborative actions on the climate and profiteering interests of Big Data companies in Africa. This has occasioned recurrent cases of hunger and malnutrition in any part of the continent. However, little did some students and experts in food security realise that

¹ Food security is a situation where there is availability, affordability and accessibility of quantity and quality food for human consumption; it may be from within a state or imported from another state/s. On the other hand, food sovereignty is a state self-sufficient in food production both in quality and quantity without relying on other state/s before feeding its population. Other attributes of it are healthy and culturally appropriate food produced through ecologically sound and sustainable manner. For more understanding of this concept, see Seminar, Sarwoprasodjo, Kinseng, and Santosa, 2018; Tilzey, 2018;

the artificiality in GMOs is partly the leading cause of health challenges such as obesity, hypertension, diabetes, kidney stones and other related health problems (Amusan, 2019a, 2019b; Paarlberg, 2013). This state of ignorance, not only contribute to food insecurity and food fraud but also impedes food sovereignty in Africa. Food insecurity in the sense that, today Africa still suffer more from hunger and mal-nutrition partly because of consumption of food that weakens their immunity on the one hand and low productivity caused by the overreliance of farmers on foreign aids, assistance, and interventions from Multinational Corporations (MNCs), on the other hand (Amusan, 2014; 2017).

Thus, dependency on, and adoption of GMOs in parts of Africa is also partly the reason why food sovereignty is a big challenge. Although Africa can produce food, it lacks control of food productive mechanisms and policies. Most of what is obtainable as food mechanisms and policies are determined mostly by MNCs and their governments, especially, those from the Global North. These MNCs and their home governments are the major decision-making organs of food organisations such as the Food and Agriculture Organisation of the United Nations (FAO), International Fertiliser Development Centre (IFDC), among others. It has conferred them the opportunities to determine and control food mechanisms and policies of other countries, particularly, the developing areas. It limits efforts at promoting food sovereignty in Africa (Foer, 2017). This appalling development questions the saying that the adoption of GMOs in Africa will enhance increased food productivity, security and sovereignty, (Amusan, 2019a; Amusan, 2018; Bond, 2006; Collier, 2008). Unfortunately, the adoption of an inorganic food system by some countries did not address the growing problem of hunger and malnutrition. It led to what Amusan (2019b) described as mercy killing and thanksgiving; and food security with tears in Africa. This policy initiative, rather than achieve its expected ends, worsened the ugly situation of hunger and malnutrition in the continent. It is therefore difficult to achieve zero hunger in line with Sustainable Development Goal 2 when the indigenous peoples have no control of mechanisms and policies of food. The introduction of large-scale farming is not only violating the rights of the indigenous peoples through eviction and monocropping system, but it is also an agent of food fraud ever known in the history of mankind because of the profit ambition of the

multinational agribusinesses (Chomsky, 1999; Howard, 2016; Otero, 2018). This development amounts to chronic dependency, which in turn, portrays the tendency of lack of food sovereignty. A good example of this scenario was brought to the fore by Amusan (2017), through research findings that particularly criticised the illegal looting of hoodia plants by countries in the Global North. Hoodia, an organic hunger and thirst suppressant, which could have sustained the San tribe in South Africa, in terms of contributing to their food sovereignty was processed and refined without the knowledge of the local San people who originally own the plant. This is not only the case in Africa as Patrick Bond elucidated in his book, *Looting Africa: The Economics of Exploitation*. Bond identified many plants and animals that are qualified for geographical indications (GIs), prior informed consent (PIC) and access sharing benefits (ASB), but tactically ignored a series of conventions and protocols that protect ecosystems and biodiversity in Africa (Amusan, 2017, 2014; Halabi, 2018; Moran, 2004). This development brings to the fore the need for food sovereignty in Africa, and questions interventions such as technological transfer, foreign aids, GMOs, politics in Africa. These interventions, apart from aggravating tendencies of dependency, capital flights, and myriads of challenges, severely undermines Africa's quest for food sovereignty. It questions the motive behind GMOs and other food security interventions from the West in Africa. This calls for a re-think in the dogmatic acceptance and belief in anything that comes from the Global North to Africa. It equally subjects the tenet of food security and sovereignty to robust intellectual discussions to critically map out a conducive and safer Africanize approach to food security.

Climate change and lack of collaborative actions by African governments are among the major sources of food insecurity and lack of food sovereignty in the continent. The Inter-Governmental Panel on Climate Change (IPCC) report identified that climate change is the leading cause of floods, heatwaves, desertification, violent winds, an outbreak of disease and food insecurity (Amusan, 2017). Food sovereignty is difficult to achieve under harsh weather conditions and lack of adaptation and mitigation strategies are the major cogs in food security discussion. Climate change equally contributes to political insecurity, for instance, the conflict in the Sahel region of Africa as a result of lack of access to productive natural resources

of water and arable land for animals being captured by draught and in some cases flooding as a result of the interchangeable *El Nina* and *El Nino* effects in Africa. Vulnerability is another key issue in climate change, it is the extent of predisposition to biological, geophysical and socio-economic systems to the adverse impacts of climatic variability. Farmers in Africa have repeatedly suffered from climatic variability in the forms of erosion, flooding, drought, lack of, or excessive rain among others, these in themselves, are potential sources of food insecurity, which in the long run undermines food sovereignty in Africa. Following the submission of the IPCC (2007), on vulnerability, Brooks expatiate on its effects from two perspectives either as biophysical (ecological) or social, specifically in forms of socio-economic factors such as poor access to food, clean water, poverty, the poor state of technology, patterns of resource distribution, access to insurance against hazards, quality of housing, (Amusan, 2017).

It is also imperative to note that land distribution for commercial agricultural purposes and wealth accumulation hinders the process of food sovereignty in Africa. One of the reasons why Africa is named the food basket of the global system is her massive arable land resources. With this natural wealth, Africa is expected to feed the world and remain food sovereign, but the inordinate chase for wealth and commercialization of lands have made it very difficult for Africa to achieve food security let alone food sovereignty. This view aptly aligns with Carmody (2016) and Amusan (2019a) who argue that politics of allocation of land for commercial agriculture by the political elite class and the relegation of peasant farmers in the distribution of land for food production are some of the hitches in the wheel of Africa's food security.

The inability of Africa to take absolute control of mechanisms and policy for food calls for various approaches to address this problem. Food sovereignty became popular when international trade with a special focus on agriculture becomes a contentious issue from farmers subsidies to dumping politics of food in Africa and other developing areas. Food sovereignty raises two concerns namely: the ability to plan and define policies that will meet citizens' expectations as a priority, the ability to eliminate or reduce global dependency and a need to focus on national and regional needs. It is also important to note that it includes control of policies

of food that do not permit dumping practices on other forms of agriculture. For instance, in Africa, attempts have been made to enhance food sovereignty, in the form of national policies and mechanisms that promote food sovereignty, but for the colonial hangover in the continent, this has not been managed effectively (Roger and Emmanuel, 2007).

However, food sovereignty in Africa suffers from few challenges such as lack of cooperation and collective action on climate to boost food production. Similarly, states and regional organisations in Africa that have believed in food sovereignty cannot sustain it. Although, the policy consultation process, may have enables producers' organizations to promote food sovereignty, but the regional and national institutions have not achieved positive outcomes in terms of gaining control of their food mechanisms and policies. These divergent views portray the fact that the concept of food sovereignty remains largely unclear. It fluctuates between the need to control food mechanisms of developing agriculture and states adequately protecting the community's preference. Another challenge is that food sovereignty appears to be more of a concept relevant at the regional scene than the national front, which negates the community control of food productive resources.

It is against this backdrop that this edited book examines the challenges of food security and food sovereignty in Africa. As an edited volume, contributors are from diverse backgrounds such as political science, international relations and diplomacy, public administration, agricultural science and rural extensions, economics and wildlife disciplines. Their various perspectives in looking into the problem bring about holistic approaches in the study of challenges of food security and sovereignty in Africa and proffer various solutions to the issues under discussion. One of the panaceas to food insecurity and lack of control over food productive resources is the need for a developed mechanism and the respective roles of states and donors while considering the autonomous decision-making and leadership aspects of food sovereignty. Also, more thorough debate on the compatibility of food sovereignty with access to food or the right to food. Although some states in Africa suffer from extreme diversification in food, some of them have devised the means of organising themselves into regional economic zones. But pieces of evidence show that these free trade

zones do not in themselves promote food security (Roger and Emmanuel, 2007). Rather, other regional organisations from outside the continent are the beneficiary of the free trade agreements within Africa. An example of this is the European Union (EU) through misleading north-south cooperation of the African, Caribbean and Pacific (ACP) and EU unequal exchange relationship (Ighobor, 2014). The same applies to the blurry relationship between America and Africa that culminated in Africa Growth and Opportunity Act (AGOA). A case in point was the imposition of chicken importation on South Africa from America despite relatively developed poultry industry in the country and an understanding of south-south relations of the BRICS that promote chicken business between Brazil and South Africa (Amusan, 2019a). This significant setback the continent quest to promote food sovereignty and security.

Significance of the book

This edited volume advances knowledge in food security and food sovereignty for students of higher learning. This, as mentioned above, will benefit students of development studies, international relations, political science, human geography, sociology, indigenous knowledge systems, economics and agricultural sciences. It will also be useful for food security experts, government, ministries of agriculture, food-producing organizations, policymakers, policy analysts and serve as introductory textbooks to development studies in developing areas by those who are not familiar with Africa's food sovereignty challenges. It is carefully written to enhance understanding of food security and food sovereignty in Africa by known experts, practitioners, and scholars of political science, international relations, agricultural science, economics, public administration, with an interest in food security and climate change. The book will contribute to the body of knowledge when one contextualises the differences and similarities between seemingly the same concepts of food security and food sovereignty. It will deepen understanding of food fraud and MNCs' manipulations of food quality to the detriments of consumers. The book analyses and interprets field data and interrogate relevant literature, which forms the basis for decisions for improving food security and sovereignty in Africa by providing adequate information to advance new knowledge on the issue of international interdependency of unequal exchange and

inactions of government against dumping of food through various guise. It will also contribute to a better understanding of the negative implications of GMOs on numerous health challenges across African states. Of relevance to the book is the need to understand why Africa ought to determine and control its food mechanisms and policies for positive outcomes on food sovereignty. Proposing for food sovereignty, where states in Africa control their food production resources and mechanisms will significantly contribute to sustainable development in the reduction of hunger and malnutrition in line with SDGs 1,2 and 3 specifically as well as to reduce the rate of capital flight from Africa. It is hoped that specific collaborative government actions on climate change policies suggestions on how to enhance food security and sovereignty and develop relevant strong institutions to pursue this drive are among the importance of the edited volume. This book will also examine the roles of relevant stakeholders in food security including local Non-Governmental Organisations (NGOs) working with African communities to achieve food sovereignty. This volume is being proposed at a time when Africa is battling with the effects of challenges of Covid-19, climate change, food insecurity and food sovereignty. Scholarly suggestions and measures in this edited book will go a long way in enhancing a better option to achieve food sovereignty and food security in Africa.

The organisation of the book

As indicated in this proposal, this book project is an edited work with seventeen chapters, which starts with the general discussion as a matter of introduction about the book. This is followed by Chapter one by Isa Ishaq Ojibara, which covers food security and climate change in Sub-Saharan Africa. He examines issues that are important to the overall focus of the study to enhance understanding of the conceptual misunderstandings concerning this study and inquiry. It also examines, albeit briefly, the basic understanding of climate change and food security. This chapter submits that despite the low contribution of Africa to the emission of Carbon dioxide (CO₂) globally, it bears the heaviest impacts of climate change with no technology in the form of climate adaptation and mitigation unlike the developed states of the north. The chapter concludes that there is a need for

appropriate technology transfer from the north to Africa to address the twin concepts of adaptation and mitigation for sustainable food security.

Moving from this chapter is a discussion by Phemelo Olifile Marumo, who examines food security and sovereignty from a philosophical perspective, the chapter, philosophically reviews food security and sustainable development in Africa. Marumo is of the view that biblically, sustainable development was initiated at the Garden of Eden wherein humanity was mandated to look after the earth and preserve it for the future generation. However, things did not turn as planned and the earth was subjected to other exploitative measures that affected food security and other aspects like environmental changes. Food security is the basis of human life based on the provision of sustainable development of both the environment and humanity. Sustainable development can only be achieved and maintained if the available land and resources are preserved so that they can accommodate the present habitat and still be left for future generations. Thus, it is good for the land to be preserved at all costs. In that way, preservation thereof will in a way provide for the provision of food security. However, due to the present circumstances like earth erosion and lack of earth preservation the substance of food security is threatened and in many cases faces extinction. From the premise, the chapter outline the background surrounding the Earth as the Mother and the supplier of food security, which will be followed by how the earth as the Mother assist in sustainable development. It will further propel to dwell on philosophical review, in which it will give a scenario on the potential damages if a pattern of exploitation of the earth at the expense of health erosion and lack of land preservation perpetuates. Thereafter, the chapter comes with recommendations that could assist the sustainability of food security in South Africa.

Chapter three authored by Lere Amusan and Samuel Chukwudi Agunyai examines food security in Africa without women: a *sine qua non* for food insecurity. The authors of this chapter argued that studies in food security showed that women contribute half of the agricultural labour in food production in rural areas of most African states. They play a critical role in all core areas of food security-availability, accessibility, and utilization. Their expertise in the production and discovery of food with high nutrients

has helped to reduce hunger and the number of malnourished people in Africa. But abounding evidence shows that women's critical role in food security is hardly rewarded because of the perceived notion that they are mere agricultural assistants to their male farmer husbands. Added to this, is the fact that they are wrongly perceived to be less productive than the male farmers, and when it comes to the issue of policy formulation and execution, men are traditionally expected to lead, though they may not know what exactly is needed to improve food production that eventually lead to good nutrition. This phenomenon had provoked studies aimed at correcting gender-inequality in agricultural food production in Africa, but information on the effects of exclusion of women in policy formulation and implementation on food insecurity in Africa is scarcely available. The leitmotif of this paper is to examine some cogs in food insecurity with emphasis on lack of access to farm inputs coupled with climate variability and infrastructural amenities deficits to bring about unperturbed transportation of farm products to market. In doing this, the chapter adopts constructivism theory and secondary sources of data as our departing points.

Olajumoke Adeyeye, Monica Orisadare, Ayobami Atijosan and Oluwatoyin Olajide in chapter four further discussion on women in farming and food security. They interrogate gender-inclusive development in rural settings: reframing the issues in the African context. The authors of the chapter argued that gender inequalities remain a common phenomenon hindering transformative changes in many rural communities in Africa, especially in areas of food security and sovereignty. This chapter advances knowledge on how to identify key challenges with gender-based interventions and proposes an analytical framework that can lead to gender-inclusive and transformative changes in rural areas. This framework is based on the multidimensional concept of empowerment, which is seen as a dynamic process rather than an outcome. It focuses on individual agency, resources, institutional environment and other structural and non-state actors at micro and macro levels, which have consequences for agricultural interventions in rural contexts. The authors, averred as a matter of conclusion, that the essence of agricultural intervention programs that seek to bridge the gender gap in rural areas in

Africa must conceive inclusive development from a multidimensional empowerment perspective.

Moving from this is chapter, five, jointly developed by Olawale Rafiu Olaopa and Yusuf Opeyemi Akinwale. The chapter examined the phenomenon of African indigenous knowledge (AIK) and food security in Africa. According to the authors, food is a key instrument of warfare and also a means of influencing and controlling an independent state. Any food insufficient state is vulnerable to danger or threat; lack of protection. The authors are of the view that according to available evidence, the African continent has been spending a significant number of billions of USD yearly on food, beverages, and tobacco importation with more than half of the total sum spent on food importation only. More disheartening is the projection that the spending could escalate by 2025 if the trend continues without any concrete action being taken. This becomes embarrassing and worrisome given the agricultural production potentials of African states in terms of various enviable natural endowments, yet its food insecurity and growing foreign exchange expenditure on food importation is growing. Consequently, policymakers have, due to the detrimental effects of insufficient or dearth of food, started acknowledging the greater potential for agricultural production to enhance the continent's food sufficiency. Much had been done in the area of policy, but the strategy remains ineffective and inefficient as agricultural production and revenues accrued are still very low. This then requires looking elsewhere. This paper, therefore, aims at presenting the policy challenges to boost domestic competitiveness, further develop domestic markets, and unlock investments for agriculture in Africa. Using the qualitative research method, this study found that efforts at unlocking agricultural potential and tackling food insecurity failed to recognise and integrate indigenous people and their resources in the agricultural production development agenda. This study suggested that proper utilization of indigenous knowledge within the framework of sound science, technology, and innovation capacity in the agricultural sector would foster food security in Africa.

Olabimpe Ajoke Olatunji and Lere Amusan in chapter six interrogate healthy food, unhealthy people: developmental challenges of inorganic

food on African youths. This chapter argues that globalisation as the hallmark of development or what some may describe as mal-development is here to contend with us for a long time in Africa. The twin issue of food security and food sovereignty continue to generate arguments among students of social sciences. While some are of the view that food and nutrition are important for development, the production of the same is always ignoring the intricacies of food quality and food quantity. In developed environments or states, consumption of fast food is a common thing and Africans in Africa always like to display their social and financial status based on affordability and accessibility of fast foods. The question that this paper intends to address is whether the consumption of fast food that is known to be inorganic due to its production by large scale farmers who specialised in mono-cropping poses health challenges among the youths. This is a result of the introduction of unhealthy hybrid seeds and animals that lead to some health challenges hardly known in Africa. Issues of various types of cancer are plaguing the continent. Multinational pharmaceutical corporations (MPCs) are feeding fat on this to the detriment of the poverty-stricken continent of Africa. We are going to employ Social Cognitive Theory (SCT) as well as the Ecological Theory of development as a departing theoretical framework. In conclusion, we recommend the promotion of organic food and discourage the consumption of genetically modified (GMOs) food with identified crises.

Chapter seven of the edited book developed by Ogunjinmi, Amusan, Oyeleke, Osunsina, Adewumi, and Oduntan interrogates the significance of bushmeat in food security and income sustainability. They opined that bushmeat harvesting and trade play significant roles in the food security and livelihood of inhabitants of developing countries, particularly in Africa. It is an indispensable component of rural diets, contributing to protein, fats, vitamins, micro, and macronutrient intake. This chapter berates governments for not developing a policy that can integrate harvesting and trade in wildlife into national food security programmes, despite the contributions of bushmeat to food security in the continent. the chapter, therefore, advocates for policies on sustainability in off-take and harvest of bushmeat, utilization, and support for domestication through research and extension services need evolvement.

Chapter eight authored by Aluko Opeyemi Idowu discusses food vendor and food vandalism in Africa: A study on Benin, Cameroon, Niger and Senegal. The author is of the view that food is a basic necessity of life. All countries in the world seek to attain food security. Some have attained the goal while a vast majority of countries in the world especially in Africa has not attained this goal. There are several reasons attributed to the state of food insecurity in Africa. A prominent one is food vandalism due to climate change and incessant communal feuds especially between Fulani pastoralists and the farmers. Other notable food vandalism is the deliberate creation of poverty living by the political class through embezzlement and other corrupt practices to continuously use paucity of food as bate during the electioneering period. Therefore, what is the extent of food insecurity in Africa? No doubt, there is a need for more food vendors to neutralise the effects of food vandalism in Africa. These are both local and international food supply chains that are poised to mitigate food problems such as hunger, starvation, and death. Food insecurity in the four African countries (Benin, Cameroon, Niger, and Senegal) is seen as a typical case that needs urgent attention as the number of people that go without food is growing bigger over the years. Afrobarometer panel data is utilized to analyse the extent of food insecurity in Africa.

Chapter nine, jointly developed by Lere Amusan and Olusola Oloba, titled From Economic Community to Economic Union: A post-coronavirus approach to food security in the ECOWAS region interrogates Jacob Viner's model of trade creation and trade diversion in the post-coronavirus (Post-Covid-19) era and a likely movement from economic community to the economic union. In trying to do this, we call for the actualisation of smooth implementation of eco-currency where the movement of factors of production will be in line with the forces of demand and supply, but with adequate compensation of member states that may negatively be affected by the new arrangement; with emphasis on the landlocked and small states. Covid-19 exposed ECOWAS states' food security vulnerability as many states and individuals were struggling to have access to basic food quality. This brings this paper to a need to encourage agroecological food production in the form of regenerative farming that is more sustainable in the era of new regionalism. To achieve this, the involvement of questionable humanitarian food supply by the western states needs total

overhauling to pave way for indigenous food promotion that will serve as a multiplier effect on home-grown food security. The need for this is to learn from the negative impact of access to food during Covid-19. Content analysis of existing literature will dominate our discussion; we are to conclude that food sovereignty as against the controversial western notions of food security will be pushed forward for the region to be food secured based on the availability of enough arable land to produce food in ECOWAS states.

Chapter ten by Victor Ojakorotu and Fie D. Dan-Woniowei is titled, "Oil Extraction and the Question of Food Security in Cabinda of Angola." The chapter examines how the discovery and exploitation of oil and other mineral resources have pitted several host communities against their government, and also multinational corporations. It analyses the impact of oil exploitation activities in the Cabinda region of Angola. These take various forms such as minoritism, majoritism and religious conflicts in Africa. This chapter concludes that the Angolan government must ensure that concrete regulatory frameworks are enacted to guide the activities of oil multinationals towards preventing sustained oil pollution and agitations in the Cabinda region, as well as willingness to invest the oil revenues accruing to the nation in agriculture to achieve national food security.

In chapter eleven, Ogundeji and Ojo, examine the impact of drought on urban agriculture: A case study of urban livestock farmers in Bloemfontein, Free State province. They argue that urban agriculture can reduce poverty and enhance food security amongst the poor, who are vulnerable to the high cost of food in urban areas. This chapter employed descriptive techniques and inferential statistics to explore the impact of drought on urban agriculture among livestock farmers in Bloemfontein. The majority of the participants identified their farms have been affected by drought. In the same vein, more than 90% of the participants were aware of climate change and believed that it was important to address the issue of climate change. Also, 95% of the respondents did not receive early-warning information and 93% were not registered for a drought-relief programme. With appropriate institutional support, much potential exists for building sustainable livelihoods by promoting urban agriculture in Bloemfontein, as

well as in other African urban centres. Generally, the result shows that urban farmers are highly vulnerable to drought, with unreliable dependence on NGO interventions and rainwater storage as coping mechanisms. Besides, urban farmers have extremely low access to information and early warning systems. From a policy point of view, urban farming, in general, has not been given much consideration, neither have the farmers received relief support during drought seasons. It is therefore recommended that improvement should be made towards access to grazing and arable land, adequate workshops, and training in various farming activities. Also, the provision of water supply by the municipality, veterinary services, financial and technical support should be made available as a panacea for improved livelihood.

Monica Bhuda, Kutullo Nick Shai, Thabang Motswaledi, and Phemelo Marumo in chapter twelve argue that indigenous knowledge has been the source used during farming in Africa and it has contributed towards food security especially in the Bushbuckridge Municipality in South Africa. In this chapter, Bhuda et al. were of the view that indigenous knowledge has contributed towards food security especially in the Bushbuckridge Municipality in South Africa. The evident example of its contribution was the restoration, grinding, and storage of the wild fruits (marula and prickly pears) which are later used as potential meals for different households. The chapter permeates from the understanding that the process of storing these wild fruits has shown that they have the potential to be reused and contribute to the economic upgrading of the community. The wild fruits which are stored can later be sold and a higher profit when they are out of season. Therefore, the chapter will showcase that potential by referring to the Ethnobotanical survey which falls under the qualitative research methodology. The result thereof will indicate that stored wild fruits can contribute effectively to food security.

Chapter thirteen by Seun Bamidele discusses food insecurity in Sub-Saharan Africa: A Review of Agricultural Transformation Agenda (ATA) in Nigeria and argues that the severe reduction in food production of sub-Saharan Africa, especially among the Nigerian market between the latest years and the ensuing amplify in the range on ravenous people, bear sharpened the consciousness concerning policy-makers or the usual people

in imitation of the fragility over the regulation of the global food in Nigeria. This awareness must be translated into effective economic strategies that will prepare the Agricultural system better to respond to long-term production demands while making it more resilient against various confronting risk factors, all in a bid to ensure that the growing national population will be able to produce and have access to adequate food in future. As a result of this, there is a need to address new agendas and challenges that transcend the contemporary decision-making horizons of agricultural producers, consumers, and policy-makers in Nigeria. This chapter, therefore, critically examines food production under the newly introduced Agricultural Transformation Agenda (ATA) in Nigeria with a special focus on Benue state.

In chapter fourteen, TITUS, Utibe Monday and IJUPTIL, Justin, examine food security and Boko Haram insurgency in Nigeria and argue that insurgency has become a threat to Nigeria's peace and security at present because it constitutes the highest contributor to humanitarian crises most especially in the northeast ranging from the rise in human casualties, internally displaced persons, refugees' debacles and food insecurity. This chapter provides an overview of the link between food security and insurgency in Nigeria's northeast. It discusses the effects of conflict (insurgency) on food security, and the political, social, and demographic factors that could exacerbate these effects. The chapter adopts the State Fragility theory as a theoretical framework and methodologically used survey method involving the use of Key informant Interviews (KIIs) for collection and analysis of data on the issues under investigation. The empirical findings indicate that there is a significant relationship between the Boko Haram insurgency and food security crises. By way of recommendation, the paper advocates the need for the Nigerian government to focus more on reducing human casualties, loss of livelihood, food insecurity to nip into the bud threats emanating from the humanitarian crises and Boko Haram insurgency in the region.

Oladiran Akinsola Ayodele discusses incessant oil spills and their implication on food production in the Niger Delta in chapter fifteen. The author submits that an untold hardship has been brought to the inhabitants of the Niger Delta region of Nigeria where crude oil is extracted. The

Oladiran maintains that mangroves swamp, the forests near the coast, have usually given room for plant products, fishes, other aquatic animals in the local communities. He said that however, oil spills have damaged these natural resources and also caused danger to coastal line fish hatcheries and pollute the fish, thereby reducing their commercial value. The inhabitants of the Delta are essentially fishermen and farmers; oil spills have disrupted their sources of livelihood. The settlement of oil on the bank or the shores of the sea kills the living organism; it came in contact with and also settles to the bed of the sea to destroy more organisms, impacting negatively on the food security of the nation. The incessant oil spills resulted in environmental pollution, which has led to a significant reduction in local food production. This has led to a shortage and an excessive rise in the price of food, placing it beyond the reach of the common man. This chapter, therefore, discusses oil spills as the major cause of this state of affairs and makes useful recommendations to alleviating the sufferings of the people. To ameliorate the situation, the Nigerian government has responded by establishing a legal framework to control oil spills to reduce the attendant environmental degradation. Some of these laws, the National Environmental Standards and Regulations Enforcement Agency Act (NESREA), 2007, Environmental Impact Assessment Act, and the Constitution of the Federal Republic of Nigeria, 1999 are discussed. The chapter also examines the influence of international law regimes on the control and compensation for oil spills. It employs a qualitative research method that is library-based. In his submission, the author avers among others recommends strict compliance with environmental laws as well as the implementation of policies of government aimed at reducing the negative effects caused by the extraction of crude oil in the Niger Delta region of Nigeria.

In chapter sixteen, Elijah Babasola Afolabi Agbaje and Olumide Omodunbi examine the Nigerian situation as a case study on the issue of food security through a farm settlement approach. As an agrarian nation with great prospects for full employment and food security, the authors observed that Nigeria, against the late sixties' predictions, become one of the starving nations of the world with mass idling manpower. The increasing impact of gentrification on the lower rungs of the society further reveals the fear that more of the potential productive populace, against all intents of sustainable

development, will become more cripplingly idle, starved, and homeless. This chapter deploring both historical, field trip, and survey methods, examine the nexus of negative effects of a generational shift in agro-allied preoccupation and the trajectories of abandoned and wasted opportunities in the nation's traditional farm settlements. Agbaje and Omodunbi interrogate whether resuscitation of assisted-traditional farm settlements as a component of readily available developmental factors could count as a ready means by which problems associated with unemployment and mass underdevelopment can be mitigated in Nigeria.

Chapter authored by Victor Okorie and Lere Amusan contribution to ongoing discourses on how to transit economies from brown to green. Its focus is on farm youths' willingness to act pro-environmentally in the context of sustainable soil management and agronomic practices. The chapter complements recent scholarships, which seemed to have privileged farming practices' characteristics over farmers, in the narratives of sustainable land use. In doing so, the chapter expands a burgeoning body of literature emphasising individual characteristics and context constraints as critical determinants of farmers' pro-environmental behaviours. Using a multistage sampling procedure, about one hundred and forty self-identified farm youths were interviewed in the study. Perception of negative effects of brown practices; input support pay; imposing taxation on brown practices; the level of environmental awareness; educational status; the perceived degree of input ownership; and perceived ability to make a change had positive and significant relationships with youths' willingness to act pro-environmentally at 0.05 probability level. The chapter argues that farm youths represent a window of opportunity in transiting economies from brown to green production and that investment in a well-planned environmental education and formulation of input support and taxation policies might turn the youths' willingness to act pro-environmentally to actual environmental behaviour.

Target audience and comparison with other books on food security and food sovereignty

The target audience of the edited volume includes academics, researchers, undergraduate and postgraduate students of political science, agricultural

science, economics, public administration, African international relations, development studies and political geography students. Additionally, the books will be an invaluable resource for food security practitioners and public policy analysts. Readers of this book can use it for several purposes, including:

1. Acquiring a deeper understanding of the African attempt at food sovereignty, African collaborative actions on climate, the implications of food fraud and dumping in Africa
2. Those who are researching food security, climate change and Sustainable Development Goals (SDGs), especially, goals 2, 3, and 13, and food sustainability in Africa
3. Reference material and case studies for authors, analysts and postgraduate students with interests in food security
4. Understanding the motive behind the introduction of GMOs, destructive technologies, MNCs patent of food and plants in Africa; will also enhance understanding of biopiracy and bioterrorism and their implications developing areas with a special focus on Africa

There is no doubt that many books have been written on food security and food sovereignty in Africa; the area of departure of this edited book is that it is the first comprehensive scholarly book that examines some areas that were not addressed in some of these published books in detail. Issues that may contribute to food sovereignty in Africa, such as formulation of policy to boost more production of bushmeats as an important agent of food security, collaborative actions on climate change, allowing more women to participate in food security enterprise, transiting economies from brown to green production, advocating for Africa's control of mechanisms and policies of food, traditional farm settlement as means of food sustainability receive academic interrogation. Also of import in this book are the issue of efforts of many African governments to eliminate excessive dependency on GMOs and inorganic foods, due to their implications for various health challenges in Africa (Amusan, 2017; Goldberg, 2018; Norwood and Mix, 2019; Paarlberg, 2013; Pollan, 2006). Some of the works that address challenges of food security and food sovereignty in Africa focused more on specific areas. Peter K. Arthur's (2012) *food security and Sovereignty in Africa*:

Issues, policy challenges and opportunities is an interesting article on the plights of Africa's food security and sovereignty, it only focuses on the institutional mechanisms and capacities factors as the major cause of food insecurity and lack of Africa's food sovereignty without looking into the problem holistically. Habib and Ray (2019) examine food sovereignty and the struggle for socio-economic justice in North Africa. Angela's inability to link the socio-economic struggle for food sovereignty in North Africa to food fraud and control of food policies in Africa through platforms such as new media technologies, and Big Tech politics calls for further intellectual discussions addressed in this edited volume. This edited book draws contributors from African scholars who are familiar with the terrains they research on.

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Chapter 1

Food Security and Climate Change in Sub-Saharan Africa

Isa Ishaq Ojibara

Our climate is rapidly changing, and agriculture is most affected by it. Agriculture production in Sub-Saharan Africa countries is expected to be highly affected by the ravaging global warming (Amusan, 2009; Anya, Ofem, Binang & Umoren, 2012). Several humanitarian crises bedevilling the sub-region have been linked to environmental conditions such as extreme and prolonged droughts and flooding exacerbating the risk of rural populace in the region to chronic physical problems (Connolly-Boutin & Smit, 2015). Though global food production is almost at par with the increasing growth in population from the 1960s, sub-Saharan Africa exhibits signs of strain (Kohler, 2012). Thus, the increasing population growth in Sub-Saharan Africa means there is high competition for arable land for agricultural purposes. The severity of extreme weather conditions traced to climate change is an emerging pressure in the region that is experienced for a very long time (Ibid, 2015). Food security and livelihoods have been recognized to be severely affected by climate change (Thompson & Sconnes 2009). Extreme weather in sub-Saharan Africa like droughts and flooding limit farmer's ability to grow crops and rear livestock, farmers and herders will have no choice than to adjust to changes in water regimes to maintain their food production and well-being (Kebede, Hasen & Negatu, 2011). Recent literature on food insecurity has also linked climate change and conflict to be a real problem especially in Sub-Sahara Africa (Martin-Shields & Stojetz, 2018). The incessant herders-farmers' clashes have been proposed to be as a result of climate change.

It is expected that sub-Saharan Africa would be more likely affected by climate change than other regions of the world. The temperature in the region is becoming very high, and the livelihood of a larger share of the people in the region depends heavily on rain-fed agriculture. While

comparing with other regions of the world, sub-Saharan Africa is the least cultivated area with irrigated farming. Irrigated farming contributes only to 5% of the total cultivated area of the region, it 37% in Asia and 14% in Latin America (Ringler, Zhu, Cai, Koo, & Wang, 2010). The report by (IPCC) provides evidence with strong scientific proof that suggests the realness of climate change and the threat it poses on the economy, social, and environment. Global warming is unequivocal as is now obvious from research that there is an increase in average global air, temperature, sea level, and widespread melting of snow (Connolly-Boutin & Smit, 2015).

Over the years, Africa has lost her position of being an exporter of food into being a net importer with the highest malnourished people in the world. The high level of importation of food has also contributed to chronic food insecurity that affects almost 28% of the continent population, which is nearly 200 million people; more so, this has also increased the number of people dying from hunger (Clover, 2003).

Climate change: A conceptual Discourse

Climate change can be defined as any change in climate over time whether due to natural variability or as a result of human activity, which alters the composition of the global atmosphere (IPCC, 2007). Thus, the change in the composition of the global atmosphere may be slow, unseen and difficult to notice for a long time, which may be directly or indirectly caused by different activities by a man in addition to natural climate variability over time (Antwi, 2013). The impacts of climate change are already being felt on biodiversity, human systems, and the entire global ecosystem (Kotir, 2010).

Concept of food security: Availability, access, and utilization

The concept of food security has been transformed from its initial definition and meaning, particularly as the rate of food insecurity soars globally. FAO definition of food security is widely regarded as the most complete definition. The organization defines food security as

“When a situation exists that allows all people have physical, social and economic access to sufficient, safe and nutritious food that meets daily