

PROSPECTS AND CHALLENGES OF ORGANIC FARMING IN NIGERIA: A REVIEW

ILIYASU, B. M.¹ and GARBA, A.^{2*}

¹Federal University of Health Sciences, Azare, Bauchi State, Nigeria

²Department of Agricultural Extension and Rural Development, Faculty of Agriculture, Federal University, Dutse, Jigawa State, Nigeria

*Corresponding Author: adogarbak@gmail.com

Abstract

Organic agriculture is currently becoming popular among Nigerian farmers after some years of neglect. Interest began to focus on it about a decade ago due to noticeable improvements in quality of yields and associated attractive prices of the products in the market. Progress is recorded even though not significant enough because only a small percentage of farmers were involved. This is traceable to low awareness and knowledge gap among the farmers on the paradigm shift to organic farming in recent years. The Nigerian government continue with the supply of inorganic fertilizer to farmers at a subsidized price with little attention to organic inputs supply while Non-governmental organizations and private farming entities are busy pushing for aggressive adoption of organic farming system among farmers because of the immense benefits associated with it.

Keywords: Prospects, challenges, organic farming and Nigeria

INTRODUCTION

Agriculture is one of the most important sector that contributes to the economic development for most of the Sub-Saharan countries including Nigeria. In Nigeria, this sector contribute more to the total output of the economy. In practice, Agricultural sector has contributed in the four major sectors, namely agricultural, manufacturing, oil/petroleum, and services. The agricultural sector is further disaggregated into crop production, livestock, forestry and fishing (Oni, 2013).

More, so with increasing demand for food to achieve food security and sustainable agriculture, Organic and biodynamic agriculture represent some of the various approaches to sustainable agriculture, and several techniques used in such methods (e.g. rotation of crops, inter-cropping, minimum tillage, integration of crops and livestock, mulching) are in fact practiced under various agricultural systems. However, various facts that makes organic and biodynamic agriculture unique, as regulated under various laws and certification programs is that: (i) almost all chemical and synthetic inputs are forbidden, (ii) genetically modified organisms (GMOs) are prohibited and (iii) soil binding crop rotations are mandatory, (Walia and Dhawan, 2022). Organic agriculture is a deliberate attempt at making the best use of local natural resources in an environmentally friendly manner. It relies much on ecosystem management which excludes external

input, especially the synthetic ones. Organic Farming started in Nigeria in the 20th Century before it fizzled out, then its practice mode was used by many other farmers of various ethnic groups in Nigeria, until the introduction of technology and chemical based type of agriculture. Organic farming is no doubt the best way to improve the future of agriculture not just in Nigeria, but worldwide. Organic farming does not just center on crop production but also on animal production. This type of farming has several specifications which have to be met before it can be considered up to standard. Crop farming and animal production each have laid down requirements and methods with which farming practices should be carried out, (FAO, 2023)

Moreover, organic farming reduces dependency on expensive chemical inputs such as synthetic fertilizers and pesticides. By utilizing locally available resources like compost and natural pest control methods, farmers can lower their production costs. This cost-effectiveness not only enhances profitability but also makes sustainable farming practices more accessible to small-scale farmers with limited financial resources. The export potential is another critical economic prospect. Nigeria's diverse agro-ecological zones allow for the cultivation of a wide range of crops that can meet international organic standards. With proper certification processes in place, Nigerian farmers could find new opportunities in exporting organic

products to Europe, North America, and other regions with high demand. Additionally, the growth of the domestic market cannot be overlooked. As urbanization increases and disposable incomes rise among Nigeria's middle class, there is a growing local market interested in healthy, organically grown food options.

The main objective of organic farming is to protect human and animal health without contaminating natural sources like water, air and soil. It emphasizes the use of management practices within the system in preference to the use of off-farm inputs (Ramesh et al., 2010) and thus relies on crop rotation, crop residues, animal manure, legumes, green manure, off farming organic waste and aspects of biological pest control (Bhattacharya, 2004). It involves diverse crop and livestock rotations, encourages the integration of multiple farm enterprises; encourages the use of leguminous crops for biological nitrogen fixation (Reganold and Watcher, 2016). Organic farming system is based on the management of soil organic matter, which in turn maintains the physical, chemical, and biological properties of soil (Ramesh et al., 2010). Organic farming combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life (IFOAM, 2010) and revitalize rural areas through emphasis on promoting a green economy. It reduces pesticide use, fosters soil biological activity, increases species abundance and richness (Hole et al., 2005 and Crowder et al., 2010); It reduces soil erosion, increases soil fertility, uses less energy and minimizes the gap between NPK addition and removal from the soil (Chhonkar, 2002). The objective of this paper is to identify the benefits and challenges of organic farming practices and Way forward to Promoting Organic Farming in Nigeria.

METHODOLOGY

Data were obtained mainly from secondary sources. These included publications of the Nigerian Organic Agriculture Network (NOAN) conferences and journal publications. Publication of International Federation of Organic Agriculture Movements (IFOAM), Food and agricultural organizations (FAO), Annual Abstracts of workshops and conferences proceedings also provided useful data. The types of secondary data collected included the benefit of organic farming, organic farming practices, challenges of organic farming and the way forward to organic farming practice in Nigeria. The data were presented under different subheadings for ease of understanding.

DISCUSSION

This provided an explanation of the organic farming practices, benefit of organic farming in Nigeria,

practice of organic farming and the challenges of organic farming in Nigeria and the way forward to Promoting Organic Farming in Nigeria. This is presented under the following subheadings for easy understanding.

Organic Farming Practices

The basic farming rules discussed below applies to organic crop farming. Advice a farmer when planting organic crops, the process should totally eliminate synthetic and chemical additions which could prove hazardous to humans and the environment. Below are the important tips to consider for successful organic farming.

1. **Healthy Soil.** This is the foundation to the success and break through of organic farming, in cases where it's the reverse, soil amendments with natural origin should be done for restoration of soil nutrients and structure. The natural health of the soil should be the priority of organic farmers at all times. For this reason, synthetic fertilizers and crop enhancing chemicals are not to be applied to the soil before, during or after planting as the use of Chemicals end up polluting natural water supplies as the chemicals eventually end up in water bodies like oceans and rivers. (Ibukun and Garba, 2024).
2. **Practice of crop rotation and cover cropping:** Crop rotation is a farming and cultural practice where different types of crops (especially from different families) are grown cyclical on a particular piece of land over a period of time (annually, biannually or perennially). This method helps maintain soil-nutrient balance because, while some crops may require certain nutrients from the soil, some other crops on that same soil could help deposit and thereby replenish these nutrients (F.A.O, 2023). Crop rotation could also help in the prevention of pest and plant diseases. Cover cropping is another farming practice which helps in repairing the soil; it replenishes the soil of its lost nutrients, help fight against diseases and pest, protects the soil against wind and water erosion. It can involve planting seasonal cover crops like oats, wheat, and rye to help heal, protect and improve the general health of the soil.
3. **Organic bio - pesticides:** The use of inorganic pesticides in any form is prohibited in organic crop farming. Synthetic pesticides have been proven to contaminate these crops. This in turn could be harmful to the consumers of these food crops. The pesticides which are allowed to be used in organic crop farming also have to be organic in nature. Various types of organic bio pesticides containing the required spices, herbs and fruits can be mixed made into a concoction and used to take care of the issue of pests. (Ibukun and Garba, 2024).

Benefits of Organic farming in Nigeria

Some of the benefits of organic farming in Nigeria are highlighted and reported by (Lydia and Akeem, 2023, Eva-marie and Matin, 2018, and F.A.O, 2023).

1. **Consumer demand for organic products:** The demand for organic food and products continues to rise as consumers seek healthier and more sustainable options. This trend is driving the expansion of organic farming worldwide.
2. **Promotion and Preservation of Biodiversity:** Organic farms typically harbor greater biodiversity compared to conventional farms. This diversity supports pollinators, natural pest predators, and beneficial microorganisms, contributing to ecosystem resilience and stability. Organic farming supports biodiversity by creating a favorable habitat for a wide range of plants, animals, insects, and microorganisms. It avoids the use of chemical pesticides that can harm beneficial insects and pollinators, contributing to the preservation of ecosystem balance.
3. **Environmental Conservation:** Organic farming promotes the use of natural resources and practices that minimize negative impacts on the environment. It avoids the use of synthetic chemicals, pesticides, and genetically modified organisms (GMOs), reducing soil and water pollution and protecting biodiversity.
4. **Soil Health and Fertility:** Organic farming focuses on building and maintaining healthy soils. Practices such as crop rotation, composting, and the use of organic fertilizers help improve soil structure, enhance nutrient content, and promote beneficial soil organisms. This leads to long-term soil fertility and sustainability.
5. **Healthier Food:** Organic farming eliminates the use of synthetic chemicals, pesticides, and GMOs, resulting in healthier and safer food products. Organic crops often have higher nutrient content and fewer pesticide residues, providing consumers with food that is free from potentially harmful substances.
6. **Climate Change Mitigation:** Organic farming practices, such as agroforestry, cover cropping, and carbon sequestration, can help mitigate climate change. Organic systems tend to have lower greenhouse gas emissions, conserve energy, and promote carbon storage in the soil, which aids in reducing the overall carbon footprint. Additionally, by avoiding the use of fossil fuel-based inputs.
7. **Economic Opportunities:** Organic farming presents economic opportunities for farmers in Nigeria. It allows for the cultivation of high-

value organic produce, which can command premium prices in local and international markets. Organic farming also promotes diversification and reduces farmers' dependence on costly synthetic inputs.

8. **Food Security and Resilience:** Organic farming systems often prioritize local inputs and resources, reducing dependency on external factors. By focusing on building healthy soils and diversified crop rotations, organic farming contributes to improved crop resilience, making farming systems more resistant to pests, diseases, and extreme weather events.
9. **Improved Water Quality:** Organic farming avoids the use of chemical fertilizers and pesticides that can contaminate water bodies. By minimizing the use of synthetic inputs, organic farming helps maintain water quality, benefiting both human health and aquatic ecosystems.
10. **Reduction of Water Pollution:** Organic farming practices, such as minimal tillage and cover cropping, help prevent soil erosion and runoff. This reduces the contamination of water bodies with sediment, nutrients, and harmful chemicals.

Challenges of Organic Farming in Nigeria

Organic farming has encountered quite a number of setbacks especially in Nigeria. These challenges are the reasons behind its slow progress in Nigeria. Lydia and Akeem (2022) identify some of these challenges to include:

1. **Lack of Organic Farming Resources:** Nigeria is grossly lacking in this regard as there are hardly any facilities which manufacture organic foods, value added organic semi processed foods, natural pharmaceutical of plant origin, supplements etc. most often than not organic farmers have to find a way to meet the organic needs of their farms. Also, securing organic breeds of animals for rearing as well as organic seeds for planting crops in Nigeria is a rather difficult task. There is no ready market for organically produce crops.
2. **Low Public Awareness:** Quite a number of people are not aware of organic farming practices in Nigeria. Neither do they understand the importance of organic farming to human health and the environment. This is perhaps a major challenge organic farming faces in Nigeria. A consumer who is not aware of the process and importance of organic farming will hardly seek out these products and market access for this crops.
3. **Low Level of Production:** Due to the difficulty in meeting the adequate requirements for organic farming, only few people are willing to venture into this kind of farming in Nigeria. Fewer farmers venture into organic farming on a commercial scale. Therefore the production of

- organic goods in Nigeria is quite low, is the understanding but the reality is that the yields in Organic productions are quite high where farmers never have indulged in fertilizers or use of chemical pesticides.
4. Fear of risk: There are more than enough products and services available for inorganic farming practices while there are few available products and services for organic farming in Nigeria. A lot of money is required for organic farming and should anything go wrong, the farmer stands to lose quite a large amount of money. A lot of farmers would prefer to stick with what they considered to be safer grounds rather than bear this risk.
 5. Inadequate Government Support: Nigerian government has not upgraded or advanced contribution budget to encourage organic farming practices. One of outstanding efforts into the Organic Agriculture is by NOAN Nigeria. NOAN stands for the Nigerian Organic Agriculture Network. It is a national umbrella body for organic agriculture in Nigeria. NOAN serves as a platform to promote and develop organic farming practices in the country. The organization works towards creating awareness about organic agriculture, providing training and capacity building for farmers, advocating for policies that support organic farming, and fostering collaboration among stakeholders in the organic sector, (Ibukun and Garba 2024). This is Critical or prime lacking is the Nigerian Organic Standards which will clearly attribute for the Organic farmers or Food business Operators to understand the guidelines or policy of undergoing this system and lack of state wise Organic Certification body which shall be cheaper in operation than other third country certification bodies. Nigerian Farmers or farmer base organization (FBO) are to be certified by framed Nigerian Certification body for the citizens. If the Crucial Indulgence of the agriculture Central Government gets involved in organic farming practices, it will definitely go a long way in promoting, developing and creating revenue for the farmers or food business Operators involved in organic farming in Nigeria (Awanindra, 2023). Increasing the popularity / importance / State wise economy development of organic farming in Nigeria is a process which can definitely be hastened by the involvement of the Nigerian present Government.

Way forward to Promoting Organic Farming in Nigeria

Promoting organic farming in Nigeria requires a multifaceted approach that involves policy reform, education, financial support, and community engagement. One of the foundational strategies is the development and implementation of supportive

agricultural policies. The food and Agricultural Organizations (FAO, 2023), has provided the following ways to promoting organic Agriculture:

- i. The government should establish clear regulations and standards for organic farming to ensure quality control and consumer trust. These policies could include incentives such as tax breaks or subsidies for farmers who adopt organic practices.
- ii. Organic Seed Selection: Every crop begins with seeds, so selecting organic seeds is crucial to producing organic yields. Organic production prohibits the use of genetically modified seeds. Organic seeds also must not be treated with inorganic compounds like synthetic fungicides. Industrial agriculture and the corporate agrichemical giants that profit from it have amassed great wealth from genetic modification of seeds and have drastically reduced the number of seed companies that provide organic seeds.
- iii. Maintaining Organic Crop Integrity: Farms don't exist in a vacuum: contamination from conventional fields can occur, potentially compromising the integrity of organic harvests. To comply with organic requirements, organic crops must not come into contact with conventional crops or be contaminated by pesticides and fungicides sprayed onto conventional fields. If contamination occurs, crops cannot be sold as organic, which can cause economic losses for farmers. Creating barriers between fields, for example, by planting trees or hedgerows, is one way to help prevent contamination.
- iv. Education plays a crucial role in promoting organic farming. Farmers need access to training programs that teach sustainable agricultural techniques, pest management without synthetic chemicals, soil fertility enhancement through natural means, and crop rotation strategies. Extension services can be expanded to provide on-the-ground support and continuous learning opportunities. Financial support is another critical factor. Organic farming often has higher initial costs due to the transition period from conventional methods.
- v. Providing low-interest loans or grants specifically targeted at small-scale farmers can alleviate this financial burden and encourage more individuals to switch to organic practices. Community engagement is essential for fostering a culture of sustainability. Public awareness campaigns can educate consumers about the benefits of organic products for health and the environment, thereby creating a market demand that encourages more farmers to go organic.
- vi. Additionally, establishing cooperatives among organic farmers can facilitate knowledge sharing, bulk purchasing of inputs at reduced

costs, and collective marketing efforts. Lastly, integrating modern technology with traditional agricultural wisdom can enhance productivity while maintaining ecological balance. Research institutions should be encouraged to collaborate with farmers in developing region-specific solutions that address unique challenges faced in different parts of Nigeria.

Conclusion

Organic farming products have well (if not the best) and healthy top-notch benefits for both humans, the environment, farmers of mother Nature and balance towards the Eco-diversity. It is certainly a farming practice which should be encouraged in Nigeria and given the necessary support to ensure its success especially by the Nigerian Government. The initial phase of setting the Organic Standards, State Wise Certification body, attaining other countries accreditation will require an expertise in the field and after which the consultant keeps to the annual surveillance state wise for effective implementation and training to updates in the Organic Codex universally.

REFERENCES

- Awanindra K.T. (2023). The Role of Organic Farming in Achieving Agricultural Sustainability: Environmental and Socio-economic Impacts. *Acta Biology Forum*. DOI: <https://doi.org/10.51470/ABF.2023.2.2.29>.
- Bhattacharya, P. (2004). Organic Food Production in India - Status, Strategy and Scope. *Agribios (India)*, Jodhpur, 01 – 182
- Chhonkar, P. K., (2002) “Organic farming myth and reality.” in Proceedings of the FAI Seminar on Fertilizer and Agriculture Meeting the Challenges, New Delhi, India.
- Crowder, D. W., Northfield, T. D., Strand, M. R. & Snyder, W. E. (2010). Organic agriculture promotes evenness and natural pest control. *Nature*, 466: 109–112.
- Eva-Marie M. and Martin Q. (2018). Organic Agriculture, Food Security, and the Environment. *The Annual Review of Resource Economics* is online at resource.annualreviews.org.
- Food and agricultural organizations FAO (2023). General Concepts and issues in Organic Agriculture. "Environment and Natural Resources Series No. 4." fao.org.
- Hole D. G., Perkins A. J., Wilson J. D., Alexander I. H., Grice P. V., Evans A. D. (2005). Does organic farming benefit biodiversity? *Biological Conservation*. 122: 113
- Ibukun, T and Garba, A. (2024). The role of Agricultural Extension on the use BTNL Organic Fertilizer in Nigeria. *Organic Agriculture for prosperity, wellness and Sustainability. Annual General Meeting and Workshops of the Association of organic Agriculture Practitioners of Nigeria (NOAN)*, Delta State, Nigeria. Book of Abstract.
- IFOAM (International Movement of Organic Agriculture Movements), (2010). Definition of Organic Agriculture. IFOAM <http://www.ifoam.org/growing/organic/definitions/doi/index.html>, and <http://www.ifoam.org>
- Lydia O, and Akeem T. (2022). Economic Efficiency of Organic Farming Adoption by Cocoa Farmers in Southwest, Nigeria. *International Journal of Agricultural Economics*. Vol. 7(1).
- Onu Timothy Olukunle (2013). Challenges and Prospects of Agriculture in Nigeria: The Way Forward. *Journal of Economics and Sustainable Development* www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.4, No.16.
- Ramesh, P., Panwar, N.R., Singh A.B., Raman, S., Yadav, S.K., Srivastava, R. and Rao A.S., (2010). Status of organic farming in India. *Current Science*, 98 (9): 1190-11194
- Reganold, J. P. and Watcher, J. M. (2016). Organic agriculture in the twenty-first century, *Nature Plants*, 2, 15221
- Walia,S.S. Tamanpreet Kaur and Dhawan, A.K. (2022). Organic Farming: Prospects and Constraints: A Review. *Indian Journal of Ecology* (2022) 49(3) (SI): 1129- 1151, DOI: <https://doi.org/10.55362/IJE/2022/3641>.