



Sustainable Management of Forest Resources: a guarantee of Food Security in Nigeria

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ABSTRACT

This paper provides information on the relevance of forests and tree-based systems for food security and nutrition, and indicates where there is a need to further quantify the roles of these systems, allowing proper integration of their contribution into national and international developmental policies.

It also highlights the important role of agricultural revamping in overturning the food insecurity problems that befell Nigeria and the coping strategies.

Keywords : [Food Security](#), [forest resources](#), nutrition, [hunger](#).

Introduction

The role played by forests and trees in the lives of many people appears obvious through the many uses made of tree products, including foods, medicines, fodder, fibres and fuels, and for construction, fencing and furniture (FAO, 2010). Indeed, forests and other tree-based production systems such as agroforestry have been estimated to contribute to the livelihoods of more than 1.6 billion people worldwide (World Bank, 2008).

Forests have sustained life on earth through the ages. They supply food, medicine, energy, shelter, fodder, wood and non-wood forest products and are a source of economic development for individuals and communities. They have cultural and spiritual values, protect biodiversity and conserve soil and water. Forests are indeed a source of life. Forestry can contribute immensely to food security in Nigeria if properly integrated with agriculture, fish and livestock production. Forests and tree-based agricultural systems contribute directly and indirectly to the livelihoods of an estimated one billion people globally. Wild foods are important for food security and nutrition while trees and forests are vital for their role in the provision of ecosystem services to agriculture. Despite this, the role of forests in supporting human food security and nutrition remain largely under-researched and understood. With food security and nutrition high on the agenda in many political and scientific spheres, it is crucial to understand the contribution of forests and trees to a food secure and nutrition-sensitive future. This improved understanding will be essential for building on synergies and minimizing trade-offs between biodiversity conservation and sustainable management of forest resources in order to feed an estimated global population of nine billion people by 2050 (Sunderland *et al.*, 2013).

Food Security and Nutrition

Food security exists when communities “have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for a healthy and active life” (Pinstrup-Andersen, 2009). Despite advances in agricultural production globally, approximately one billion people are still chronically hungry, two billion people regularly experience periods of food insecurity and just over a third of humans are affected by micronutrient deficiencies (FAO *et al.*, 2012; UN-SCN, 2010; Webb Girard *et al.*, 2012). While rates of hunger (insufficient access to energy) have been falling in many parts of the Nigeria, there has been little change in the rates of micronutrient deficiencies (FAO *et al.*, 2013). In particular, deficiencies of iron, vitamin A, iodine and zinc, are associated with poor growth and cognitive development in children, and increased mortality and morbidity in both adults and children (Black *et al.*, 2013).

Food insecurity in Nigeria

Unfortunately, the problem of food insecurity is still relevant in Nigeria. 1/6 of the Nigerian population suffers from chronic hunger; 3.8 million of them are children, who die every year as a result. The inability of Nigeria to provide the population with the required sustenance is mainly due to stagnation of agriculture. Another reason is low income of many families.

Causes of Food Insecurity

Food insecurity is a multifaceted problem. It is quite an uphill task discussing the driving factors for food insecurity in Nigeria. The following among others have however, been identified as the prime agents of food insecurity in Nigeria.

- **Insufficient Production**

While Nigeria only has a fixed area of arable land, its growing population will soon stretch land availability to its limits that it will not be able to sustain the population. The major problem here is that the agricultural sector has remained under developed and depended too much on primary agriculture system with degraded low fertile soils, less external farm inputs utilization and significant loss of food crops both before and after harvest, and lack of facilities for storage and preservation of food all of which have cumulatively contributed to price fluctuation of agricultural products (Ilaboya, *et al.*, 2012).

- **Inefficient Policies and Corruption**

Food insecurity has persisted in Nigeria and many developing countries because of inefficient policies especially with respect to agriculture, trade, economics and other adjoining sectors. If governments fail with these policies, hunger will naturally persist or even worsen. Indeed, many countries have failed in their efforts to develop due to failure to properly administer policies and initiatives which has connection to food (Behnassi, *et al.*, 2011).

- **Climate Change and Natural Disasters**

Global changing climate is another important driver of food insecurity that cannot be underestimated. Amongst other impacts, climate change is responsible for biodiversity loss in the ecosystem as well as other physical access (Adeagbo, 2012). Climate change has become one of the key divisor that is redefining the global food equation and thus having so much impact on the food security of particularly developing nations.

- **Low Technology for Processing and Storage**

The use of modern technologies in the production and distribution of agricultural products is very low in Nigeria so the sector depended more on manual labour for farm activities. This is because of lack of innovation in local technology, particularly as it relate to mechanization of agriculture to improve productivity. Additionally, local farmers can hardly afford imported technologies and lack maintenance capacity (Nwajiuba, 2013). Inadequate or lack of facilities to preserve food items such as cereals, yam, beans, etc. can result in wastage thereby further deepening the insecurity level of food. Also, lack of food processing apparatus sometime leave farmers with no choice than to consume significant fraction of their harvest within short period.

Nigerian Food Security Policy Review

The Nigerian government has come up with various strategies to improve the situation. Efforts are now been made to restore agriculture back to its original status before the oil boom and stamping out food insecurity (Ojo and Adebayo, 2012). Several policies and initiatives are now being developed with the aim of providing efficient framework to address food insecurity and malnutrition in Nigeria (Akinyele, 2009).

Strategies for Achieving Food Security in Nigeria

Going by its definition, food security however will not be achieved by simply increasing the production of food. Even when food is sufficiently available, a poor hungry man will remain food insecure as long as he cannot afford to buy it (Ogbonna *et al.*, 2013). Hence, all four components viz.; availability, accessibility, utilization and stability must be present. Efforts to combat food insecurity will therefore, not only make food available but also ensure that that people can consistently afford to make it ready for consumption.

The panacea lies in improving forest resource production; enhancing science and technology; building farmers capacity; facilitating access to the market; and good governance amongst others (Ilaboya, *et al.*, 2012).

Sustainable use of the forest resource base

Sustainable use of forest resources is critical for sustainable livelihoods. More sustainable use of natural resources has a direct impact on the improvement of natural capital. All people affect the environment, but the poor tend to be the most vulnerable to the effects of environmental degradation (FAO, 2010).

The development and sustainable management of forest resources is simply the process of managing resources derivable from the forest so as to ensure persistent and sustained availability of forest goods and services for the teeming global population. Unlike the past in which forest was treated with a wave of the hands as a result of finding them everywhere, forest resources in recent times are increasingly and significantly constituting prominent element in the national economies of many countries (Ojo and Adebayo, 2012)

Conclusion

We believe that forests, biodiversity conservation and agro-ecology should feature prominently in political and scientific discourse on agricultural production and the concomitant challenge of sustainable forest resources. Greater attention to the direct and indirect benefits of forest in food security, livelihoods and nutrition should enhance local and global efforts to end hunger and improve the nutrition of communities living in forested areas as well as those living in areas removed from forests.

Recommendations

To surmount this challenges, the government must go back to the drawing board to provide enabling environment through promoting decent employment in the agricultural sector and non-farm sectors as well as providing credit facilities to serve as platform for the most vulnerable to cope with the economic realities particularly in the rural areas. While social networking and cooperation among small holder farmers will give them a voice, the government needs to provide basic infrastructures such as access road and electricity and make education more accessible to build farmers capacity. Oil spillage and other industrial effluents constitute a major source of pollution of soil and water and other components of the environment, thereby reducing agricultural productivity. There is the need for government to develop a robust monitoring mechanism to control indiscriminate discharge of effluent. Lastly, modern science and technologies must be adopted to improve agricultural productivity.

References

- Adeagbo, M.O. (2012) Curbing the Menace of Food Insecurity in Nigeria's Democratic Setting. *International Journal of Economic Development Research and Investment*, 101-109.
- Akinyele, I.O. (2009) Ensuring Food and Nutrition Security in Rural Nigeria: An Assessment of the Challenges, Information Needs, and Analytical Capacity. *International Food Policy Research Institute (IFPRI)*, Abuja.
- Behnassi, M., Draggan, S. and Yaya, S. (2011) Global Food Insecurity: Rethinking Agricultural and Rural Development Paradigm and Policy. In: *Food Crisis Mitigation: The Need for an Enhanced Global Food Governance*, Springer Science + Business Media, New York, 91-125.
- Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., Ezzati, M., Grantham-McGregor, S., Katz, J., Martorell, R. and Uauy, R., 2013. Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet* 382: 427-451. [http://dx.doi.org/10.1016/s0140-6736\(13\)60937-x](http://dx.doi.org/10.1016/s0140-6736(13)60937-x)
- FAO, 2013a. Synthesis of Guiding Principles on Agriculture Programming for Nutrition. Rome: FAO. <http://www.fao.org/docrep/017/aq194e/aq194e.pdf>
- FAO, 2013b. Edible Insects: Future Prospects for Food and Feed Security. FAO Forestry Paper. Rome: FAO. <http://www.fao.org/docrep/018/i3253e/i3253e.pdf>
- FAO, 2013c. The State of Food and Agriculture: Better Food Systems for Better Nutrition. Rome: FAO. <http://www.fao.org/docrep/018/i3300e/i3300e.pdf>
- FAO, WFP, IFAD (2012) The State of Food Insecurity in the World 2012. Economic Growth Is Necessary But Not Sufficient to Accelerate Reduction of Hunger and Malnutrition. FAO, Rome.
- FAO, 2010. Global Forest Resources Assessment: Progress Towards Sustainable Forest Management. Rome: FAO. <http://www.fao.org/docrep/013/i1757e/i1757e09.pdf>
- Ilaboya, I., Atikpo, E., Omofuma, F., Asekhome, F. and Umukoro, L. (2012) Causes, Effects and Way forward to Food Insecurity. *Iranica Journal of Energy & Environment*, 3, 180-188.
- Nwajiuba, C. (2013) Nigeria's Agriculture and Food Security Challenges. *Agriculture & Food Security*, 45-53.
- Ogbonna, J.C., Nomura, N. and Aoyagi, H. (2013) Bioenergy Production and Food Security in Africa. *Academic Journals*, 12, 7147-7157.
- Ojo, E.O. and Adebayo, P.F. (2012) Food Security in Nigeria: An Overview. *European Journal of Sustainable Development*, 1, 199-222.
- Pinstrup-Andersen, P., 2009. Food security: Definition and measurement. *Food Security* 1: 5-7. <http://dx.doi.org/10.1007/s12571-008-0002-y>
- Sunderland, T.C.H.; Powell, B.; Ickowitz, A.; Foli, S.; Pinedo-Vasquez, M.; Nasi, R.; Padoch, C., 2013. Forests, food security, agroforestry. Series: CIFOR Discussion Paper. Publisher: Center for International Forestry Research (CIFOR), Bogor, Indon.
- UN-SCN., 2010. Sixth Report on the World Nutrition Situation: Progress in Nutrition. Geneva, Switzerland: United Nations, Standing Committee on Nutrition and International Food Policy Research Institute. http://www.unscn.org/files/Publications/RWNS6/report/SCN_report.pdf
- Webb Girard, A., Self, J. L., McAuliffe, C. and Oludea, O., 2012. The Effects of Household Food Production Strategies on the Health and Nutrition Outcomes of Women and Young Children: A Systematic Review. *Paediatric and Perinatal Epidemiology* 26 (Suppl. 1): 205-222.

World Bank, 2008. Implementation, Completion and Results Report (TF-50612) on a Grant in the Amount of SDR 3.7 Million Equivalent (US \$ 4.5 million) to Centro Agronomico Tropical De Investigacion Y Ensenanza (CATIE) for the Integrated Silvopastoral Approaches to Ecosystem Management Project in Columbia, Costa Rica, and Nicaragua. Washington DC: World Bank.