

ORGANIC FARMING IN NIGERIA NEED FOR POPULARIZATION AND POLICY:

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Abstract: In Nigeria, certified organic farming (OF) is still in its infancy, hence there is need for its popularization and policy. Organic farming is therefore a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. Its major aim is for the production of safe, highly nutritious food and long term sustainability of the environment. Researchers have discovered that chemical fertilizers and other agro-chemicals used in conventional agriculture destroy the environment by altering the natural balance of the ecosystem and in many cases affect food quality with the intake of minerals such as lead or excess copper by crops which are dangerous for human consumption. This leads to deadly terminal diseases.

The paper highlights the benefits of organic farming which include environmental conservation, economic self-reliance, increase in fertility of the soil, prevention of soil erosion, at the same time protects the human and animal kingdom from the side-effects of chemicals and synthetics and thereby promotes long life. Most Nigerian farmers do not seem to be interested in these benefits but more interested in production of more food to meet with the demands of Nigeria's teeming population, hence, they concentrate on conventional agriculture. Many farmers in Nigeria practice Organic Farming (OF) by default and do not practice certified organic farming. However, Nigeria produces organic farm inputs such as organic fertilizer and Compost Plus (a pure, natural and biodegradable humus for soil fertility) and some products of organic farming such as local rice (ofada), honey, black soap made from natural herbs and wood ash, etc. Organic farmers market was launched in Ibadan, Oyo State, Nigeria in December, 2014. There are many OF stakeholders in Nigeria such as Organic Farmers Association of Nigeria, which coordinates the activities of Nigeria's organic farmers, etc. Organic farmers experience constraints which include lack of technical knowhow, standardization of natural substances for use in agriculture, unavailability of market for sale of organic

produce, lack of government support for organic farming, etc. The paper suggested that Nigerian governments and private sector should consider the solutions proposed for constraints of OF in Nigeria which include availability of organic fertilizer at affordable prices, availability of market for sale of organic produce, enlightening producers on the new emerging markets attracting higher premium for such products, etc.

The paper recommended review of current agricultural policies and programmes and removal of deterrent to organic agriculture for example, subsidies on agrochemicals; establishment of Department of Organic Agriculture in higher institutions of learning, training of extension workers in OF practices, among others.

INTRODUCTION: Increased long term productivity of their farm system with the notion that chemical fertilizer destroys the of farming soon came to be known as “organic”. Organic environment by altering the natural balance of the agriculture is a form of agriculture that excludes the use of ecosystem, farmers saw the potential detriment of synthetic fertilizers and pesticides, plant growth regulator industrialized farming and rejected the idea that this was and livestock feed additives . International Federation advancement in agriculture. They developed methods that of Organic Movement (IFOAM) describes organic and practiced farming as stewards of the land. This type of agriculture as a holistic agricultural system that combines animal manures and green manure, cover cropping, traditional innovation and science to benefit the shared application of compost, legumes, mineral-bearing rocks to environment and promote fair relationships and a good feed the soil and supply plant nutrients. Organic fertilizers quality of life for all involved. Oyeniran defines organic agriculture as the process of producing food worm castings, peat moss, seaweed and guano and they are naturally. It is based on minimal use of off-farm inputs and are mainly used to enrich the soil through nitrogen management practices that restore, maintain and enhance fixation from atmosphere by bacterial nodules on plant ecological harmony. Organic farming has become one of the roots as well as phosphorus content of soil.

the most favoured options for the production of safe, It uses natural regulation and crop diversity to highly nutritious food and long term sustainability. prevent pests and diseases. Pest control in organic The concept of OF avoids the use of synthetic farming is also done without synthetic pesticides. Organic pesticides, herbicides, chemical fertilizers, growth farmers use a wide range of integrated pest management hormones, antibiotics or gene manipulation and the idea practices to prevent pests and diseases. These include behind OF is 'zero impact' on environment hence the crop rotation and nutrient management; presence of motto of the organic farmer is to protect the earth's predators and natural enemies of pests, using cover crops resources and produce safe, healthy food. Use of and growing healthier plants. Natural pesticides such as chemical fertilizers is one of the causes of climate change soybean oil, rotenone, pyrethrum, spinosad and neem can and one of the ways of mitigating climate change is by be used to control serious pest attacks recycling and re-using household materials, rather than (<http://www.articlesbase.com/article-tags/sustainablethrowing> them out or burning them. In order to alleviate farmingsanitation). These remove pest habitat; provision such threat, soil management must ensure the of habitat for beneficial organisms; selection of pestsustainability of the agricultural production environment, resistant crops and animals; crop protection using hence OF is a better option for productivity, better physical barriers, such as row covers; and crop management of soil and sustainability. diversification through companion planting or Organic farming emphasizes the use of management establishment of poly cultures. Additionally, these practices in preference to the use of off-farm inputs, methods provide other benefits such as soil protection taking into account that regional conditions require and improvement, pollination, fertilization, season locally adapted systems. Hence, the primary goal of OF is extension, water conservation, etc., weeds and other pests

to optimize the health and productivity of interdependent are managed by mechanical cultivation and cultural, communities of soil life, plants, animals and people. Muller biological and bio-rational controls. Organic farmers [4] advocates that an organic production system is integrate cultural, biological, mechanical and physical designed to a) enhance biological diversity within the tactics to manage weeds without synthetic herbicides whole system; b) increase soil biological activity; c) ([http://en.wikipedia.org/wiki/Organic farming](http://en.wikipedia.org/wiki/Organic_farming)). However, maintain long-term soil fertility; d) recycle wastes of plant organic agriculture practices cannot ensure that products and animal origin in order to return nutrients to the land, are completely free of residues but these methods are thus minimizing the use of non-renewable resources; e) used to minimize pollution from the air, soil and water. rely on renewable resources in locally organized Organic food handlers, processors and retailers adhere to agricultural systems; f) promote the healthy use of standards that maintain the integrity of organic agriculture soil, water and air, as well as minimize all forms of products. pollution that may result from agricultural practices. All over the world, organic food accounts for The philosophy of organic food production maintains approximately one or two percent of gross food sales [5]. certain principles such as biodiversity, ecological balance, The author also reported that in Germany, almost all baby sustainability, natural plant fertilization, natural pest foods are completely organic and in some places, up to a management and soil integrity. Hence, the principal third of all bread is baked using organic ingredients. guidelines for organic production are to use materials and Organic farming is developing rapidly and practiced in practices that enhance the ecological balance of natural more than 120 countries of the world. In 2007, there systems and that integrate the parts of the farming system were over 26 million hectares managed under organic into an ecological whole which helps to sustain agriculture techniques worldwide (<http://> ecosystems and reduce pollution. The techniques that

organic farmers use include crop rotation, crop residues, [7], also reported that African countries like Uganda, Kenya, Tanzania, South Africa, Cameroon and Ghana Are planted on a rotating basis within the farm have gone far ahead of Nigeria in production of certified system. Cover crops such as clover are planted to organic food. Explaining the potential role of organic add nutrients to the soil and prevent weeds. agriculture in sustainable food security, Kazeem [8] noted Organic meat, poultry and egg products come from that organic agriculture is something that should be farms that use organic feed, do not administer added given priority in Nigeria because it is demand-driven as hormones to promote growth or any antibiotics and the products are needed in advanced countries. The they allow animals the space and freedom to behave Nigerian farming system was perceived as non-certified naturally. organic agriculture production [9]. Presently, most Nigerian farmers do not practice organic agriculture.

Benefits of Organic Farming

Environmental Conservation: Organic farming is preparatory stage of certified OF. environment-friendly and thereby helps in keeping the Nigerian governments and farmers are not interested environment clean and enhances good human and animal in OF either because they do not know the overwhelming health. reported that organic farming makes use of benefits of it or they are not aware of the new trend that refuse and waste in the environment to produce healthy agriculture has taken in the world today. An oral interview foods. This method of farming production was designed held with a researcher at National Root Crops Research to keep the nutrients in the system, to economize on the Institute (NRCRI), Umudike, Abia State, Nigeria (one of use of energy and reduce climate change effect as well as the renowned research institutes in Nigeria) revealed that generation of greenhouse gases. It therefore reduces they do not even have any research work on OF in their environmental pollution and promotes renewed uptake of

programme. Many higher institutions do not have organic nutrients from the soil.

farming in their curricula. The growing trend for organic Organic fertilizers such as bat guano, compost, peat products is definitely headed in the right direction and moss, wood ash and manure, vermin-compost, cow

Nigeria cannot afford to continually be an onlooker given dung, poultry manure are general soil amendments.

the socio-economic benefits of organic products. They improve the physical properties, the biological

Consequently, Nigeria needs to develop the process of status and prevents soil erosion. They do not burn or

certification of its products by the relevant authorities in harm plants and have long term positive effects on the

the world market. There is need, therefore, to review how soil without damaging ground water. Vegetative materials

far Nigerian farmers have gone in OF production and called mulch such as hay, peat moss, leaves, grass, bark

possible areas of emphasis in popularization process of wood chips, seed hulls and corn husks help to aerate the

the system of production among Nigerian farmers. soil, insulate the soil against temperature change and add

The purpose of the review is to highlight organic needed nutrients [13]. By nature, organic fertilizers

farming in Nigeria, benefits of OF such as: environmental provide increased physical and biological storage

conservation, health, economic self-reliance, employment mechanisms to soils, reducing risks of over fertilization.

generation, reduction of rural-urban migration, capacity It avoids nutrient exploitation and increases soil

building in organic farming and constraints OF is organic matter content.

Consequently, soils under organic

experiencing and suggest areas of improvement in agriculture capture and store more water than soils under

achieving certified organic farming in Nigeria. The paper conventional cultivation. Many studies have shown that

relied on literature and participant observation. nitrates leach out at slower rates in organic farms than

Principles of Organic Agriculture:

According to USDA tags/sustainablefarming). [14], believes that production ORGANIC , generally organic food products: in organic farming system is thus less prone to extreme

Are grown or raised by a producer who uses weather conditions, such as drought, flooding and waterpractices

in balance with the natural environment, logging.

using methods and materials that minimize negative [15], also reports that organic farming reduces the

impact on the environment. vulnerability of the farmers to climate change. It was also

Are produced on land that has been free of known observed that the most important of the advantages of OF

and perceived toxic and persistent chemical is that it maintains the life of the soil, not only for the

pesticides and fertilizers for at least three years prior current generation, but also for the future generation.

to certification. It was also observed that organic plots have significantly conventional farms,greater number of earthworms, biomass, soil aggregate

Organic farming creates employment, transfers

stability and population diversity than conventional plots. knowledge and improves access to high value markets.

Through composting, organic farmers can bring nutrients Agriculture is the main employer in rural areas and wage

from the cities back to the farmland. labour provides an important source of income for the

Organic farms had higher abundant and a wider poor. Thus, by being labour intensive, organic agriculture

variety of natural enemies to pests that affected the crops, creates not only employment but improves returns on

which led to better pest control labour. A study was carried out by Alimiet *a/*. (2006) to

(<http://www.articlesbase.com/article-tags/sustainable-> determine the change in net income of users of commercial

farming). Using such agro-ecological practices helps organic fertilizer (UCOF) relative to non-users of organic

farmers to intensify and increase production without fertilizers (NUF) in vegetable crop production in Osun

necessarily depending on chemical pesticides and State, Nigeria to find out whether the use of commercial fertilizers, which again reduces their risk to become organic fertilizer should be encouraged based on poisoned by pesticides. The life of organically grown economic reason only. Analyses indicated that UCOF plants is longer than the plants cultivated by applied 610kg ha⁻¹ of commercial organic fertilizer conventional methods. resulting in additional yield (3,375kg ha⁻¹) and rate of

Health Benefits: Organic food is natural and enhances of organic fertilizer technology economically superior to good health and promotes long life. Products of OF are non-use of organic fertilizers [19].

wholesome foods that assist in the management of non-communicable diseases such as diabetes, cancer

Organic Farming in Nigeria: Majority of small scale and hypertension [16]. EPa in Other-Agri, Plant-Crops farmers (about 70 per cent of the population) practice [17] reports that a French study has revealed that organic agriculture by default either because of the the nutritional quality and micro-nutrients are present prohibitive costs of chemical fertilizers and other in higher quantities in organically produced crop. agrochemicals [20, 21] or as a habit because according to The nutrients promote good health. The same author the farmers, organically farm produce store longer and reported that organically grown food tastes better too. taste better than inorganic farm produce. They produce This agrees with the findings of the author during an oral non-certified organic products, not purely organic interview with some farmers in Anambra State, Nigeria as according to modern organic farming principles and some regards to their reasons for practicing organic agriculture. of the farmers adopted the use of animal droppings as

Financial Benefits: Financially, farmers choose organic reported that they do not teach OF to farmers according

methods of agricultural production for a variety of to the modern methods but do so through alley farming reasons which include the possibility of reduced input (farming in the garden path or park). costs among others. One of the attractions of organic Presently, in an effort to achieve food security for 162 farming is that it sometimes brings a 10-30% higher million people in Nigeria [17]. Nigerian governments are premium in the marketplace. According to Eyhorn [18], advocating massive use of inorganic fertilizers by Nigeria first, organic farming comprises highly diverse farming farmers; hence there are more distribution of inorganic systems and thus increases the diversity of income fertilizers so they could be readily available to farmers. sources and the flexibility to cope with adverse effects of Nigerian governments have not shown any interest in climate change and variability, such as rainfall patterns. certified OF, instead they are promoting inorganic farming. This leads to higher economic and ecological stability So far, only one state governor in Nigeria, Governor through optimized ecological balance and risk-spreading. Gabriel Suswan of Benue State got interested in organic Secondly, OF is a low-risk farming strategy with reduced farming and has procured tractors for farmers at input costs and, therefore, low risks with partial or total subsidized rate and secured a one billion Naira crop failure due to extreme weather events or changed (N1,000,000,000) loan to be distributed to farmers for conditions in the wake of climate change and viability. farmers who are interested in OF. In addition, higher prices can be realized for the produce However, many Nigerian farmers practice nonvia organic certification. Higher farm incomes are thus certified OF through which they produce some organic possible due to lower input costs and higher sale prices. products such as local rice (ofada), honey, black soap The coping capacity of the farms is increased and the risk made from natural herbs and wood ash. Certified organic of indebtedness is lowered. agriculture is at present poorly developed in Nigeria

returns (401%) over and above the NUF, making the use of manure. Even, some of the extension agents interviewed, although there are recent moves for the production of a local non-governmental organization, the products of certified organic crops. According to AdeOluwa (2010) are being distributed to small scale farmers to "create [1], organic agriculture in an organized manner is still wealth from waste". The products are now in high demand in the country, with less than five years of demand among organic farmers in Ondo and Oyo States experience. Certified organic agriculture has already of Nigeria where more farmers practice certified organic started in Nigeria especially in the western and farming. southwestern states and few areas in the southeastern states. Nigeria had 3,154 hectares under organic farming,

Market for Organic Products in Nigeria: In most parts of Nigeria, there is little knowledge on organic food.

The first certified organic farm in Nigeria is products. Kazeem also reports little knowledge of Eurobridge at Odogbolu, Ogun State. The farm, certified organic vegetables in Southwestern Nigeria according to the author is currently producing five although, Dipeolu, *et al.* [12] reports awareness of products for local and export markets. Hence, Nigeria can importance of organic food products among food boast of few organically produced food products such as consumers in Southwestern Nigeria. He also reports that lemon grass tea, under the trade mark of Daradara herbal in southwestern Nigeria, most consumers had prior tea, *Tumericcucuma longa* for food seasoning; the knowledge of organic farming, had seen and eaten organic product is like ginger; *Ofadarice* (Nigerian indigenous vegetables before. About one-third of them were willing rice), Red hibiscus (*Hibiscus sabdariffa*) for a local soft to pay extra for organic vegetables. Many of the drink production (popularly known as *Sobo*). Other respondents agreed with the healthier, better quality organic farm products include: tropical fruits, herbs, characteristics of organic vegetables. The local rice

spices, mushrooms, cashew, fruit juices, quail, guinea (*ofadarice*), one of the organically produced crops is in fowl, chicken, cane rats, snails, ginger, turmeric and water high demand in Lagos and other southwestern part of the melon. An organic kiosk has been established at country. Organic farmers market was launched in University of Agriculture, Abeokuta, Nigeria which has Ibadan, Oyo State, Nigeria in December, 2014. (Health of been in the forefront in the promotion of organic Mother Earth foundation (HOMEF), 2014). These agriculture in Nigeria [8]. indications show that in the event of extensive Traditionally, farmers engage in composting to cultivation, there is a ready market in the southwestern supply organic fertilizers at the subsistence level to their part of Nigeria. farms. Organic farmers in Nigeria rely heavily on crop residues, animal manures, legumes, green manures,

Capacity Building in Organic Farming in Nigeria:

organic wastes and mineral-bearing rocks to feed the soil According to Sanniet *al*, since 2004 when organic and supply plant nutrients. Nwachukwu, also reported agriculture movement was initiated in Nigeria by the crop rotation practice, planting of indigenous varieties, University of Agriculture, Abeokuta, over 30 universities, application of compost, mulching of crops, intercropping, polytechnics and Colleges of Education and private mixed cropping, use of crop residues, animal manuring, organizations have joined in promoting sustainable planting of legumes, green manure, off farm organic waste, development of the organic sector. Initial efforts were minimum tillage and alley cropping as the technologies in geared towards advocacy, skill development and capacity organic agriculture in Imo State. OlusegunObasanjo building. Between 2007 and 2008, structure curriculum on Centre for Organic Research and Development organic agriculture was developed and circulated among (OOCORD), in collaboration with agronomists at the over 50 universities in the country. Currently, the University of Ibadan have developed organic fertilizer University of Agriculture, Abeokuta, University of

from waste products generated in large quantities in urban Calabar and Kebbi State University now teach structured centres and raised awareness of importance of organic courses at the undergraduate level, ranging from 100 to produce to the health of Nigerians. Earth Care Nigeria 500 levels. The awareness campaign involved the joint Limited Company produced Earth care Compost Plus effort of Olusegun Obasanjo Centre for Organic Research which is pure, natural and biodegradable humus for soil and Development (OOCORD), Nigerian Organic fertility. This method duplicates the rejuvenation of the Agriculture Network (NOAN) and a foreign partner, soil without loss of planting time. Integrated organic Agro-Eco Louis Bulk Institute. Concerned people fertilizer processing plants have been installed at strategic (OOCORD, NOAN and Agro-Eco Louis Bulk Institute) places in some parts of Nigeria such as Oyo and Ondo have called for experts who are much more experienced to States. And with the intervention of the Nigeria Network assist Nigeria in building up a network and a system that for Awareness and Action for Environment (NINAFFE), will endure. The expanding market for organic produce creates University of Agriculture, Abeokuta, Nigeria in opportunities for Nigerians to make decent livelihoods collaboration with Coventry University, UK through self-employment in agriculture. Most of them articulated the programme, The Work, Learn, Earn are unable to access this opportunity because they Programme (WELP) for developing entrepreneurship lack skills in organic agriculture and entrepreneurship. in organic agriculture among graduates in Nigeria. The University of Agriculture, Abeokuta, Nigeria in World-Wide Opportunities on Organic Farms collaboration with Coventry University, UK articulated (WWOOF), which offers volunteers the chance to the Work, Learn, and Earn Programme (WELP) [7]. gain short term experience on organic farms. Such The aim was to equip Nigerian graduates with opportunities as selling most of its farm produce,

entrepreneurial skills leading to the establishment of while some go into humanitarian and personal sustainable and profitable organic agricultural enterprises. consumption; a 30 hectare farm growing fruits, food Under this programme, 23 graduates were trained in 2009 crops and livestock production organically. and 69% of them opted to start their own small scale OlusegunObasanjo Centre for Organic Agriculture businesses in organic agriculture. The enterprises Research and Development (OOCORD), which was preferred were; vegetable production (30%), marketing of established in 2007 and is the first of its kind in organic produce (26%), poultry or snail production (13%). Nigeria. It focuses on research and development in The management of the Nigerian Export Promotion organic farming. Council in collaboration with ECOCERT, an International Organic Agriculture Project in Tertiary Institutions in Certification Agency organized a one-day training Nigeria (OAPTIN), which organized a pioneering programme on organic products and certification. In a network in 2004. Its activities focus on capacity workshop/training held in the University of Agriculture, building, dissemination of research findings via Abeokuta, Nigeria, the middle cadre staff of Agricultural annual conferences and networking of academics in Development Programmes (ADPs) nationwides were organic agriculture. trained so they can in turn train the farmers. Nigeria Network for Awareness and Action for

Organic Farming Stakeholders in Nigeria: Nigeria organization that assisted in distributing organic appears to be at the early stage of the development of fertilizers to small scale farmers to “create wealth from organic agriculture, with very few farms or projects waste”. claiming to be organic and even fewer operating a “Nigeria Go Organic”, which is currently focusing on recognized form of certified organic agriculture [1]. a campaign for “Ibadan Go Organic”, organic However, there are many organic agriculture stakeholders beekeepers, snail keeping, etc.

that are involved in organic activities in one way or the Food Basket of Nigeria, producing various crops other: arable and cash crops in small holdings using mainly International Federation of Organic Movement Earth Care Nigeria Limited is one of the first organic (IFOAM) is an organic movement whose mission is product manufacturers in Nigeria. The company to lead, unite and assist the organic movement in its produced Earthcare Compost Plus which is pure, full diversity all over the world including Nigeria. natural and biodegradable humus (the building block Nigerian Organic Agriculture Network (NOAN), of organic agriculture) for soil fertility. which was formed as an initiative of OOCORD and Dara/Eurobridge Farm, which is the known pioneer designated to be an umbrella body for organic organic farm in Nigeria that produces lemon grass, agriculture activities in Nigeria in August 2008. Its turmeric, plantain and medicinal herbs. function is to network organic agriculture Lautech Agricultural Services Ltd, a Nigerian organizations in Nigeria. NOAN also serves as a link university company in partnership with the National body between organic agriculture stakeholders in Poverty Eradication Programme (NAPEP) to enhance Nigeria and international bodies interested in organic living standard as social responsibility. Produces fair agriculture. Membership is drawn from farmers, trade and organic, tropical fruits, herbs, spices, scientists, processors, exporters, individuals, mushrooms, cashew, fruit juices, quail, guinea fowl, institutions, NGOs and organizations that are key chicken, cane rats, snails, ginger, turmeric, lemon players in the organic agriculture sector in Nigeria. grass, golden and water melon. Environment (NINAAFE), a local non-governmental organic means.

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All Nigeria Organic Farmers Association, a co- **Delays in Acceptance of Nigeria Organic Products in the** operative formed to assist local farmers in learning **World Market:** Potential buyers of the products in organic systems. Nigeria need considerable efforts to assure their Organic Farmers Association of Nigeria, which confidence; and standardization of natural substances for coordinates the activities of Nigeria's organic use in agriculture because it is difficult to standardize farmers. natural substances [13]. Organic Fertilizer Association of Nigeria, which coordinates the activities for organic agriculture **Lack of Research:** An oral interview held with some staff fertilizer production. of research institutes by the author reveals that they do

Constraints to the Development of Organic Farming in Nigeria: *Low yields:* The basic criticism against organic out researches [17]. farms is that yields are 20% lower than conventional farms. One factor that contributes to lower yields in **Poor Local Marketing:** Organic farming thrives with organic farms is the presence of weeds. Several efficient marketing systems. Generally, many farmers have researchers have found higher weed densities and weed been discouraged from going into organic production biomass in organic farms compared with conventional because of the lack of or poorly developed local markets farms (<http://www.articlesbase.com/article-> for organic products. For example, majority of the organic tags/sustainable-farming). The results of a study carried farmers in West Africa focus on export markets but out by Nwajiuba and Akinsanmi [17] in Abia, Nigeria cannot afford third party certification which makes it shows that with about 5% lower yield in OF, inorganic difficult to get good premiums from the sale of their fertilizer added about 20% to costs of production in organic products. conventional farming.

Additional Labour Demand: There is additional labour certification as a result of cost made most farmers in West demand in OF because of higher presence of weeds. This Africa, Nigeria inclusive to go for third party certification

requires 10% more labour in man-hours. Labour scarcity which they cannot even afford and costs are problems in the area. This can be a serious limitation to widespread recommendation of organic **Lack of Information**

on of Activities: There is little farming. information on OF activities in many of the countries

Lacks of Technical Know-how: Nigeria lacks technical have become interested in OF if they had access to know-how for OF. Agriculture officers, researchers, information showing how feasible it is to invest in the

extension officers, academics and lead-farmers are not yet practice. very familiar with the principles and practices of organic agriculture in a practical way in order to be able to train **Little or No**

Policies to Safeguard of Activities: One of the others. disturbing challenges that causes set back on OF is little

Difficulties in Use of Commercial Organic Fertilizer: governments.

Constraints to the use of commercial organic fertilizer *Indiscriminate use of agrochemicals and other*

include: doubtful efficacy, offensive odour, heavy weed *synthetic inputs* is not yet recognized as a serious infestation, bulkiness and lack of funds problem in Nigeria hence serious campaign on use of organic fertilizer

Lack of Awareness of of Techniques: Many farmers are on. aware of non-certified OF but not the modern methods [9]. **Lack of**

Institutional Support: Nigerian governments are

Result of interviews with some extension agents reveals more interested in inorganic farming and advocating

that they do not emphasize OF practices to farmers except massive use of inorganic fertilizers by Nigeria farmers.

through alley farming (farming in the garden path or park). There is conflict on use of organic inputs versus

High certification costs: Many organic farmers cannot promotion of inorganic chemical inputs and also difficulty

afford the cost of certification of organic agriculture since in obtaining organic materials in the quantity and time

they have limited access to capital. needed.

not carry out researches in OF; most universities also do.

Low Level of Organic Certification: Low level of organic in sub-Saharan Africa. Perhaps, more farmers would or no policies to safeguard OF activities by the inorganic fertilizer for increased agricultural production is

Lack of Appropriate Inputs: Sourcing of appropriate **CONCLUSION** inputs for organic farming is not easy because of lack of appropriate inputs such as bio-fertilizer and biopesticides.

Poor Private Sector Involvement in Organic Farming

System: The current level of involvement of the private sector in OF in Nigeria is very low. In other places of the world, private firms invest heavily in production, processing and marketing of organic products. The resultant effects are increased activities and the expansion of the organic farming sector.

Lack of Technical Assistance: In Nigeria, there are inadequate OF service providers. Often, farmers need technical assistance in terms of agriculture operators.

Possible Solutions to Constraints of Organic Farming in Nigeria:

The study suggested the following solutions to the challenges facing OF in Nigeria:

- Ensuring price transmission mechanisms that benefits the primary producer will encourage more production.
- Involvement of government for capacity building by teaching of new technologies/innovations on organic farming to extension agents for farmers.
- Extension agents should also undergo various field experiences related to organic agriculture in order to form a knowledge base.
- Provision of loan facilities to organic farmers.
- Availability of organic fertilizer at affordable prices.
- Provision of market for sale of organic produce and enlightening producers on the new emerging markets that attract higher premium for such products.

- Encouraging capacity building for key stakeholders at different levels in the value chain.
 - Establishment of trade promotion and quality control organizations.
 - Promotion of increased exports of Nigeria's agricultural and other products under organic label and possible realization of higher premium.
 - Educating and sensitizing Nigerians on benefits of OF,
- Involvement of policy-makers, regulatory authorities, scientists and consumers in the campaign for organic agriculture.

Nigeria's traditional farming system has been organic by default, hence most Nigerian farmers are producing non-certified organic produce. Nigerian governments are not interested in organic farming hence there is no governmental support to the sector, instead, they are encouraging intensive use of inorganic farm inputs such as fertilizers and other agro-chemicals. Private companies are not interested in investing in OF activities either. There are no policies concerning OF in Nigeria. However, certified OF has started skeletally in Nigeria. Very few private companies, individuals and universities are involved in certified OF. So far, there is one certified organic farm, one centre for organic farming research and development, two organic fertilizer plants in Nigeria. There are no established organic produce markets hence the disposal of organic produce is still one of the limiting factors to OF in Nigeria. There are many OF stakeholders involved in capacity building, production, research and dissemination of information on OF. There are many constraints that militate against the growth of the sector.

Policy Recommendations Towards Sustainable Organic Agriculture Development in Nigeria:

Based on the findings of this study, the following policy recommendations were made:

Establishment of Department of organic agriculture in higher institutions of learning especially the universities of agriculture and colleges of agriculture.

Training extension workers in OF practices should be included in extension workers training programme curricula.

Indigenous OF knowledge, skills, technologies and crop varieties should be included in the modern OF activities in Nigeria. Researches on certified OF should be included in the programmes of research institutes and universities in Nigeria.

Set sustainable agriculture through organic practices as a priority.

Review current policies and programmes and remove disincentives to organic agriculture for example, subsidies on agro-chemicals.

Adequate and prompt funding of OF research.

Recommendation for Certified Organic Farming in Nigeria:

Based on the findings of this study, the following recommendations were also made for achievement of certification of OF in Nigeria:

The three tiers of government in the country should mount serious awareness campaigns to sensitize Nigerian populace on numerous benefits of OF especially on health, finance and environment as well as emphasize on its contributions in mitigation of climate change. This can be done through television and radio jingles, newspapers, posters, etc.

Build on indigenous knowledge in response and in partnership with farmers; and promote development of local and regional markets for organic products.

Private sector can get involved in supporting awareness campaigns for getting into organic agrobusinesses such as establishing organic fertilizer plants, agricultural commodity storage, processing and marketing, agricultural input supply and distribution; production of commercial seeds, seedlings, brood stock and fingerlings, etc.

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