

Challenges of Animal Production and Food Security in Nigeria

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ABSTRACT

Animal production plays a significant role in rural livelihoods and the economies of developing countries like Nigeria. They are providers of income and employment for producers and others working in, sometimes complex, value chains. They are a crucial asset and safety net for the poor, especially for women, and they provide an important source of nourishment for billions of rural and urban households. These socio-economic roles and others are increasing in importance as the sector grows because of increasing human populations, incomes and urbanisation rates. To provide these benefits, the sector uses a significant amount of land, water, biomass and other resources and emits a considerable quantity of greenhouse gases. Managing the required intensification, food insecurity and the shifts to new value chains is also essential to avoid a potential increase in food-borne and other diseases. Food security and growth in agricultural output depends on technological usages, which enhances the productive capacity of the agricultural sector. The study explored the challenges of animal production and food security in Nigeria with an attempt to explore the current trends in food production as it relates to food security in Nigeria.

KEYWORDS: Animal Production, food availability, food security, Animal products, food production

INTRODUCTION

The small size of micro or mini-live stock animals means a small amount of input per unit, which in turn means more flexible production. Back yard food production such as mini-livestock can be a major contributor to a more balanced diet for both rural and urban people (Aboluwade, 2012). In recent times, raising of live stock by rural household is becoming popular due to the fact that the household has realized the need to diversify their source of income, thereby reducing the risk involved in depending on crop production as the main source of income (Olugasa et al., 2013).

Animal production offers the prospect of an alternative income source once the volume of production exceeds what the producer wishes to consume, for example, domesticated 'bush-meat' is still highly ranked in terms of taste and preference, and there is no doubt that a market exists if necessary intensive management techniques, including domestication, can be developed. Adebayo and Adeola, (2005) for example, pointed to the demand for bush meat, including many mini-live stock, in Nigeria. There is also clear evidence of an international demand for meat to supply ethnic restaurants around the world, not always legally (Devendra, 2007), which may have positive implications for the long-term profitability of some live stock species. Live stock can also be easily raised in an urban setting and represent a possible option for urban farming which is a system gathering momentum in many countries and which can provide food and revenue for poor people (Zhou, 2012).

Animal protein intake is quite low in developing than in developed countries and the level of meat and animal protein consumed by Nigerians is estimated at 6g per person per day which is about 29g less than the minimum of 35g daily requirement recommended by the Food and Agriculture Organization (Yatoo et al., 2012). Indeed there is need to bridge the wide gap between protein requirement and actual protein consumed by the people which are not sufficiently supplied by crop production

(Devendra,2007).Unfortunately,theconventionalandregularsourcesofanimalprotein supply in the country like beef,pork,go at me at and poultry are getting out of reach of the common populace due to the economic down-turn.There is therefore the need to look in ward and integrate into our farming system some non-conventionalme at sources (Sanniet *al.*,2001).

Livestock production in Nigeria had been predominantly rural untilrecently when development in husbandry and breeding for improvement wasgiven a prominence of place. Generally, livestock husbandry plays a veryimportant role in the development of a nation. The limited supply of animalprotein in tropical countries like Nigeria is primarily the result of low productivity owing to traditional management rather than small numbers of animal. The trendis likely to continue unless animal production is expanded to areas not nowutilised and production efficiency through improved breeding greatly increased(Stifel, 2016). Domestic animals are the main source of man’s protein requirements.Proteins are also obtained from plants such as groundnuts, cowpea, pigeon peaand Soya beans, but plant protein is in some respects inferior to animal protein.To live a healthy life, men must consume adequate amount of animal protein inaddition to plant proteins which is normally obtained from vegetables. Apart fromproteins, man needs foods rich in minerals (calcium, iron, phosphorous andvitamins) (MacRaeet *al.*, 2005).

Most of rural Nigerians have low income. Consequently their standards ofliving are very low. The rural Nigerian diet is rarely balanced. Some of them areincapable of maximum production at work and play.The Food and Agriculture Organization (FAO) estimated that 52 millionpeople worldwide were under-nourished in 2000 – 2002 as a result of lack ofprotein (MacRaeet *al.*, 2005). The Food and Agriculture Organization also recordedthat in 2000-2002, there were 19% under-nourished people in developingcountries, including Nigeria (MacRaeet *al.*, 2005). Like many developing countries of theworld, Nigeria is faced with the problem of malnutrition particularly in terms ofprotein intake. As the cost of livingin the country rises, the problem of malnutrition becomes even acute. It isapparent that the minimum of 65gm of protein per day recommended by WorldHealth Organization (WHO) is yet to be attained in Nigeria. Rather, the per capita consumption per day has been found to be about6.5gm which is only 10% of the WHO recommended level. It has, however, been confirmed by both agriculturalists and nutritioniststhat developing the livestock production is the fastest means of bridging theprotein deficiency gap presently prevailing in the country. Althoughthere has been some increase in local production of livestock, the demands forlivestock products still far exceed the required supply. Irrespective of the high demand, many farmers involved in livestock business to meet the increasingdemand, hardly expand their stock (Devendra,2007, Stifel, 2016).

The major problem facing the livestock production in Nigeria today is the inability to grow at a rate that is fastenough to cope with the human population. Sustainable livestock productionanywhere in the world is faced with a myriad of problems but that of Nigeria as atropical country is unique because of the special characteristic of a tropical region. Most livestock farmers see livestock as a hobby ratherthan a business. Devendra (2007) noted that among the factors which limitedlivestock production in the tropics are diseases and parasites, the heat andhumidity of the climate, low genetic potentials of the indigenous animals, poorfeeding and management, lack of training and experience of the local people inanimal husbandry and absence of the infrastructure necessary to supply theneeded inputs for production and distribution.The overriding importance of agriculture in the socio-economicdevelopment of Nigeria makes it imperative that greater emphasis must beplaced in agricultural growth and development. Consequently, over the yearsgovernment at all levels has placed priority on food security and sustainableagriculture through commitment in financing agriculture and putting up programmes aimed at improving agricultural production (Devendra,2007). The problem of food scarcity is not only limited to the emerging markets, but

it is a problem faced by developed countries as well. The proportion of the prevalence of malnutrition and people who suffer from food insecurity are found in rural areas of the emerging markets. For a country to be food sufficient, it needs to make food available, provide easy access to food at any given time, and provide households or families with the ability to afford staple food (Olugasaet *al.*,2013).

Achieving food security is central to a reduction in starvation and hunger as well as attainment of the Sustainable Development Goals (SDGs). Food security has been conceptualized in different but complementary ways. The World Bank defined it as a condition where everyone has access to sufficient food to live a healthy and productive life. The Africa Bureau of the United States Agency for International Development (USAID) defines it as a situation when everyone has physical, social, and economic access to sufficient food to meet their dietary needs, produce, and stay healthy(Olugasaet *al.*,2013). According to the Food and Agricultural Organization (FAO), food security exists “when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”. From the above perspectives, food security entails a production of diverse, safe, and nutritious food that can sustain the consumption demand of the population; the aim of this paper is to explore animal production and food security in Nigeria. It also requires that availability of food is backed by consumers’ purchasing ability to acquire desired food varieties that promote their well-being and wellness. Meeting this goal in the face of myriad development challenges confronting Nigeria remains a daunting exercise(Olugasaet *al.*,2013).

FOOD SECURITY AND ITS CHALLENGES IN NIGERIA

Attaining food security in its entirety poses a huge challenge in a country like Nigeria, as a result of a wide spectrum of problems. More than 90 per cent of agricultural production in Nigeria is rain-fed with about 79 million hectares of arable land, of which 32 million hectares are cultivated (Olugasaet *al.*,2013). Both crop and livestock production remains below potentials. Despite a seven percent growth rate in agricultural production (2000 to 2008), the growing population is dependent on imported staple food (e.g rice, beans) exemplified by increase in food import bill. First and foremost, the primary cause of food insecurity in developing countries is the inability of people to gain access to food due to widespread poverty and unemployment, which also inhibits purchasing power and prevents assured access to food supplies. Secondly, global food prices have risen dramatically in the last few years and are forecast to rise further or become more volatile (Olugasaet *al.*,2013). Food price volatility has exerted considerable pressure on global food security, and many Nigerians depend on market for their food supply and vulnerable to high food prices. Related to high food prices is a high cost of input which limit yield and production levels that many time lead to sub-optimal input utilization. For instance, fertilizer consumption in Nigeria is one of the lowest in sub-Saharan Africa at 71g per hectare (Olugasaet *al.*,2013). Thirdly, the inherent characteristics of climate that manifest themselves as changes of climate over a period time affect food security significantly in unpredictable ways as a result of their detrimental effect on pests, crops diseases, crop production, animal husbandry, and humans. Changing climatic conditions affect both the physical and the economic availability of certain preferred food items. Their impacts on income-earning opportunities can affect: the ability to buy food, the availability of certain food products, and price. Changes in the demand for seasonal agricultural labour, consequent upon changes in production practices, will in turn affect income generating capacity(Olugasaet *al.*,2013).

Fourth, farmers in Nigeria also have limited access to credit, and less than 10 per cent of irrigable land is being irrigated. Fifth, the global economy is knowledge-driven and food system efficiency is dependent heavily and directly on agricultural technological innovations and innovations in relevant sectors. Nigeria’s adult literacy level is 54.5 per cent (NBS, 2009). However, the rural poor who are the active stakeholders in food availability account for 33.4 percent and are mainly involved in subsistence

farming. The violence has also affected the state's trade in Kola. The upsurge in violence has made it difficult for farmers in Kano to market their produce due to persistent insecurity in the capital city (Olugasa *et al.*, 2013).

Finally, the apparent inconsistency in government's targeted policy intervention and implementation strategies further compounds the problem of food security. For instance, weaknesses and threats to Agricultural development in Nigeria include: (a) Poor access to credit, technical inputs, machines and farm implements (i.e. fertilizers, seeds, pesticides, tractor, plow, harvesters etc) by farmers (b) Degradation of agricultural natural resources especially soil and water bodies. (c) Poor infrastructure (i.e. rural roads, water supply, storage facilities and market infrastructure) (d) Bad and inconsistent government policy (e) Poor budget allocation to agricultural sector (f) Poor and inadequate irrigation facilities (g) Uncontrolled grazing and livestock migration in some areas and (h) Poaching and settlement within protected areas and bush fires. For the genuine transformation of Nigeria agricultural sector in order to make it relatively more attractive to people (especially the youth and unemployed), it is recommended that all tiers of government (Federal, State and Local), as well as public and private organizations should sincerely adopt policies and strategies that will address and reduce the above weaknesses and threats to agriculture (Olugasa *et al.*, 2013).

At the production stage, certain factors affect the quantities and types of food produced. Likewise, food security activities like land clearing, crop production, animal husbandry, food processing and preservation and food distribution which lead to the production and release of GHG (such as carbon dioxide, methane, and nitrous oxide) cause global warming and impact on climate change.

THE NIGERIAN GOVERNMENT RESPONSES TO FOOD SECURITY CHALLENGES

Majority of the rural populace depends on agric-related activities for their livelihood, the appraisal on the past shows that successive administrations in Nigeria had initiated programmes towards ensuring food is available and accessible for the teeming population. The sustenance of idea is to fulfill their mandates has remained a dream. It includes Farm Settlement Scheme, National Accelerated Food Production Programme (NAFPP) by Gen. Yakubu Gowon; Operation Feed the Nation by Murtala/Obasanjo administration; River Basin and Rural Development Authority; Green Revolution and World Bank funded Agricultural Development Project (ADP) by Shehu Shagari and Babangida's Directorate for Food, Road and Rural Infrastructure (DFRRI).

Despite these efforts, agriculture has been constrained by numerous challenges like rural-urban migration, wavering policy formulations, implementation, insufficient infrastructural support poor input distribution system, focus on oil economy; pricing system; over dependence on rain-fed farming; poor capacity utilization, low investor's confidence; environmental degradation, poor access to funds; poor socio-economic status of farmers, insufficient technological transfer system, corruption and poor commitment to implementation of agricultural policies. Therefore, for Nigeria to transform as one of the 20 leading economies in the world by

2020, an agricultural revolution should be the catalyst to its industrialization. Besides, the targets of the MDGs of reducing hunger and poverty and sustainable development can only be attained through increased attention to agriculture, food security and sustainable water resource development by the flaws of the past, The current global food predicament by late Yar'Adua's Goodluck administration took a proactive measure by outlining agriculture as part of his agenda and vision 2015 of curbing hunger and poverty to improve the lives of 140 million Nigerians. Over ₦134 billion approved for Agriculture in the 2008 budget is a clear testimony. The Federal Government constitutes National Economic Council and Federal Executive Council for practical and positive intervention towards eliminating hunger. So far, the intervention resulted in the release of ₦80 billion from the Natural Resource Development Fund for

importation of 500,000 metric tones of rice from abroad and 11,000 metric tones of grains to complement the local output.

NIGERIA ANIMAL PRODUCTION IN THE LIGHT OF ITS MILITATING FACTORS

- 1. Access to veterinary services-Vaccines and drugs:** Most animal production activities are located in rural areas or remote areas inaccessible to proper veterinary services and many that are accessible find the high cost of veterinary services prohibitive. Sub-standard and all manner of low quality drugs and vaccines are in the market now and can easily be purchased and used by practically almost everyone (Babalobi 2005, Olugasa *et al.*, 2013). In order to have a viable and good animal production system in the country the government should subsidize veterinary services to farmers.
- 2. Animal diseases:** Livestock diseases remain a veritable threat to the animal production industry. Animal products are constantly under threat by diseases that affect livestock and hence reduce productivity (MacRae *et al.* 2005). Endemic animal diseases such as Helminthosis, Contagious Bovine Pleuropneumonia (CBPP), brucellosis, mastitis, peste des petits ruminants (PPR), and many others have devastating impacts upon the animal industry leading to losses in hundreds of millions of dollars every year in developing economies like Nigeria (Bamayi 2012, Bhat *et al.* 2012). Brucellosis alone in sheep and goats of Borno and Yobe states of Nigeria is estimated to cost the economy USD 3.2 million annually (Brisibe *et al.* 1996).
- 3. Attitude to animal production;** People's attitude to animal husbandry and production is very poor. Some young people in Nigeria think animal production is only for the elderly or sometimes retired government staff but youths are known to do very well in animal production when they diligently go into it (Agbola *et al.*, 2013). Some believe that animal production is for illiterates or the jobless in the society unlike what is obtained in developed economies where the wealthy and educated are leading the way in animal farming with animal farm empires. When the attitude of the people is wrong one can only expect a decline in the rise of the animal production industry. Attitudinal change is a sine qua non for improved animal productivity in Nigeria.
- 4. Capital:** One of the most crucial factors of production known to man is capital. Capital is needed to set up an animal production and processing farm and capital is needed to sustain productivity. One of the major constraints of the animal industry especially in developing countries like Nigeria is capital. Financial inadequacies have led to slow growing animal industries or moribund ones or even destroyed animal production industries. Low income earners who dominate the animal industry are not able to cope with the demands of the industry especially when production is not at its optimum level. Apart from the poultry industry most of the animal production activities in Nigeria are concentrated in the northern part of the country which has an even lower income power than the southern part (McKay 2012).
- 5. Climatic and environmental factors:** Certain climatic factors are natural and some are man-made due to human activities but affect animal production (Yatoo *et al.* 2012). In the northern part of Nigeria desert encroachment is already a major environmental problem (Akinbami *et al.* 2003). Animals are an important part of the renewable energy for the country which is beneficial to the environment but with human activities such as deforestation this potential is diminished as animal production is affected. One of the reasons for constant deforestation is the failure of the government to provide alternative reliable sources of fuel for the people (Odihi 2003).
- 6. High cost of animal feeds:** Nutritious animal feeds are essential for full development and productivity of animals. Animal feeds are not readily available and where they are they are not easily affordable for an average farmer. Since farmers go into animal production for profit they need to obtain feed at a price where they do not only break-even: but also make reasonable profit

(Vriens *et al.* 1989). Many livestock and poultry farmers compound their own feed themselves for their farm animals but they face the challenges of raw materials for compounding the feed which may be very expensive or unavailable.

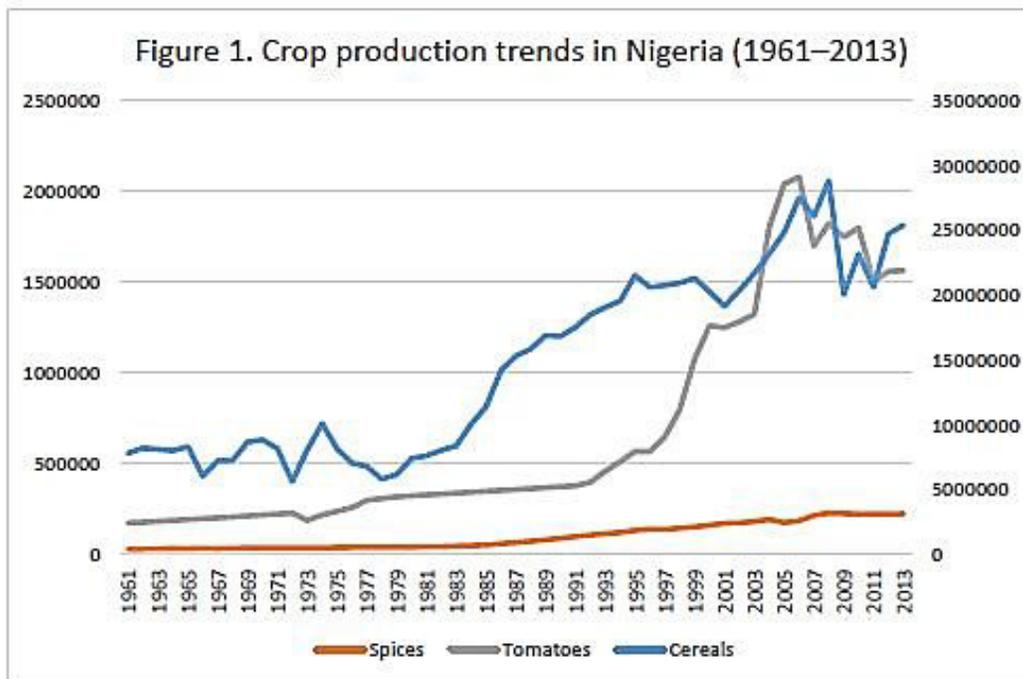
7. **Inadequate basic infrastructure:** Many African countries have problems with infrastructure for animal production (Van der Zijpp 1999) and Nigeria is not an exception. There is generally a lack of proper mechanized animal farming using modern infrastructure such as improved milking machines that could reduce the incidence of diseases like mastitis and good animal houses to help productivity of the animals by focusing on intensive farming instead of allowing small ruminants for example, to roam about scavenging for food and the large ruminants invading crop farms in the community and destroying harvests meant for human consumption—an issue which has often been a source of communal conflicts.
8. **Inadequate Extension services:** Extension services are crucial in promoting good agricultural and farming practices among our animal industry stakeholders. The livestock industry can produce more than it is doing currently if the farmers are well enlightened on certain aspects of production. Extension workers provide technical advice to farmers on techniques for maximum productivity and advise on market related matters with the ultimate aim of ensuring the farmers succeed in their chosen vocation and contribute meaningfully to the economy of the nation (Davis 2008).
9. **Inadequate manpower:** There is a short supply of, especially, skilled labour in the animal production industry in Nigeria for example in some quarters one man does the work of many people leading to inefficiency in productivity. This is a point for major concern because of the potentials of a nation of over 170 million people (Population 2012). If more people are encouraged to go into animal production like in China (Zhou *et al.* 2012) Nigeria will have adequate manpower involved in animal production. There is inadequate labour supply in the country and many times farmers have to hire temporary workers or forfeit it at the detriment of their farms due to costs (Ude and Salau 1987). It is gratifying to note that women like their men counterparts are actively involved in animal production in Nigeria (Adekanye 1984, Porter 1995). But in spite of all these the manpower is still inadequate for the industry and for sustainable animal production.
10. **Level of education of farmers:** It is a well-known fact that most farmers have a low level of education or are even illiterates making it difficult for them to employ modern animal production techniques where traditional techniques have failed or yielded less profit. A study carried out in Osun state has found that education level had significant and positive relationship with average production (Adebayo and Adeola 2005). This means the higher the educational level of farmers the higher the productivity of their farms. Therefore, farms managed by educated entrepreneurs will perform better than those managed by illiterates.
11. **Market and storage facilities:** Market for animal products is crucial for the sustainability of the industry. The animal production market is poorly organized and often farmers lose instead of making profit because most animal products are perishable goods that expire within a short period of time. A rapidly developing country like China has over the years rapidly developed its animal production industry leading to a meat industry revolution with international processing and storage facilities good enough for local consumption of a large population and export (Zhou *et al.* 2012) which is a contrast to the situation in Nigeria with the largest population in Africa and significant animal population but the market and storage facilities are still mostly primitive.
12. **The Role of the Government:** The failed policies of the government are most of the times inimical to the progress of the animal industry. Sometimes politicians ban the importation of goods not readily available in the country in an attempt to help home grown industries but without providing viable alternatives. An example is the shortage of feeds and sky-rocketing high prices due to

scarcity of soya beans (*Glycine max*) and groundnut (*Arachishypogaea*) cake in the country (Adeniyi 2012).

- 13. Transportation:** Transportation is very important to the industry. Lack of access roads to farms and from farms to the market hampers the development of the animal production industry. The movement of animal products from production to consumption points requires good transport networks that are either not existing or in very bad shape in the Nigerian context (Ibitayo 2012, Gujbaet *al.* 2013). Many of the methods used in Nigeria for transporting ruminants from the north to the south of the country go against standard animal welfare procedures for the safety and welfare of the animals (Fraser 2008) because most times the animals are under undue stress as they are overcrowded in trailers for mass transport making them sustained traumatic injuries and stress that affects their health and productivity (Minka and Ayo 2007). There is a need to improve on these transport systems for maximum animal production because good transport is essential for food security (Pirie 1993).
- 14. Urbanization:** There is rapid urbanization in many developing countries which comes at a high price to animal productivity due to neglect of animal farming as a result of mass rural-urban drift for better standards of living and yet increased demand for animal products is the order of the day (Devendra 2007). A study has shown that from the year 1961 to 2001 there has been a dramatic increase in the consumption of meat in developing countries due to urbanization and industrialization (Fraser 2008). This urbanization is usually associated with higher income (Van der Zijpp 1999) which increases the purchasing power of individuals leading to higher demands for better quality food which entails a good amount of animal protein in the food unlike the normal rural food which has less animal protein and more carbohydrate and fats. Urbanisation also leads to constraints of space due to overcrowding arising from population explosion in the cities (Alirolet *al.* 2011, Lancet 2011). than 12 million people (Brimoh and Onishi 2007).

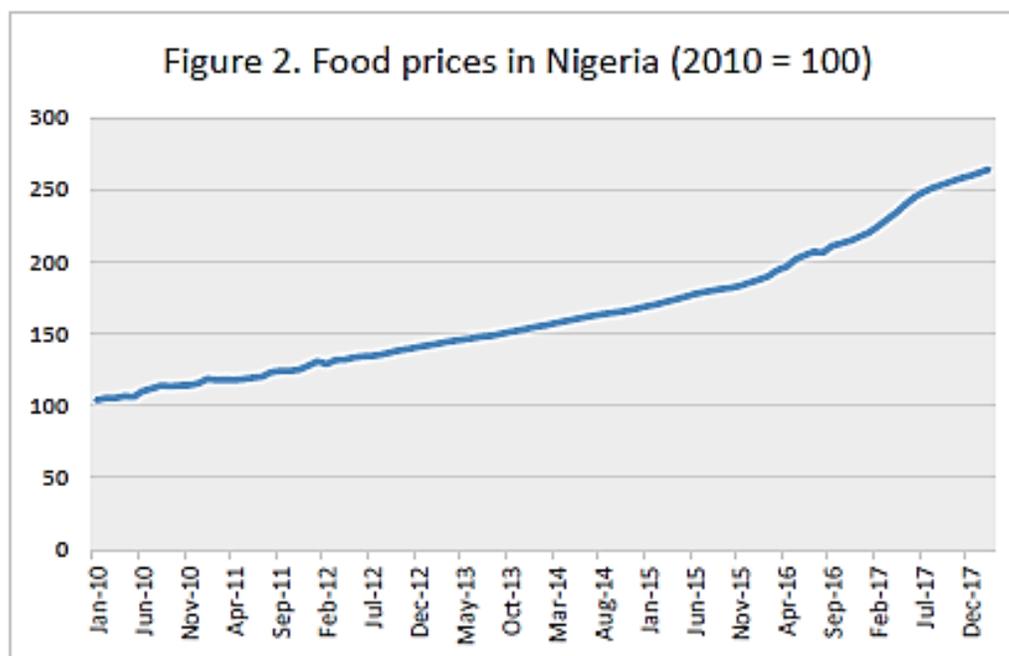
CURRENT TREND IN FOOD PRODUCTION

Nigeria is facing a lingering food crisis. Between 2008 and 2013, production of animal products declined by 11.8% from about 28.8 million tons to about 25.4 million tons. Also, spice (pimento and other spices) and tomato production shrank by 1.7% and 14.1%, respectively over the same period (Fig. 1). An observed decline in food production vis-à-vis a projected 2.7% annual population growth in the country poses a serious food security challenge. A recent joint stakeholders' report on the food insecurity situation in 16 states in Northern Nigeria indicated that over 3.7 million people are food insecure. Based on the report, a total of 3.5 million people are currently in food crisis while 999,959 are in an emergency situation in need of urgent assistance. This is more pervasive in the northeastern part of the country where a State (Borno) is said to account for over 50% of the burden. It is noteworthy that the actual food insecurity situation in Nigeria may be some percentage points higher than the one reported above given that the report did not capture the food security situation in the southern part of Nigeria.



Source: Odihi (2003)

Chief among the contributing factors to the persisting food crisis in Nigeria is the Boko Haram insurgency. Since the attacks escalated in 2009, hundreds of civilians have been killed with thousands of households in North Eastern Nigeria displaced and their farmlands and livelihoods completely destroyed. The nefarious activities of the insurgents contributed greatly to waning food production recorded since 2008 (Fig. 1). Given that cereal, spice, and vegetable crops are widely grown in the North, the destructive nature of the insurgency, aside from hampering farming activities in the region, also resulted in serious security challenges in transporting goods across conflict-prone states in the North to southern states. This places enormous constraints on the availability of essential staple foods especially in southern states. The general decline in food supply partly reflects in the upward food price trajectory witnessed between January 2010 and January 2018 (Fig. 2). Higher food prices without a corresponding increase in income would greatly impinge on food accessibility. This suggests that the existence of food insecurity is not peculiar to the northern states of Nigeria, but it is also present in the southern states. The loss of agricultural production due to Boko Haram’s activities is estimated at US\$3.5 billion; the total economic impact of the insurgency has been put at US\$9 billion. Compounding the food insecurity situation are the yet-to-be-resolved incessant clashes between herdsmen and farmers. The long-standing herdsmen–farmers face-off has generated civil unrest of varying dimensions and magnitude resulting in deaths and causing disruptions in agricultural activities. In most cases, the conflict is a loss–loss situation for both cattle herders and peasant farmers. The indiscriminate grazing of farmlands has cost farmers a great loss in farm produce, a protest by farmers especially the youth on the resulting damage, usually brings about hostile conflict leading to further loss of lives on both sides with evidence of high cases of cattle rustling. The crisis has destabilized food and meat production with a negative implication on food security in Nigeria



Source: Odihi (2003)

The underdeveloped nature of markets for agricultural produce in Nigeria is another factor posing threats to the food security situation in Nigeria. Food market infrastructure (e.g., good road network, storage facilities, marketing boards) are not readily available or rather underdeveloped in Nigeria. Existing markets in the country are too fragmentary and disintegrated from the farm. Most farmlands have no functional road networks that would make for easy transportation of farm produce from farm to the market. Consequently, most produce decays in transit before getting in the market. Facilities to store and preserve raw agricultural produce before shipping to the market are grossly inadequate. About 30 to 40% of food produced in Nigeria is wasted because of poor preservation capacity. This loss is estimated at about US\$8.9 billion annually. Postharvest losses have received great attention among agricultural research institutes and multilateral institutions in recent times.

Unattractive agricultural financing mechanisms limits enterprising initiatives along the agricultural value chains. Ensuring safe, available, and affordable food products requires a roadmap that actively promotes agricultural value chain development. This entails the development of initiatives that enhance the spring-up of agro-based industries in the areas of processing, packaging, storage, and marketing of agricultural produce. Current financing arrangements for the agricultural sector in Nigeria are mostly left in the hands of the financial institutions that always view agricultural ventures as unattractive and would rather extend credit to high-risk, high-reward ventures on a short-term basis. A recent report by the National Bureau of Statistics (NBS) indicated that the agricultural sector received only 3% of total bank credit allocation in the third quarter of 2017. This sectoral credit allocation to agriculture seems not far-fetched given the high lending rates of banks to the sector (which currently averages 18%). The Central Bank of Nigeria (CBN) Anchor Borrowers Programme which took effect in 2016, seeks to lend to smallholders farmers at lower interest rates (as low as 9%). However, the scheme has not been effectively managed given the high number of cases of default by farmers. It is important to note that current agricultural interventions are ostensibly limited to agricultural production (crops, fisheries, and livestock) to the neglect of the value chain—a strong lever of food security.

WAY FORWARD

To enhance the market for agricultural produce in order to solve the problem of food security, there is a need to invest massively in road distribution networks that connect farms to the market and to the cities. More can be achieved through innovative public–private partnership on infrastructure financing especially in the rural areas. Also, consideration should be given to the restoration and empowerment of the defunct marketing boards in Nigeria. Having an independent board with a mandate to buy and absorb agricultural produce from farmers during bumper harvests and preserve them to sell during postharvest periods can help minimize losses. More result-oriented approaches can be delivered through appropriate public–private collaboration that enhance value chain development. Making agriculture profitable remains key towards attracting funds to the sector, fostering innovations that encourage wide-scale mechanization, and enhancing value chains towards food and nutrition security in Nigeria.

CONCLUSION

Animal production has remained an important aspect of any economy. Viable agricultural programmes and activities in any nation are capable of sustaining the food supply and reserves needed for the welfare of the citizens. But in Nigeria, Agriculture is despised. Able bodied youngmen and women in Nigeria do not have interest in animal production anymore. Both the educated and the noneducated roam the nooks and crannies of the cities in the urban areas looking for non-existent white collar jobs. As a result of poor attitude to animal production, there is also this disequilibrium in the production, demand and supply of food. Government must cultivate local initiatives by promoting grassroots awareness on the importance of cooperative animal husbandry and farming which will result to greater gain of animal production and government should provide a platform for interaction with the local farmer in order to discover their problem and provide the solution.

RECOMMENDATIONS

The following are the measures towards animal production for food security for Nigeria's agriculture is recommended for implementation. To improve the basis for decision-making, a comprehensive mapping of agricultural potentials is needed taking the following factors into account:

- Suitable technological and management innovations should be provided for small and medium scale farmers.
- Water management measures should be put in place because resources like water that one can take for granted will soon be less available and cost more.
- The environmental footprint of agriculture needs to be reassessed in order to be reduced, including deforestation and bush burning as source of GHG emissions.
- The promotion of high-value and organic agricultural products, notwithstanding the fact that it serves a niche market, can boost farmers' earnings and potentially foreign exchange as it increases the availability of food and fodder.
- Policies should be designed to reduce the environmental footprint by encouraging waste conversion, use energy-efficient means of production and employ renewable energy from wind farms, solar, small-scale hydro and biomass.
- Extension education should be provided adequately.

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