

## Achieving food security in Nigeria by 2050

RA Sanusi, FO Samuel, O Ariyo and TE Eyinla  
 Department of Human Nutrition, College of Medicine,  
 University of Ibadan, Ibadan, Nigeria

### Abstract

**The Problems/Issues:** The level of food insecurity as of now in Nigeria is higher. The consequences in term of morbidity, mortality, malnutrition rates and epidemiological statistics are summarily high. While food production is inadequate and food export bill is rising, population and therefore demand is and will continue to rise. Several agricultural and related policies exist; however if concerted effort is not put in place now and strategies designed and developed, food security in Nigeria by 2050 will be at a very low and problematic level, affecting not only health but economy and social order.

**The Plan of actions:** Strategies to increase food production, food processing and preservation, strategic grain/food reserves, market and access, food price control, matching income with inflation rates, involving public-private partnerships, cottage industries enabling environment need to be adopted, adapted, and coordinated to ensure food security on a long term, sustainable basis. A food cabinet similar to a war cabinet under the Presidency is recommended for success.

**Conclusions:** Planning is a first step in the right direction, however effective, efficient and measurable success depends on political will, adequate funding, prioritization, in-built strategies for sustainability, monitoring and evaluation. Security will guarantee not only food and nutrition security but also health and economic security.

**Key words:** Food security, public-private-partnership, sustainability, food production

### Abstrait

**Les problèmes :** Le niveau d'insécurité alimentaire est actuellement plus élevé au Nigéria. Les conséquences en termes de morbidité, mortalité, taux de malnutrition et statistiques épidémiologiques sont sommairement élevées. Tandis que la production alimentaire est insuffisante et que la facture d'exportation de produits alimentaires augmente, la population et en effet la demande augmente et continueront d'augmenter. Plusieurs politiques

agricoles et connexes existent ; toutefois, si aucun effort concerté n'est mis en place et que des stratégies ne sont conçues et développées, la sécurité alimentaire au Nigéria d'ici 2050 sera à un niveau très bas et problématique, affectant non seulement la santé mais aussi l'économie et l'ordre social.

**Le plan d'action :** Des stratégies pour accroître la production alimentaire, la transformation et conservation des aliments, les réserves stratégiques de céréales / aliments, le marché et accès, le contrôle des prix des produits alimentaires, l'adaptation du revenu aux taux d'inflation, les partenariats publics-privés, l'environnement propice à l'industrie artisanale, ont besoins d'être adapté et coordonné pour assurer la sécurité alimentaire sur une base durable et à long terme. Un cabinet alimentaire semblable à un cabinet de guerre placé sous la présidence est recommandé pour le succès.

**Conclusions :** La planification est un premier pas dans la bonne direction, toutefois, le succès efficace et mesurable dépend de la volonté politique, d'un financement adéquat, de l'aménagement des priorités, de stratégies intégrées de durabilité, de suivi et d'évaluation. La sécurité garantira non seulement la sécurité alimentaire et nutritionnelle, mais également la santé et la sécurité économique.

**Mots clés :** sécurité alimentaire, partenariat public-privé, durabilité, production alimentaire

### Introduction

Until recently, the absence or presence of hunger was the primary measurement by which many experts assessed food security as it applies to an individual's well-being. However Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life [1]. According to the Food Agriculture Organization [2] food insecurity refers to the consequences of inadequate consumption of nutritious food, considering the physiological use of food by the body as being within the domain of nutrition and health. The implications for health security are obvious. The depletion of Agricultural productivity has led to a transition in dietary pattern and eventually an epidemiological transition. Nutrition and Health are inextricably interwoven; there are the preventive and therapeutic functions of Nutrition in Health [3].



People eat food not nutrients, but in the assessment of dietary adequacy, we are more concerned with the latter rather than the former. Nutrition is ironically not prominently emphasized in the formulation and implementation of national development programs of many technically developing countries. Malnutrition is a major public health problem in Nigeria [4]. Considering the increase in the population which is placing pressure on natural resources, coupled with a dependence on importation of food instead of focusing on improved local production, the resultant high levels of food insecurity is not unexpected. It is none less expected that sustainable development is also stunted. The relationships between food (and nutrition) security and national development are directly proportional to each other. The improvement of the former will usually determine the occurrence of the latter, and vice-versa. What is still a deadlock in the Nigerian set up is an inability to fully convert wealth from oil revenues to improve the country's agricultural system. This concept note attempts to describe the present food security situation in Nigeria, examine the possible opportunities for improving the prevalent weaknesses and threats and finally provide an approach for attaining a food secure Nigeria by, or before, the year 2050.

### Situation analysis

The Food Agriculture Organization [2] suggests that for a country to have sustainable food security, food supplies must keep pace with increase in population and urbanization. With an ever increase in Nigeria's population especially coupled with rural urban migration (which reduces agricultural man-power), Food supplies have increasingly been burdened by higher demands and thus leading to an influx of imported alternatives. The emergence of oil sector and the substantial revenue accruing from the sector shifted emphasis from agriculture to the extent that even domestic food production is not given the desired attention. The government felt that it was better to import food than to embark on local production, especially when oil money has changed the preferences of most Nigeria in favor of foreign imported goods. Studies have shown the prevalence of food insecurity in Nigeria to be in the range of 29.3-70.0% across the states in Nigeria [5-8]. Some reasons are mentioned that specifically highlight the factors causing Food insecurity in Nigeria [9,10]: (a) Gender Inequality, (b) Policy inconsistencies and Corruption, (c) Poverty and Hunger (d) Conflicts (e) Natural Disasters and Climate Changes (f) Low level of Technology, (g) Poor Agric financing, Rural Urban migration (h) Post -Harvest losses.

The current Nigeria's National Strategic Plan of Action on Nutrition [11] identified 16 key activities that are crucial to achieving food security in Nigeria; these are (a) Capacity building of small scale farmers on the cultivation of high yield and micronutrient rich crops: cassava, sweet potato, sorghum, soybeans, cowpea, groundnut, (b) Production and promotion of the consumption of Vitamin A, and micronutrient rich foods (orange flesh sweet potato, pro-vitamin A cassava, yellow maize, iron sorghum, soybeans, cowpea, groundnut) (c) Production and promotion of the consumption of iron and zinc bio-fortified beans (d) Promote production and diversification of fruits and vegetables around the homesteads, schools, orchards and farms (e) Capacity building for food and nutrition teachers and food vendors on the need to provide nutritionally adequate meals using locally available foods through linkages of food vendors and school system (f) Capacity Building of Teachers (Agriculture, Home Economics and Food and Nutrition) on nutrition sensitive agriculture to ensure food and nutrition security in community schools (g) Promote Cooperatives, Saving and Loans Schemes so that beneficiaries can expand their businesses (h) Provision of starter packs for fruits and vegetable farming (in seven agro ecological zones) for 1 women for HH gardening (i) Provision of small ruminant starter packs (5 sheep/goats, concentrates, minerals and vitamins, vaccines and drugs) to women farmers (j) Produce IEC materials/ brochures value chain products, including nutritional benefits of consuming the products (k) Community nutrition programs for behavior change communication with focus on exclusive breastfeeding and appropriate complementary feeding practices (l) Promote micro nutrient fortification of common breakfast meals staple food crops (Legislate fortification of industrially processed rice, Noodles and Palm oil) (m) Promote improved food quality and safety through electronic and print media (n) Develop food rations or supplements to promote nutrition and health in emergency situation (o) Develop food recipes in line with the National Food Based Dietary Guidelines, and disseminate to schools, workplaces and food vendors (p) Institute a coordination platform for early warning mechanisms to cope with emergency at community level.

### Forecasts for 2050

(a) *worst case scenario*: if the situation remains as it is now (2018), the country will still remain food



Table 1: SWOT Analysis of Agricultural systems in Nigeria

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Superabundance of arable agricultural land. 70% of land in Nigeria is suitable for cultivation [12].</li> <li>• The climatic conditions are also conducive to produce variety of food and cash crops.</li> <li>• A large pool of human resources and technology is available to cultivate the land for food production.</li> <li>• Skilled human resources available from research and development institutions [13]</li> <li>• Existence of agriculture and food security policies, health policies and several relevant policies which are on the book.</li> </ul>	<ul style="list-style-type: none"> <li>• Peasantised, rain-fed agriculture,</li> <li>• Huge post-harvest losses,</li> <li>• Lack of food preservation and processing on a large scale</li> <li>• Poor marketing strategies</li> <li>• Inefficient infrastructure needed for transport and storage.</li> <li>• Unstable nature of policies and poor policy implementation are</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Tremendous potential for adequate food production, processing, preservation, storage, transformation to other products.</li> <li>• Strategic grains reserves are not available despite infrastructure.</li> <li>• A large and expanding domestic and international market for most of Nigeria's products is still yet untapped.</li> <li>• Substantial income from crude oil sales which could be channeled into various agricultural value chains for a better food security status. The potentials of petrochemical products such as fertilizers could reduce cost of production which will improve productivity [13]</li> </ul>	<ul style="list-style-type: none"> <li>• Post-harvest losses due to lack of industrial food processing.</li> <li>• Lack of basic social/industrial catalysts (electricity, water, enabling environment).</li> <li>• Climate change which is a slow but salient challenge been experienced globally.</li> <li>• More threatening are conflicts and civil insecurity witnessed in numerous parts of country.</li> <li>• Massive displacement of people in a nine-year-long conflict in the northeastern part of Nigeria is affecting 2.3 million people [14]</li> <li>• Herdsmen and farmers clashes affecting value chains of staples originating from the central part of the country.</li> <li>• In the southern parts of the country, absence of environmental friendly exploration of crude oil has left numerous communities without arable land and also water bodies without marine life.</li> </ul>

insecure by the year 2050 (b) *best case scenario*: if multiple strategies that complement each other as suggested are implemented, strengthened by security and elimination of corruptive wastages, Nigeria will not only be self-sufficient in food but will also generate income perhaps similar to income from crude oil by 2050 (C) *realistic forecast*: if some attention is generated, but no political will, some efforts will be put in place, the effect of which will be minimal on food and nutrition security. Therefore the food security situation as at 2050 may have improved by 10% to 15%.

#### Short and medium action plans

**Short Term Plans** (1 to 5yrs) A structure need to be built for the set-up and coordinating of strategies, institutions, funding, monitoring and Evaluation

**Deliverables**: (a) In the short term, an institution to coordinate issues of Food Security: Roads, Inputs into agricultural production (seeds, seedlings, cuttings and chemical inputs), Land clearing, Roads, Policy on strategic reserves, price control (b) Policy and infrastructure on processing and Preservation (Provision of electricity for the industrial base perhaps generating industrial electricity from the gas which is being wasted by flaring, and other feasible means!) (c) Adequate Security and the rule of law and order to guaranty safety of investment and continuity in policy

**Medium term (6 to 10 years)**: This will have to involve the private sector in order to be sustainable. It must also engage the large populations that are unemployed or under-employed. Is it possible to assist the farming force by providing means of



cultivation at a reduced cost, buy the produce at price which is controlled, store excess in silos, supply enough produce to industries, and provide the critical inputs of production at a cost? These will necessitate business models which are not consistent with government service, but are the *modus operandi* of the private, for gain ventures.

**Long term (15 yrs. and above);** Food production enough for the increasing population and enough to store to obviate any shocks (catastrophes, droughts etc). There is no need to re-invent the wheel; there are many nations that are currently food secure and also health secure. Let us study them and evolve our own strategy.

**Cost Estimates:** (a) short term: \$2/head/day\* population estimate (b) medium term: \$4/head/day/ population (c) Long term: \$5/head/day/population  
**Sources of Funding:** From the crude oil sales as security vote

**Monitoring and Evaluation:** External and Internal (UN Agencies, World Bank, Internal mechanisms specifically set up)

### Conclusion

Nigeria is currently food insecure, the best of the effort may be effective (for now), but increasing population, volatile food prices, alternate source of fuel may render the future into an era of near famine. Examples of counties that were once rich but now poor and unable to provide food and medicine for their population abound. Diversification of income sources and being food secure should move from the theoretical realms to practical experience. Food insecurity in Nigeria is not solely tied to underproduction (Nigeria contributes substantially to global production of roots and tubers, cereal, and legumes). Stepping up production is not a panacea or silver bullet for food insecurity in Nigeria, thus, an all-encompassing, holistic approach needs to be employed and advantages accruing to this synergy would be gotten [15]. Food wastage has also been indicated as a bane of food security in Nigeria, with reported food wastage of 0.81 million metric tonnes between 1995 and 2000 and this would reduce greatly if storage facilities are in place [16].

### References

1. Idachaba FS. Strategic and policies for food security and economic development in Nigeria. Central Bank of Nigeria, Lagos. 2006.
2. Food and Agriculture Organization (FAO). The state of food insecurity in the world 2012: Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition. Rome, Italy: Food and Agriculture Organization of the United Nations. 2012
3. Osamo NO. Interrelationship of Health and Nutrition in the Nigerian Environment. In: Atinmo T. and Akinyele IO, Eds. Nutrition and Food Policy in Nigeria: National Institute for Policy and Strategic Studies (NIPSS), Kuru, Jos, Nigeria, 1983.
4. Enwonwu CO. A review of Nutrient Requirements and Nutritional Status. In: Atinmo T. and Akinyele IO, Eds. Nutrition and Food Policy in Nigeria: National Institute for Policy and Strategic Studies (NIPSS), Kuru, Jos, Nigeria, 1983.
5. Sanusi RA, Badejo CA and Yusuf BO. Measuring Household Food Insecurity in Selected Local Government Areas of Lagos and Ibadan, Nigeria. Pakistan J Nutr 2006; 5 (1): 62-67.
6. Omuemu VO, Otasowie EM and Onyiriuka U. Prevalence of food insecurity in Egor local government area of Edo State, Nigeria. Ann Afr Med 2012; 11(3): 139-145.
7. Atoloye AT., Ogunba BO and Samuel FO. Spatial Pattern of Household Food Insecurity and Childhood Malnutrition in Akinyele Local Government Area, Nigeria. Int J of Health Sci 2015, 3(1): 235-250.
8. Ganiyu MO. and Omotayo AO. Effects of Livelihood Activities on the Households' Food Security in the Ogbomoso South Local Government Area of Oyo State, Nigeria. J Hum Ecol 2016; 56(1,2): 107-113.
9. Otaha II. Food Insecurity in Nigeria: Way Forward. Afr Res Rev 2013; 7(4): 26-35.
10. Agricultural Sector Food Security and Nutrition Strategy 2016-2025. Federal Ministry of Agriculture and rural Development (May 2017), Abuja.
11. National Policy on Food and Nutrition in Nigeria. National Planning Commission Shehu Shagari Way Abuja. 2001.
12. Omorogiuwa O, Zivkovic J and Ademoh F. (2014) The Role of Agriculture in the Economic Development of Nigeria. Eur Sci J 2014; 10: 113-147.
13. Nuga BO. and Asimiea AO. SWOT Analysis of the Nigerian Agricultural Sector. IOSR J Agric Vet Sci 2015; 8(4): 51-53.
14. Food and Agriculture Organization (FAO). Northeastern Nigeria- Adamawa, Borno and



- Yobe. Situation report-April 2018. [https://fsccluster.org/sites/default/files/documents/fao20nigeria20situation20report\\_april2020181.pdf](https://fsccluster.org/sites/default/files/documents/fao20nigeria20situation20report_april2020181.pdf). Accessed 22 February 2019.
15. Adegbola JA, Bamishaiye EI and Daura AM. Food security in Nigeria: Government's intervention and the place of effective storage. *Asian J Agric Rural Dev* 2011;1(393-2016-23903):56.
  16. Igberaese FI. and Okojie- Okoedo O. Food and hunger everywhere: A Nigeria Paradox of poverty. *International Review of Business Research Papers* 2010; 6(4): 90-100.