



POLICY AND INSTITUTIONAL LANDSCAPE FOR ECOLOGICAL ORGANIC AGRICULTURE IN AFRICA

Project:

**Mainstreaming Ecological Organic Agriculture (EOA) Initiative into the Continental, Regional
and National Development Agenda in Africa**

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ACRONYMS AND ABBREVIATIONS

AFSA	African Food Sovereignty in Africa
ATA	Agricultural Transformation Agenda
ATPS	African Technology Policy Studies Network
AU	African Union
AUC	African Union Commission
AUDA	African Union Development Agency
BvAT	Biovision Africa Trust
CAADP	Comprehensive Africa Agriculture Development Programme
CBD	Convention on Biological Diversity
EAC	East African Community
EAOM	East African Organic Mark
EAOPS	East African Organic Product Standards
ECOWAS	Economic Community of West African States
EOA	Ecological Organic Agriculture
EOA-I	Ecological Organic Agriculture Initiative
EU	European Union
FARA	Forum for Agricultural Research in Africa
FGDs	Focus Group Discussions
FMARD	Federal Ministry of Agriculture and Rural Development
IAASTD	International Assessment of Agricultural Science and Technology for Development
IFOAM	International Federation of Organic Agriculture Movements- Organics International
INRAB	National Agricultural Research Institute of Benin
IPES-Food	International Panel of Experts on Sustainable Food Systems
IPM	Integrated Pest Management
ISFM	Integrated Soil Fertility Management
KIIs	Key Informant Interviews
MAEP	Ministry of Agriculture, Animal Husbandry and Fisheries
MINAGRI	Ministry of Agriculture-Rwanda
NEPAD	New Partnership for African Development
NGOs	Non-Governmental Organizations
NOAN	Association of Organic Agriculture Practitioners of Nigeria
OFPDD	Organic Fertilizer Promotion and Development Division
RECs	Regional Economic Commissions
ROAM	Rwanda Organic Agricultural Movement
SDC	Swiss Agency for Development and Cooperation
SDGs	Sustainable Development Goals
SSNC	Swedish Society for Nature Conservation
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
ZEF	Center for Development Research- Germany

EXECUTIVE SUMMARY

Over the years, there has been an unprecedented increase in the use of chemical agricultural inputs compelled by the increasing human population and food insecurity issues. This has adverse impacts on the ecosystem biodiversity and overall human welfare. As a result, Africa has been under increasing focus to improve agriculture and food production systems to make them more resilient and sustainable while increasing productivity. This has necessitated a shift from conventional agricultural production systems to ecological organic agriculture, as a better option. EOA actors have thus made remarkable achievements in influencing policies in different countries in Africa. For instance, Uganda has adopted their National Organic Agriculture Policy on November 27, 2020. The Ecological Organic Agriculture (EOA) Initiative is aligned with various strategic documents that focus on increasing agricultural production and ensuring sustainable environmental resource management such as the Sustainable Development Goals (SDGs), the Comprehensive Africa Agriculture Development Programme (CAADP), the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) among many others.

The overall goal of the initiative is to mainstream EOA into national agricultural production systems by 2025 in order to improve agricultural productivity, food security, access to markets and sustainable development in Africa. The primary objective of this study was to review and assess the policies and institutional frameworks aligned with the Ecological Organic Agriculture (EOA) Initiative in Nigeria, Senegal and Benin (Economic Community of West African States- ECOWAS region) and Rwanda (East African Community- EAC) and make recommendations on how they can be improved to support the EOA Initiative's integration into national, regional and continental agricultural programs and plans in Africa. The study used both primary and secondary data sources. Secondary data was gathered from publications and other online data resources through desk studies, while primary data was obtained from Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) conducted with relevant stakeholders in the respective regions.

Research findings indicate that some policies and institutions support organic agriculture in Africa. These range from agricultural, environmental and industrial policies as well as institutional frameworks, visions and strategic plans. At the continental and regional levels, various strategies and policy documents exist to support sustainable agricultural development, although they are not explicitly meant to guide and support EOA. These include: (i) Africa's Agenda 2063 which support sustainable natural resource management, biodiversity conservation, genetic resources and ecosystems as a key priority area for inclusive growth and sustainable development, (ii) the CAADP which advocates for systematic inclusion of EOA practices into national agricultural development plans and strategies, among others.

Policy review and analysis at country levels indicate that countries are at varying levels of adoption and institutionalization of organic agricultural practices and programmes.

In Nigeria, majority of the policies and institutional frameworks have no specific linkage or support on ecological organic agriculture, except for a few like the Organic Fertilizer Promotion and Development Division (OFPDD) under the Federal Ministry of Agriculture and Rural Development (FMARD), which is responsible for the development and promotion of organic fertilizer in the country. Most of the policies aimed at protecting and conserving the environment and biodiversity, which is a crucial component of EOA. Although some projects and programmes have been implemented to promote organic farming, EOA in Nigeria is faced with many constraints, including lack of technical know-how, delays in acceptance of organic products in the world market, low level of organic certification, poor institutional support by the government, and inadequate government policies to safeguard organic farming.

In Rwanda, organic agriculture has received support from the government (through government institutions for Extension, Rwanda Agricultural Board and Rwanda Bureau of Standards among others), though the local organic market is gradually developing in the country with organic products increasingly being seen in shelves of local supermarkets. Policy review indicates the presence of supporting policies and strategies, such as the *Girinka* program (one cow per poor family) implemented in 2006. This program aimed at reducing poverty and malnutrition in the country as well as providing of cheap organic manure for the farmers. Additionally, the Rwandese Fertilizer Policy (2014) is largely about the increased use of chemical fertilizers but contains recommendations and actions targeting the better use of organic fertilisers, like improving extension system to create farmers' awareness on the importance of organic fertilizer and demonstrating better methods of producing and applying organic manure. These programs and policies are not for organic agriculture per se, but the majority have a component in its support. For organic agriculture to grow in the country there is need for increased synergies between the existing agricultural policies and institutions, as well as government investing more resources in developing specific policies and institutional frameworks to guide and support organic agriculture.

In Senegal, most of the policy and institutional measures used to support agriculture are pro-conventional farming. However, the country has adopted various policies, strategies and plans to deal with issues relating to sustainable development, without a clear mention of EOA. These include long-term national visions, national development plans, Poverty Reduction Strategy Papers (PRSPs) and sectoral strategies in the areas of agriculture, environment and natural resources. For instance, National Strategy and National Action Plan for Biodiversity (2015-2020) and the National Plan for Adaptation to Climate Change (NAPA) of 2006 are concerned about the effects of climate change to biodiversity, such as extinction and changes in species compositions, which is key to ecological friendly agriculture. For organic agriculture to thrive in Senegal, policies should address issues of relevance for EOA, such as reduction of pesticides, protection of soil and biodiversity, developing small-scale farms and decreasing dependency on imported fertilizers. For the sustainability of organic agriculture in Senegal, there is need to improve its competitiveness to match the prevailing conventional systems.

In Benin, organic agriculture has received insufficient attention over the past decades although its health and environmental benefits have been advocated. Many farmers use traditional

farming methods that are generally in harmony with modern organic principles but formal organic farming and certification are very limited. From the policy and institutional framework review and analyses done, it is evident that Benin has elaborate agriculture policies and strategies. For instance, Benin's National Adaptation Programme of Action (NAPA) of 2008 promote the use of sustainable energy and energy-efficient stoves to reduce land degradation, improve access to energy and promote adaptation in areas vulnerable to climate change impacts. Benin's Strategy for Low Carbon Development and Climate Change Resilience 2016-2025 supports environmental protection and conservation in all production and economic undertakings thus expressing its support for ecologically sound agricultural practices among others. However, the majority of the policies and strategies do not prioritize organic agriculture practices in the country though they support sustainable development. The absence of a detailed explicit policy or strategy for the development of Benin organic agriculture sector is a major setback in the implementation of the EOA Initiative.

The findings also reveal that the existing policies/strategies and frameworks are not sufficient to support EOA and that new policies/strategies/frameworks are required. It was also noted that the awareness levels for continental and regional policies/strategies/frameworks that support EOA are very low compared to those of the national levels. It is recommended, therefore, that:

- Review existing policies to include EOA or enact a standalone EOA policy
- Effective marketing for EOA products locally and internationally needs to be established
- Mainstreaming of EOA initiatives in the various programmes and plans be encouraged
- Develop cross-sectoral coordination and support mechanism for EOA
- Develop organic standards that are easily implementable in the countries
- Governments and other financial stakeholders need to facilitate and support conferences and workshops relating to EOA

1. INTRODUCTION

1.1 Background

From a global point of view, there has been an increase in the use of agricultural inputs and particularly inorganic fertilizers, pesticides, herbicides and irrigation systems compelled by the increasing human population and food insecurity issues. This has triggered various farming intensification practices which have negative impacts on soils and biodiversity thereby affecting crop and animal genetic diversity, which in turn affects human nutrition and welfare, leading to increased costs for public health, and communities' vulnerability to external shocks. In addition, inadequate support for improved post-harvest management practices, sustainable value chains, inappropriate technologies, and coordination failure among research and other value chain actors including farmers, stifle prospects for achieving sustainable agricultural systems (International Federation of Organic Agriculture Movements [IFOAM], 2017).

Africa has been under increasing focus to improve agriculture and food systems to make them more resilient and sustainable. This has necessitated a shift from conventional agricultural production to ecological organic agriculture. According to a report by the United Nations (UN), smallholder farmers can double food production within three to ten years, in critical regions when ecological-based improved methods for farming are applied. The ecological methods draw on agroecology, the science of applying ecological concepts and principles to the creative management of agricultural processes, such as nutrient cycles based on local self-sufficiency and adapted to local socio-economic conditions. Agro-ecology also draws on the accumulated agricultural knowledge, science and technology of farmers and researchers (United Nations Environment Programme [UNEP]- United Nations Conference on Trade and Development [UNCTAD], 2008).

The widely acknowledged 'Crisis in African Agriculture' challenges facing smallholder farmers and the terse reality facing governments across Africa in feeding its citizens has motivated the African Heads of States and Government to make a declaration to support Organic Farming in Africa under decision EX.CL/ Dec. 621 (XVII) in 2011. The African Union (AU) Commission (AUC) then prioritised the agriculture sector in its Strategic Plan 2014-2017. As a result, various initiatives are now being pursued to address the food insecurity challenge among other challenges, and one such initiative is the Ecological Organic Agriculture Initiative (EOA-I).

Ecological Organic Agriculture (EOA) entails a holistic system that sustains the health of ecosystems and relies on functional cycles adapted to local conditions, rather than the use of synthetic inputs which have adverse effects on the total health of humans, animals, plants and the environmental. The EOA Initiative is aligned with various strategic documents that focus on increasing agricultural production and ensuring sustainable environmental resource management, such as Sustainable Development Goals (SDGs), International Assessment of Agricultural Science and Technology for Development (IAASTD), Comprehensive African Agriculture Development Programme (CAADP), United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) among others.

1.2 About the Ecological Organic Agriculture (EOA) Initiative

The EOA initiative is designed to promote the conservation of biodiversity and ensure sustainable use and equitable sharing of natural resources. Currently, the initiative is supported by the Swiss Agency for Development Cooperation (SDC) and the Swedish Society for Nature Conservation (SSNC) and is in the process of implementing the 2015-2020 Action Plan. The EOA-I aims to transform and create sustainable food systems through promoting ecologically sound strategies and practices among diverse stakeholders in production, processing, marketing and policymaking, to safeguard the environment, improve livelihoods, alleviate poverty and guarantee food security. With the overall goal of mainstreaming the EOA initiative into the national, regional and continental agricultural production systems by 2025, this is aimed at improving agricultural productivity, food security, access to markets and sustainable development in Africa. The desire to reach out and establish linkages with other EOA related projects outside the EOA Initiative in Africa has been high. This approach ensures other EOA-I related initiatives are brought on board and prioritized for the development of the EOA agenda. These are EOA related initiatives/interventions in Africa outside the current SDC and SSNC mainstream funding arrangement in Eastern and West Africa.

The process will also tap into and create linkages with other international ecological and organic networks with projects in Africa and establish communication for collaboration, funding and sharing. Such will include FAO's Agro-ecological Initiative, Committee on World Food Security (CFS), African Food Sovereignty in Africa (AFSA) and the International Panel of Experts on Sustainable Food Systems (IPES-Food). This strategy will ensure EOA expansion through stronger partnerships, collaboration and sharing to be achieved through joint activities, policy lobbying, advocacy, awareness creation, resource mobilization and fundraising.

To achieve strong linkages and attract EOA related initiatives, EOA will be branded by outlining its key definition, core values, key thematic areas and principles that other related initiatives can identify and align with. This will be strengthened by sharing knowledge with various groups including policymakers, academia, non-governmental organizations, international organizations, media, private sector, as well as individual users. The ultimate goal of branding and linkages between EOA related initiatives will be to facilitate joint policy lobbying, advocacy, awareness creation, resource mobilization and fundraising.

1.3 Rationale for EOA Initiative

With the ever-increasing population in Africa and the increasing demand for food, there has been intensified high input agriculture that has not solved the food security problem. There are increased calls to adopt less destructive agricultural practices such as conservation agriculture, organic agriculture as well as climate-smart agriculture. Organic agriculture practices promote sustainability as well as minimizes soil, water and air pollution since inorganic fertilizers and pesticides are not used. Conventional agriculture practices have led to excessive use of chemicals on the farmland killing all bugs and creatures (both good and bad) around the crops, that can sustain a healthy ecosystem. Although its production per square acre of land has not been proven to be higher than that of conventional agriculture, organic agriculture has been proved to be more sustainable since it is less destructive to the environment. The EOA initiative, therefore,

targets to promote these organic agricultural practices through policy and institutional reforms. Hence, the importance of this study.

1.4 Objective and Scope of the study

The overall goal of the EOA initiative is to mainstream EOA practices into the national, regional and continental agricultural production systems by 2025 in order to improve agricultural productivity, food security, access to markets and sustainable development in Africa. The specific objective of this study was to review and assess the policies and institutional frameworks aligned with the EOA Initiative in the continent, regions (EAC and ECOWAS), and the target countries (Rwanda, Nigeria, Senegal and Benin) with a view of understanding existing policy environment in the study countries that support EOA.

2. METHODOLOGY

This study used both primary and secondary data sources. Secondary data was obtained from relevant publications and online resources/ grey literature through desk studies whereas primary data was obtained through Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) in each of the target countries as well as from the regional and continental levels. In each target country, at least one FGD was conducted with at least 8-12 key informants participating. Snowball sampling technique was used to identify and engage the targeted stakeholders/informants. Up to fifteen (15) respondents were identified in each of the study countries. The data were analysed using SPSS and Excel and presented in form of graphs and charts.

3. FINDINGS

3.1 Continental and Regional Policies, Strategies and Institutional Frameworks in the African Agriculture Sector

For most African countries, agriculture is key to achieving broad-based (pro-poor) economic growth and attaining the SDGs among other development plans. Approximately 70-80% of employment and 40% of the continent's export earnings are derived from agricultural activities (FAO, 2006). This implies that a stronger performing agricultural sector is fundamental for Africa's overall economic growth as well as in addressing hunger, poverty, and inequality. Although the agriculture sector depends on geographic-specific conditions, formulation and implementation of both continental and regional agricultural policy framework and regulations are vital. Some of the pronounced continental Policy frameworks, Programmes and Strategies are briefly described below:

Africa's Agenda 2063 – Adopted in 2013, Agenda 2063 is the continent's blueprint and master plan for sustainable development and economic growth on the continent dubbed “The Africa We Want”. It seeks to deliver on a set of aspirations each with its own goals. The blueprint identifies key activities to be undertaken in its Ten-Year Implementation Plans which will ensure that Agenda 2063 delivers both quantitative and qualitative transformational outcomes for Africans. Its implementation is from the national to the continental levels. The national level is responsible for the implementation of its key activities. The regional level (the Regional Economic Commissions [RECs]) will serve as the fulcrum for the implementation at the Member States' level, depending on the peculiarities of the Member States. The continental level will be responsible for setting the broad results, monitoring and evaluation frameworks based on inputs from the RECs. Among its aspirations is to promote a prosperous Africa, based on inclusive growth and sustainable development, which is achieved through modernizing agriculture for increased production and productivity. Agenda 2063 has no special provision in support of ecological organic agriculture development on the continent, although it identifies sustainable natural resource management, biodiversity conservation, genetic resources and ecosystems as a key priority area for inclusive growth and sustainable development.

AU Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024)- The STISA-2024 has been developed during an important period when the African Union was formulating a broader and long-term AU Agenda 2063. The STISA-2024 is the first of the ten-year incremental phasing strategies to respond to the demand for science, technology and innovation to impact across critical sectors such as agriculture, energy, environment, health, infrastructure development, mining, security and water among others. The strategy is firmly anchored on six distinct priority areas that contribute to the achievement of the AU Vision. These priority areas are: Eradication of Hunger and Achieving Food Security; Prevention and Control of Diseases; Communication (Physical and Intellectual Mobility); Protection of our Space; Live Together- Build the Society; and Wealth Creation.

Strategy for Agricultural Transformation in Africa (2016-2025)- This strategy asserts that agriculture remains to be an integral part of the African economies since the majority derive their

livelihoods there. In the face of increasing food and nutrition insecurity, unemployment, natural resource degradation and climate change among others, this strategy emphasizes the need for transforming agriculture in the continent. It aims to transform African agriculture into a competitive and inclusive agri-business sector that creates wealth, improves lives and secures the environment. This is achieved through contributing to end extreme poverty and malnutrition; become and net exporter of agricultural products; and moving to the top of key agricultural value chains. Although the strategy does not explicitly support or give recommendations on the same, it targets to increase agricultural productivity through the introduction of new production technologies, research and development, post-harvest handling and processing technologies. In addition, it supports green growth in the agriculture sector which aims to protect and conserve biodiversity and all-natural ecosystems thus supporting ecological organic agriculture.

New Alliance for Food Security and Nutrition [NAFSN] (2012-2022) – NAFSN was launched in 2012 as a joint initiative between African governments, private sector and development partners. It seeks to lift 50 million people out of poverty by 2022 through partnerships between G7 members, African nations, and the private sector. This initiative aims to improve the policy environment, facilitate responsible private sector investment in agriculture and help fight against poverty within the member countries. African member countries include Burkina Faso, Côte d'Ivoire, Ethiopia, Ghana, Mozambique, Tanzania, Benin, Malawi, Nigeria, and Senegal. This alliance complements African Union Development Agency (AUDA-NEPAD) and CAADP's agriculture-related strategies at the national level. Its main objective is to encourage reinvestment in agriculture to enable low income and food-deficit countries to improve agricultural productivity, thereby reducing their dependency on food imports and food aid. From its action plans, NAFSN is silent on ecological organic agriculture but emphasized on the increased use of modern and high yielding agricultural production technologies similar to those of "the Green Revolution." From its recommendations, it recognizes the need for Africa to shift its focus to more sustainable and diversified farming practices.

Grow Africa Partnership of 2011 – It was founded in 2011 as a joint initiative by the AU, AUDA-NEPAD and the World Economic Forum. It plays a key role in improving the enabling environment for private sector investment in the agriculture sector. This aims to increase inclusive and responsible investment in African agriculture thereby generating agriculture-driven economic growth thus reducing poverty and hunger. This is achieved by establishing connections between the public and the private sectors needed to support the agriculture sectors and unlock investment opportunities. However, Grow Africa does not express any direct support for ecological organic agriculture development in Africa. Instead, it acts as a convener and a catalyst through collaboration with other development programmes in different countries to ensure the success of various value chains and marketing of the products among other things.

The Comprehensive African Agriculture Development Programme (CAADP) of 2003 – CAADP was launched at the AU Summit in Maputo in 2003. CAADP provided a common framework for stimulating and guiding national, regional and continental initiatives on enhanced agriculture productivity. It focused on improving food security, nutrition, and increasing incomes in Africa's largely farming based economies. CAADP reckons that the higher farm outputs will directly

reduce hunger and bring down the cost of food imports. Thus, agricultural intensification is one of the priority areas under CAADP that are supported by its four pillars namely; (i) sustainable land and water management, (ii) market access, (iii) food supply and hunger, and (iv) agricultural research. The crop intensification process embraces these mutually supporting pillars in attaining its goal of improving crop productivity. The commitment to support sustainable agriculture expressed in the 2015 Addis Ababa Action Agenda embed EOA in the CAADP, which play a key role in the allocation of funding and the systematic inclusion of EOA considerations into national agricultural development plans and strategies.

EAC Food and Nutrition Security Action Plan [FNSAP] (2018-2022)- The EAC region suffers from frequent food insecurity despite the huge resource endowments and great potential for the production of adequate food. Food insecurity in the region is caused by both natural and policy-related factors. The Food and Agriculture Organization (FAO) estimates that 20 million of the over 160 million people in the region are food insecure. It is against this backdrop that in 2011, that the EAC Heads of States Summit directed the Secretariat to develop the first Food Security Action Plan (FSAP) 2011-2015 to guide the implementation and actualization of the regional food security objectives. The goal of the EAC Food and Nutrition Security Action Plan (FNSAP) 2018-2022 is to contribute to the elimination of hunger, malnutrition, and extreme poverty in the East African region by the year 2022.

ECOWAS Common Agricultural Policy Framework (ECOWAP) of 2005- ECOWAP was launched in 2005 through a consultative process with the 15 Member States and stakeholder groups. This framework aims to contribute sustainably to meeting the food needs of the people as well as in economic and social development and poverty reduction in the Member States. ECOWAP implementation in the member states is dependent on the National Agricultural Investment Plans (NAIPs) and the Regional Agricultural Investment Plan (RAIP). The NAIPs cover the national investment priorities like agriculture, livestock, fisheries and forestry. The RAIP combines investments and public policy instruments like regulations and incentives. The public policy instruments aim at accompanying productive investments and, above all, putting in place incentives and creating a regulatory environment conducive to agricultural development.

Since ECOWAS is cognizant of the pivotal role played by agriculture as well as the challenges imposed by climate change on its member states, it decided to promote Climate-Smart Agriculture (CSA) within its regional agriculture promotion policy and developed a CSA implementation framework, the Climate-Smart Agriculture Alliance and Framework for West Africa in 2015. The CSA implementation framework aims to increase productivity and farm incomes sustainably and equitably, enhance adaptation and resilience to climate variability and change, and to control and/or reduce greenhouse gas emissions wherever possible and appropriate. Although this CSA framework supports various environmentally friendly agricultural practices like agroforestry for soil nitrogen fixation, it does not provide an explicit intervention in support for ecological organic agriculture in West Africa.

The Malabo Declaration of 2014- Heads of State and Government adopted a remarkable set of concrete agriculture goals to be attained by 2025. The Malabo Declaration on Accelerated

Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods is a set of new goals showing a more targeted approach to achieve the agricultural vision for the continent which is shared prosperity and improved livelihoods. The Malabo Summit reconfirmed that agriculture should remain high on the development agenda of the continent, and is a critical policy initiative for African economic growth and poverty reduction.

The West African Economic and Monetary Union (UEMOA) Pesticides Regulation No. 04/2009

– aims to protect the populations and the environment of the Union against potential dangers from the use of pesticides; facilitate trade in pesticides between the Member States through the application of regionally recognized principles and rules which minimize obstacles to trade; facilitate farmers' access to quality pesticides in time and place timely; ensure the rational and judicious use of pesticides; contribute to the creation of an environment favourable to private investment in the pesticide industry and promote partnership between the public sector, the private sector and civil society. The regulation's approval criteria concern the pesticides' biological efficacy, the quality of the formulations used on sale, the toxicity and risk of the product to humans, as well as the harmful effects and risk of product to the environment. This regulation approves the trade and registration of bio-pesticides within the member states thus showing its support for ecological organic agriculture in the region.

The East African Community Agriculture and Rural Development Policy (EAC-ARDP) of 2006 –

This is the common agricultural policy provided for in Article 105 of the Treaty for the Establishment of the East African Community. It has the objective of achieving food security in the Community. The Policy elaborates the strategies of achieving food security in the EAC region which includes increasing output, quality and availability of food and rational agricultural production through promoting complementarities and specialization under sustainable use and management of soil, water, fisheries and forests in order to conserve the environment. However, the EAC-ARDP policy does not express any direct support on EOA development in the region.

The 5th EAC Development Strategy for the period 2016/17-2020/21 outlines the broad strategic

development objectives that the Community will pursue during the next five years in line with the Treaty for the Establishment of the East African Community and the EAC Vision 2050. Formulation of the Strategy has taken into account the obligations of the Community within the development frameworks at intra and inter-regional, continental and global levels (EAC Partner States, COMESA, SADC, AU Agenda 2063 and the Post-2015 UN Development Agenda). The overall goal of the 5th EAC Development Strategy is to build a firm foundation for transforming the East African Community into a stable, competitive and sustainable lower-middle-income region by 2021. To realise this goal, the Community shall focus on seven (7) key priority areas, namely i) consolidation of the Single Customs Territory (SCT); ii) development of regional infrastructure; iii) enhancement of free movement of all factors of production as envisaged under the Common Market and Monetary Union Protocols; iv) enhancement of regional industrial development; v) improvement of agricultural productivity; vi) promotion of regional peace, security and good governance; and vii) institutional transformation at the regional and Partner State levels. The Community shall therefore devote to the pursuit of programs, projects and other interventions aimed at accelerating a people-centred and market-driven integration that will also

facilitate faster and more sustainable socio-economic development and transformation of the EAC region. Although the strategic framework does not explicitly support ecological organic agriculture in the region, it directs the promotion and protection of indigenous knowledge associated with the utilization of biological resources and eco-systems which is a key aspect of EOA.

Sirte Declaration of 2004- It was made by the African Union heads of states to tackle the challenges of implementing integrated and sustainable development on agriculture and water in Africa at the 2nd Extraordinary Session of AU Assembly in Sirte, Great Socialist People's Libyan Arab Jamahiriya, from 27 to 28 February 2004. The heads of states committed themselves to identify and support the development and production of strategic agricultural commodities and other key economic and industrial activities, in order to fully exploit the continent's special potentialities and comparative advantages of Member States in agricultural production and other economic activities while reducing the expenditure and dependence on imports. Also, they agreed to establish an information network in the field of agricultural production for food security and the trading of commodities between markets and countries and immediately establish the African Common Market for agricultural products, according to the Lusaka Summit decision. Development of a common and coherent policy framework for public-private cooperation that will attract increased private capital into the agriculture and water sectors was also agreed as well as expediting the implementation of AUDA-NEPAD programmes in the field of agriculture and water and the implementation of the Declaration adopted in Maputo (2003) / Malabo (2014) on the allocation of 10% of our national budgets to boost agricultural production.

East African Youth Policy of 2013- This policy aims at guiding the East African Community in planning, implementation, monitoring and evaluation of programmes to make them youth-friendly while assuring sustainable social, economic and political development. It is based on underlying principles of respect for cultural, religious and ethical values, equity and accessibility, gender inclusiveness, good governance and national unity, youth participation, youth empowerment, teamwork and partnerships. Although this policy is not specific to agriculture, it has prioritized the need for the youth to engage in environmental preservation and best practices to conserve the environment such as waste reduction, recycling and tree planting activities thus making it relevant to ecological organic agriculture.

The East African Community Climate Change Master Plan (2011-2031)- This master plan provides a long-term vision and a firm basis for the partner states to operationalize a framework for adapting and mitigating climate change, in line with EAC protocol on the environment and natural resource management among other international agreements. The master plan identifies various sectors that are affected by climate change including agriculture and food security, energy, tourism, environment, water and infrastructure among others. Among the adaptation and mitigation measures proposed for the agriculture sector include; promotion of water-efficient irrigation agriculture, promotion of agroforestry, adoption of early yielding crops and suitable livestock breeds to withstand climate change impacts and utilization of traditional knowledge together with modern skills such as traditional food preservation methods among

others. Although this plan is not explicitly meant for EOA, its support for eco-friendly agricultural practises are important for EOA.

The East African Community Climate Change Policy of 2011- This policy recognized the adverse impacts of climate change on people's livelihoods in almost all sectors of the economy in the EAC region. Severe droughts, floods and extreme temperatures associated with climate variability have negative effects on agricultural productivity. This has a direct impact on food and water security among other drivers of economic development. The main objective of this policy is to guide Partner States and other stakeholders on the preparation and implementation of collective measures to address Climate Change in the region while assuring sustainable social and economic development. It prescribes statements and actions to guide climate change adaptation and mitigation to reduce the vulnerability of the region and enhance adaptive capacity and build socio-economic resilience of vulnerable populations and ecosystems. Adaptation measures given include protection of wildlife and key fragile ecosystems such as wetlands, coastal, marine and forestry ecosystems, improving land use and soil protection among others. Although this policy is not pro-organic agriculture *per se*, its support for eco-friendly agricultural practices makes it relevant in this subject matter.

3.2 Proposed Policy and Strategic recommendations

At both continental and regional levels, there are no policies or strategies that explicitly support EOA. Only a few aspects of the same can be found in some of the existing policies and strategies discussed above. For the continent to achieve a desirable milestone in mainstreaming EOA in its agricultural plans, there is need to formulate and ensure full implementation of Pan-African organic standards that would serve as a basis for the formation of national organic standards in the countries, as well as stimulate harmonization where there are existing standards and practices. This will help in promoting international best agricultural practices, influence regional and national policies in favour of EOA, influence the ban or reduction in the importation of inorganic inputs and boost the supply of organic agricultural inputs on the continent. Moreover, this will assist in the growth and development of organically produced agricultural products.

Additionally, the development of Pan-African standards would offer African countries an opportunity to define these standards in a way that is relevant and contextually specific to the various climatic and agro-ecological conditions of different places. Also, it would give the African countries a unified position to negotiate in regional and international organic markets. On the policy side, there is need for an all-inclusive agricultural policy both at the regional and continental levels that is explicitly made to support and guide ecological organic farming. In order to ensure successful mainstreaming and implementation of the EOA initiative in the continent, all governments should be pushed to enforce a 10% budgetary allocation to Agriculture as provided for in the Malabo Declaration of 2014.

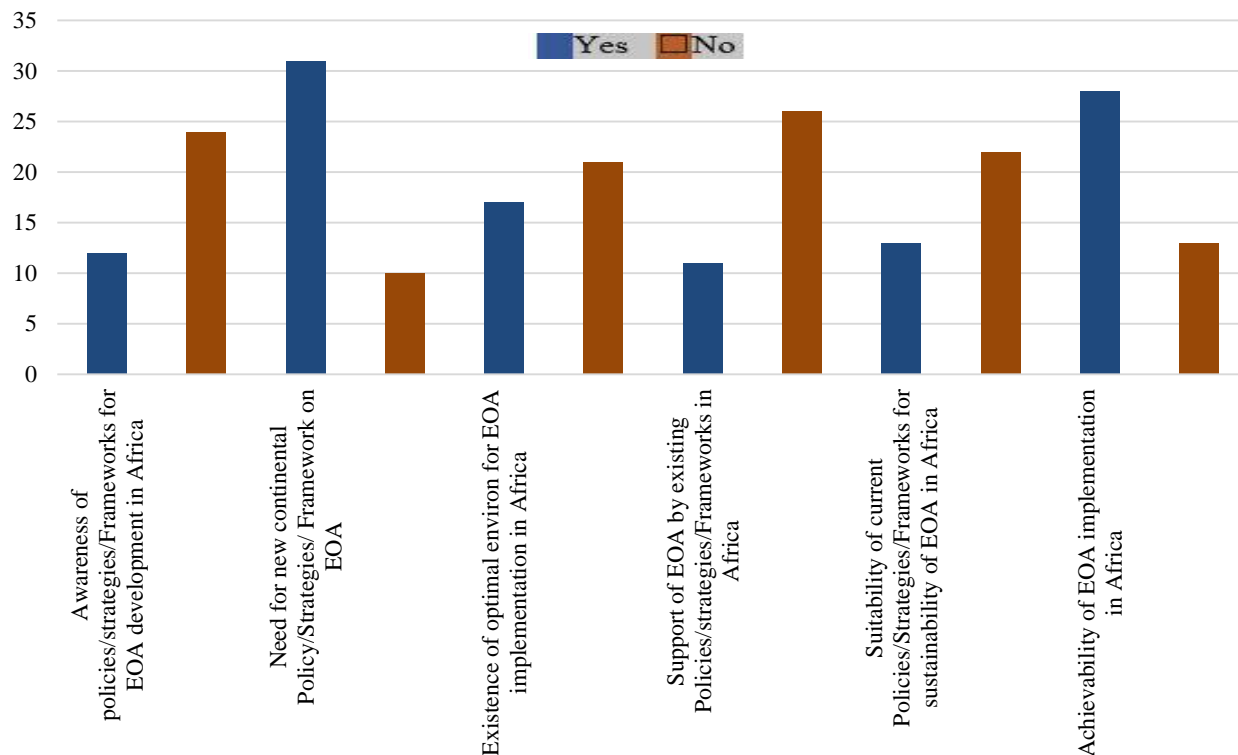


Figure 1: Continental Responses to EOA Policies, Strategies & Institutional Frameworks

According to the key informant respondents (Fig. 1), 67% are not aware of policies or strategies or frameworks that support EOA at the continental level. Only 33% confirmed that they are aware of continental policies and strategies. This, therefore, means that more awareness creation is required. It is also clear that stakeholders need to see new continental policies/strategies and frameworks for EOA. This is according to 76% of the respondents. The majority of the respondents agree that there is no sufficient optimal environment for EOA implementation, the existing policies/strategies/frameworks are not sufficiently supportive for EOA and they are not able to guarantee the sustainability of EOA in the continent.

At the regional level, the development and adoption of Protocols that allow the movement of organic products across borders on member nations are crucial. Additionally, the reduction of tax/removal of tariffs on organic products should be considered to promote cross-border trade of organic products and also make them affordable to the consumers. Governments and other financial stakeholders should facilitate regional conferences and workshops to enhance cross-border learning and exchange of knowledge on EOA thus promoting its adoption in the regions. It is important to create a national and sub-national network for good interactions and networking between stakeholders in organic farming. There is need to develop lobbying and marketing advocacy tools for better visibility of EOA products in the regions.

According to the majority of the respondents, the achievability of EOA implementation in the study Regions (ECOWAS and EAC) is a major possibility but the sustainability under the existing policies/strategies/frameworks is highly doubtful. The existing policies/strategies/frameworks are unsuitable to sustain EOA implementation therefore leading to a less optimal environment (See Fig. 2). This, therefore, calls for the development of new regional EOA policies/ strategies and frameworks.

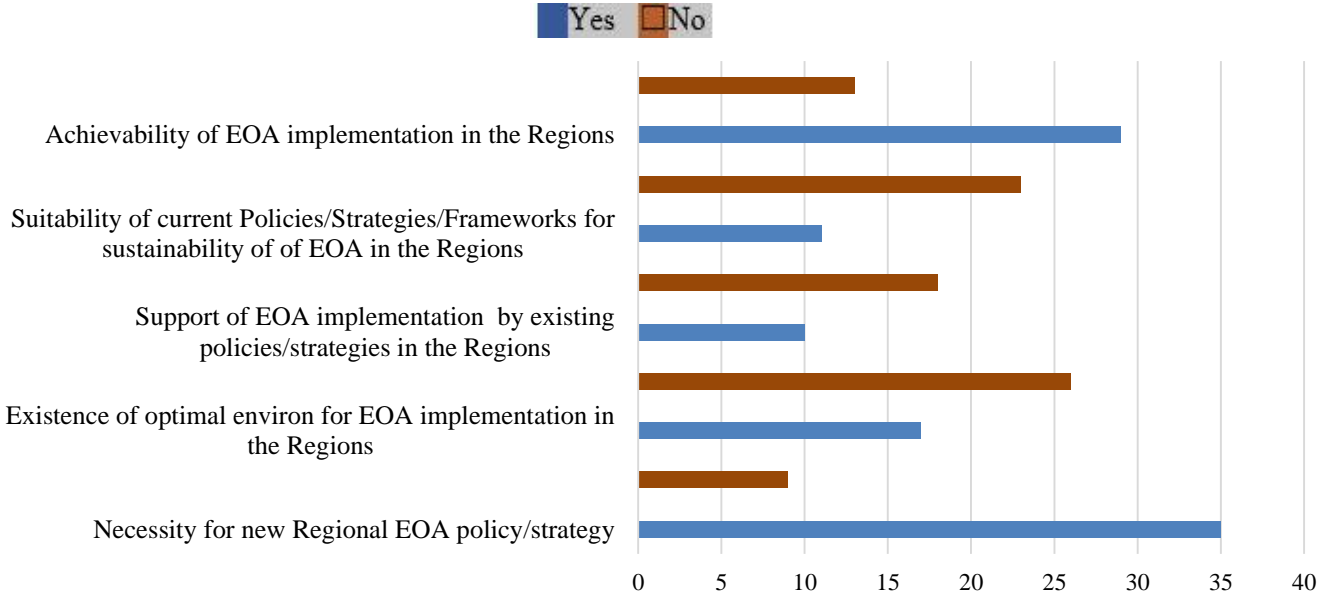


Figure 2: Regional Responses to EOA Policies, Strategies & Institutional Frameworks

3.3 National Policies, Strategies and Institutional Frameworks in the African Agriculture Sector

According to the findings of the study, the majority of the respondents (Fig. 3) feel that the EOA implementation is achievable in the individual countries however, the existing policies/strategies and frameworks are not suitable for the promotion of EOA at the national level. There is generally no optimal environment for the implementation of EOA in the study countries. 76% of the respondents acknowledged the need for new policies/strategies and frameworks for implementing the EOA initiative.

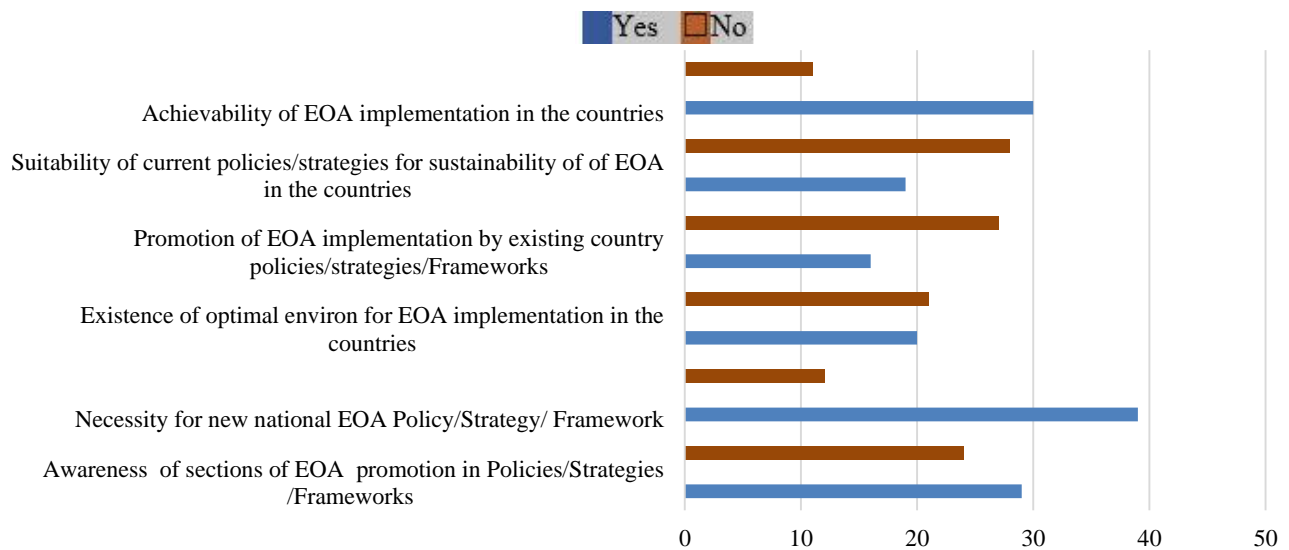


Figure 3: National Responses to EOA Policies, Strategies & Institutional Frameworks

Fig. 4 below shows the awareness levels of national policies/strategies and frameworks that are in support of EOA in the countries. 55% of the respondents are aware of the policies that support EOA whereas 45% are not aware of these policies/strategies or frameworks available that support EOA implementation.

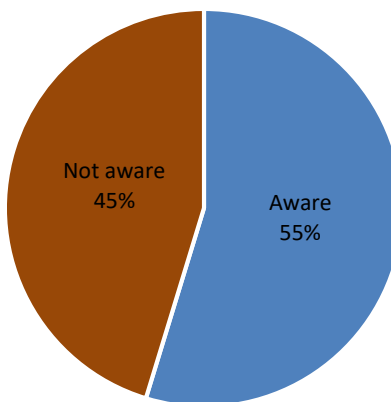


Figure 4: Awareness levels of National Policies, Strategies and Institutional Frameworks that support EOA

The subsequent chapters will analyse the key agriculture-related policies, strategies, plans and programmes for the target countries. The key relevant institutions/organizations and their roles at the national level supporting the implementation of EOA also discussed. The optimal enabling environment, the sustainable implementation of the EOA initiative and key policy recommendations are provided for each study country.

4. BENIN

Benin's economy is mainly agriculture-based. According to the Ministry of Agriculture, Livestock and Fisheries (MAEP), the agricultural sector contributes around a third to the GDP, a quarter to the export earnings and 15% to government revenues, and generates employment for about 70% of the people. The agricultural production sector is characterized by the predominance of smallholder farming, which is vulnerable to climate change and extreme climate events. The revenues and productivity factors are low and the labour force is undervalued, making agricultural products less competitive. Most farm operators use insufficient fertilizers and undertake mining activities, thus increasing the degradation of natural resources (MAEP, 2015).

In Benin, there are opportunities to boost agricultural growth and thereby economic growth, and food security. To achieve this, agriculture policy must promote several actions including improving soil management and natural resources, improving access to markets and capturing new markets, implementation of institutional reforms, improving investments and coordinating research, and transfer of agricultural innovations (Dayou et al., 2020). The Ministry of Agriculture, Livestock and Fisheries (MAEP) is responsible for the design and implementation of agricultural policy in Benin. MAEP implements its agricultural policies on the ground through decentralized operational arms, which are responsible for research, extension/advisory services, and support to producers. These structures are assisted by international research institutions, universities, national and international NGOs, international organizations providing technical and financial support, and producer organizations. MAEP works in coordination with other government institutions to deliver its mandate (ZEF et al., 2017).

Benin National Institute of Agricultural Research (INRAB) is the public agency responsible for the implementation of the agricultural research policy as defined by MAEP. INRAB conducts research in collaboration with various international research bodies like the International Center for Maize and Wheat Improvement (CIMMYT) and the International Institute of Tropical Agriculture (IITA) on different projects. In collaboration with other research and development bodies in the West African region, INRAB supports the development and sustainability of ecological organic agriculture in Benin as a way of ensuring sustainable agricultural production. Specifically, it advocates and supports ecological organic cotton production which seems to be more profitable to the farmers in comparison with the conventionally produced cotton.

4.1 Relevant National and Agriculture sector Policies, Strategies, Plans and Programmes

The policies, strategies and institutional frameworks in place in support of agriculture in the country include:

National Long-term Vision- "Benin Alafia 2025"- This document highlights strategic orientations from which the strategic options are derived for its operationalization. This vision supports the agriculture sector through agricultural research and the development and dissemination of innovations. Agricultural development strategies are given priority in the realization of a strong and sustainable economy. These strategies advocate for a better regional specialization in the diversification of agricultural production. The Vision is relevant to ecological organic agriculture

since it advocates for environmental protection and the use of traditional knowledge to achieve sustainability in economic development.

Benin's Strategic Plan for the Development of the Agricultural Sector [PSDSA] (2017-2025)- This Plan was adopted in 2017 and outlines the sector's strategic objectives for 2025. PSDSA aims to strengthen the growth of the agricultural sector, food sovereignty and the food and nutritional security of the population, through efficient production and sustainable management of farms. The plan has a strong orientation on the adaptation to climate change and takes into account the sustainable management of the resources and the resilience of the populations. These include the promotion of climate-resilient agriculture and the development of value chains for maize, cashew and shea among other crops. Even though the plan does not explicitly support organic farming, its strong consideration for climate-smart agriculture is an indication of its indirect support for ecological organic agriculture. ***Strategic Plan for Agricultural Sector Recovery (PSRSA)*** was also critical at some point though not entirely meant to support organic agriculture, PSRSA promoted the use of specific fertilizers and organic inputs for soil management and the use of sustainable agricultural equipment and methods.

The National Plan for Agricultural Investments and Food and Nutritional Security [PNIASAN] (2017-2021) – This Plan aims to increase the production and productivity of agricultural value chains, improve markets, trade and value chains, increase the resilience of livelihoods and systems and strengthen the governance of the existing natural resources. Although this plan does not recognize organic farming, they promote climate-smart agriculture as well as protection and conservation of the existing environment and natural resources, hence supporting eco-friendly agriculture.

Benin's Strategy for Low Carbon Development and Climate Change Resilience (2016-2025) - The development of this Strategy is based on the assessment of both vulnerability and the greenhouse gas mitigation potential of the main sectors of the Benin economy including agriculture. The objectives of this strategy are: to strengthen the resilience of local communities and economic production systems, reduce anthropogenic greenhouse gas emissions, and strengthen community protection, particularly those most vulnerable to natural disasters. This strategy supports environmental protection and conservation in all production and economic undertakings thus expressing its support for ecologically sound agricultural practices.

Benin's Intended Nationally Determined Contributions [INDCs] (2015-2030) – The INDCs put forward action plans for both climate change mitigation and adaptation to align with the country's medium-term development agenda. Through the INDCs, Benin commits to implement adaptation action in three priority economic sectors: agriculture, water resources and forestry. Within these sectors, Benin aims to reduce the vulnerability of communities and ecosystems to climate change using appropriate measures, thus supporting eco-friendly agriculture development in the country.

Benin's National Biodiversity Strategy and Action Plan [NBSAP] (2011-2020) – This Strategy was adopted in 2010 by the Ministry of Environment to renew the commitment of the preceding

NBSAP which was adopted in 2002. It promotes improved management of biodiversity and ecosystems to contribute to sustainable development in the country and to reduce poverty. In line with the previous strategy, it focusses on adopting a participatory approach to ensure that every citizen and sector of the economy contributes in promoting and protecting biodiversity across the country. The strategy aims to reduce pressures on biodiversity, restore ecosystems and use natural resources sustainably and fairly thus supporting ecological friendly agriculture.

Benin's National Adaptation Programme of Action (NAPA) of 2008 -This plan has five key strategic areas of focus being agriculture and food security, energy, water, health and coastal development. With regard to agriculture and food security, this programme aims to establish early warning systems on climate risks to enhance food security in various agroecological areas perceived to be vulnerable to climate change. This will help stabilize and increase food production in those areas. With respect to energy, it aims to promote the use of sustainable energy and energy-efficient stoves to reduce land degradation, improve access to energy and promote adaptation in areas vulnerable to climate change impacts, in particular where land is degraded. NAPA is environmentally sensitive thus indirectly supporting eco-friendly agriculture in the country.

National Programme for Adaptation to Climate Change (PANA) of 2008 – This Programme allowed the development of a framework for coordination and implementation of adaptation activities to climate change in the country, strengthening of capacities and synergy of different programs in the field of the environment through a participatory, community and multidisciplinary approach. It aimed at identifying the urgent and immediate needs in terms of adaptation in order to reduce the vulnerability of fragile ecosystems and populations already subject to poverty in the face of adverse and perverse effects of climate change and extreme weather phenomena. PANA works in line with other national development strategies to ensure that the Republic of Benin goes "green" by promoting policy measures aimed at integrating the environment into related plans, programs and projects, hence ensuring the sustainability of the key production sectors like agriculture, thus supporting ecologically sound agriculture.

4.2 Optimal enabling environment for EOA implementation in Benin

Organic agriculture in Benin has received insufficient attention over the past decades although its health and environmental benefits have been advocated. Many farmers use traditional farming methods that are generally in harmony with modern organic principles but formal organic farming and certification are very limited. From the study findings, it is evident that Benin has elaborate agriculture policies and strategies. However, the majority of the policies and strategies do not prioritize organic agriculture practices in the country. The absence of a detailed explicit policy or strategy for the development of the Benin organic agriculture sector is a major setback in the implementation of the EOA initiative.

Policies backing organic agriculture require new measures to support the transition in agriculture. This includes taking into account the environmental and social costs and benefits linked to organic agricultural practices in the determination of food prices or social protection benefits to rural communities; setting up compensation or social protection and insurance mechanisms to

offset losses (if any were incurred by giving up less sustainable practices) and investing in new research programs to design more efficient and sustainable organic systems.

Benin, like other African countries, faces changes in government regimes leading to policy changes. A solution to this challenge is to partner with a wide range of stakeholders including NGOs and private enterprises to actively promote organic agriculture. Developing broad-based support for this policy through partnerships, education and awareness can help to institutionalize this approach.

4.3 Sustainable implementation of EOA Initiative in Benin

The potential of organic agriculture in contributing to the transformation of national and regional economies, ecologies and livelihoods through income growth, enhancement of systems resilience and mitigation of climate change, food sovereignty and trade ought to be explored and showcased. For sustainability in the implementation of the ecological organic agriculture initiative in Benin, various factors need consideration. Foremost, a functional technical support system is vital since farmers conversion from conventional to organic farming depends on their perceptions of the characteristics of the technology (time demanding, physical constraints, labour demanding). This is to ensure that organic farmers are trained on production efficiencies, as well as technical learning (frequent training and farm visits by the advisers and farmer field school sessions). Additionally, there is need to satisfy their sense of social relatedness, farm income safety and competence thus leading to conversion motivation.

An affordable and easily accessible standardization and certification, for both local and export markets, is required. The need to meet standards is becoming a pervasive and permanent feature of smallholders' landscape. In this setting, certified organic agriculture appears to have the potential for helping farmers build the capacity needed to meet standards and thus stay competitive in formal markets, while the price premiums can potentially be leveraged to pay for the investment. In Benin, organic products are export-oriented, therefore, farmers are dependent on access to international markets, and need to undergo and pay for an extensive certification process, subjecting them to international regulations dictated often by foreign certification bodies and Northern markets. This dependence on international markets can pose substantial obstacles to small farmers and can potentially increase farmers' vulnerability.

A reliable financial support system ought to be established. This is because organic production comes along with high entry costs, including higher labour requirements that often cannot be met by household resources, the need for increased knowledge and training, substantial certification costs and sometimes the need to purchase expensive organic inputs. The Government of Benin should set aside in its annual budget a healthy amount of money for the promotion and advancement of the organic agriculture system which embraces all aspects of social and economic developments.

For the sustainability of organic agriculture, a multi-stakeholder information system is crucial. Organic agriculture is a very information-intensive management system, or what has been called 'software' based innovation. In addition to information about the concept of organic agriculture,

organic certification and organic markets, information on how to use organic management practices is crucial for the optimal performance of the organic system. MAEP with other stakeholders in the organic agriculture sector should organize campaigns and events such as organic farm walk, promotion of local organic food in school and at farm fairs emphasizing the benefits on health, environment, economies and income-generation.

In order to support the promotion of the sector, the Government of Benin (GoB) through MAEP should integrate organic agriculture into all aspects of its service delivery and give priority to organic enterprises for funding opportunities. MAEP should lead this initiative by working in partnership with other government ministries, whose cooperation will be vital to support the development of national organic agriculture policies. In addition, the GoB through MAEP and in partnership with other line ministries, and stakeholders should look into ways to design a labelling system that is appropriate to the country's situation, to be used for certifying organically produced products.

For the sustainable implementation of the EOA initiative, there is need to develop and integrate an organic farming programme into the extension and research division's work programs by reviewing and integrating national and agriculture sector policies, plans and strategies, and set targets for the development of the organic sector. Also, the government should train farmers and consumers in general, on the benefits of organic farming, and other traditional practices.

4.4 Proposed policy and strategic recommendations for Benin

For EOA to gain impetus and match the conventional farming system in Benin, the private sector among other actors should be fully engaged in all activities regarding EOA. From experience, NGOs have been actively involved in raising awareness of EOA practices and capacity building thus increasing its adoption. For the EOA initiative to gain full operationalization and implementation in Benin, it should be included in all agricultural policies and strategic plans. There is also need to popularize to the general public the benefits and importance of EOA over conventional farming.

Since some of the organic inputs may not be affordable to many farmers, the government should consider subsidizing organic inputs and make them available to all citizens. Consultation frameworks should be formed where all actors can actively be involved to promote EOA implementation. National organic markets should be created to allow free trade of organic products. Additionally, local production of organic inputs is crucial to ensure the production of zone-specific inputs that are affordable to the people. Moreover, a local control and certification system should be put in place for ecologically produced organic products. It is also paramount to promote entrepreneurship to add value to organic products in the country.

5. NIGERIA

Nigeria's agriculture sector is key to feeding its huge human population of over 206 million people as of 2020 (Statista, 2021). Its goal is to strengthen institutions to respond effectively and efficiently to the needs of the farmers and other participants in rural development for the enhancement of food security, poverty reduction and increase in agricultural exports. Nigeria is yet to develop its potential in terms of organic agriculture, even though it is an agrarian country with a track record of being the world-leading producer of some crops at one time or the other. Organic agriculture in an organized manner is still young in the country (Global Agriculture Information Network, [GAIN], 2014). As of 2018, organic agricultural land in Nigeria increased to 52,421 ha with only 102 registered producers (Willer and Willer, 2018).

At the Federal level, the Federal Ministry of Agriculture and Rural Development (FMARD) are responsible for the development, review and implementation of policies for agricultural development dealing with crops, livestock, fisheries, and forestry and, until of late environment. The Ministry's objective is to improve agricultural production and, in turn, enhance national food security and alleviate rural poverty. It provides technical support, production infrastructure, and supplies inputs to promote the adoption of productivity-enhancing techniques. FMARD regulates agricultural research, agriculture and natural resources, forestry and veterinary research throughout Nigeria. It is responsible for developing the agriculture sector of the Nigerian economy, intending to grow the sector, driving income growth; accelerate food and nutrition security, generating employment and transforming Nigeria into a leading global food market, through the commodity value chain concept of the Agricultural Transformation Agenda (ATA). The Ministry has the responsibility of optimizing agriculture and integrating rural development for the transformation of the Nigerian economy, intending to attain food security and position Nigeria as a net food exporter for socio-economic development. Currently, FMARD superintends several parastatals operating as either key departments or agencies across the country. Among them is the Federal Department of Fertilizer (FDF) which is responsible for: Market stabilization through the introduction of measures to enhance fertilizer market stability, Quality control and monitoring for organic and inorganic fertilizer, Monitoring of fertilizer use by farmers and industries, Conducting of tests and trials on new fertilizer technologies and products to generate information for fertilizer recommendations and development, and promotion of the use of organic fertilizers.

The organic practitioners are mostly a few farmers and some non-governmental organizations, such as the Association of Organic Agriculture Practitioners of Nigeria (formerly the Nigerian Organic Agriculture Network) (NOAN). Noteworthy, the sub-sector is faced with many constraints, including lack of technical know-how, delays in acceptance of Nigeria organic products in the world market, low level of organic certification, poor institutional support by the government, and inadequate government policies to safeguard organic farming. Most of the EOA relevant policies and strategies recognize some aspects of EOA such as ecology and biodiversity conservation, which are mainly environmental aspects.

5.1 Relevant National and Agriculture sector Policies, Strategies, Plans and Programmes

Nigerian Vision 20: 2020 (NV20: 2020) - Prepared in 2009, the first National Implementation Plan of the Vision was launched in 2010 to cover the period 2010-2013 with subsequent plan periods scheduled for 2014-2017 and 2018-2020 for the second and third implementation plans respectively. The overall goal of Vision 2020 with regard to agriculture was to increase agricultural GDP growth rate by 6.7% under the first implementation plan for the 2010 to 2013 periods, through specific programmes for developing all the agricultural sub-sectors as well as key institutions like agricultural research and extension. NV 20:2020 does not support organic agricultural practices explicitly, instead, it guarantees food security to Nigerians through supporting initiatives to protect long-term use of farmlands and put in place clear property rights. It also supports agricultural research and promotes greater dissemination/ adoption of appropriate agricultural technologies.

The Agriculture Promotion Policy (APP) of 2016- This Policy was created under the administration of President Buhari in 2016, it aims to cure two economic issues; the shortage of food for local consumption, thus necessitating importation, and the meagre foreign exchange earned from the export of agriculture produce. As a way to resolve these lingering issues, the policy seeks to:

- Prioritize improving the productivity of specific crops and activities. These are rice, wheat, maize, fish (aquaculture), dairy milk, soya beans, poultry, horticulture (fruits and vegetables), and sugar.
- Prioritize production and exportation of cowpeas, cocoa, cashew, cassava (starch, chips and ethanol), ginger, sesame, oil palm, yams, horticulture (fruits and vegetables), beef and cotton.

This policy aims to enhance soil fertility by promoting the use of organic fertilizers and soil rotation to promote nitrogen fixation, thereby supporting ecological organic agriculture in the country.

Agriculture Sector Food Security and Nutrition Strategy (2015-2025) - In 2015 the Government of Nigeria unveiled ten-year food security and nutrition strategy for the agriculture sector. The strategy, which spans from 2015 to 2025, includes nutrition-sensitive interventions in agriculture, social protection and education and the provision of locally processed nutritious foods to children, pregnant and lactating women and girls (PLWG). The strategy has eight priority areas: (a) Enhancing value chains for improved nutrition (b) Diversifying household food production and consumption (c) Improving food safety along the value chain (d) Building resilience and social protection nets (e) Promoting nutrition research and information systems (f) Improving the agriculture sector's capacity to address food security and nutrition challenges (g) Nutrition education and advocacy and (h) Nutrition surveillance, monitoring and evaluation. However, this strategy has no explicit support for EOA but instead focuses on improving food and nutrition security in general.

The Economic Recovery and Growth Plan (2017-2020)- This Plan was launched in March 2017 and prioritized agriculture and food security in order to promote growth, diversify the economy

and committed the Government to fund social safety nets. The associated Budget of Recovery and Growth funds a country-wide social investment programme focused on job creation, home-grown school feeding and cash transfers to vulnerable populations. The programme is supported by the recently adopted national social protection policy. This plan has no specific interventions for promoting organic agriculture in Nigeria. It just points out the need for the government to build on its agriculture plans such as the Green Alternative Agriculture Promotion Policy and the Presidential Initiative on Fertilizer.

Nigeria Zero Hunger Strategic Review of 2017 - This Strategy articulates what Nigeria needs to do to achieve Sustainable Development Goal 2 (SDG2), one of the recently adopted global goals that seek to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture by 2030 (IITA, 2017). The multi-stakeholder zero hunger strategic review confirms the commitment to the 2030 Agenda for Sustainable Development and recommends actions to end hunger and malnutrition in Nigeria by 2030 through food self-sufficiency, improved agricultural production, better youth employment and gender and nutrition mainstreaming. It recommends modernization of agriculture and more sustainable management of agricultural resources which is key to achieving zero hunger. These include production inputs like mineral and organic fertilizers, soil conditioners, Integrated Soil Fertility Management (ISFM) and Integrated Pest Management (IPM) among others across all commodities, thus supporting EOA.

National Policy on Environment of 1991 & revised in 1999- This policy defines a new and holistic framework for guiding the management of the environment and natural resources in the country. It prescribes intra and cross-sectoral strategic policy statements and actions for the management of the country's environment and resources for sustainable development. Moreover, it recognizes that the viability or otherwise of the agricultural sector is crucial to the growth and development of a nation. This is through its impacts on food security, industrialisation efforts, quality of life, economic growth, political stability and to a certain extent, a nation's position in international relations and trade. The sustainability of this important sector should therefore be of paramount importance. Consequently, it is essential to establish a balance between efficient agricultural enterprise and environmental protection. This policy supports EOA through the promotion of ecologically sound and profitable farming systems and suitable rural development programmes principally aimed at small scale farmers. In order to increase agricultural productivity, vigorous programmes have to be established and supported to ensure the proper use of natural resources and judicious application of agricultural inputs. In order to ensure the attainment of these objectives, strategies were put in place to:

- a) support research aimed at developing farming systems that combine optimum production with land resource protection and which are compatible with the socio-economic conditions of all peoples;
- b) promote farming systems based on natural adaptations across ecological zones; ensure the maintenance of soil quality and capability through sound management;
- c) encourage and support ecologically appropriate livestock and poultry production;
- d) encourage the production of high yield crop varieties requiring minimum agro-chemicals input;
- e) promote farming, using manures and other soil conditioners.

Agricultural Policy for Nigeria of 2018 – This policy aims to provide a lasting solution to the country’s intrinsic agricultural challenges and specifically food insecurity. The policy offers a multi-sectoral approach by giving policy recommendations and strategies to improve the productivity and income generation from each sector. The policy also strives for effective and efficient utilization of agricultural by-products, such as crops and fish by-products and wastes into valuable and other utilizable products like bone meal, fish meal, fish oil and so on to promote environmental sanitation and prevention of environmental pollution. Concerning agricultural research, the policy advocates the development of appropriate technologies for optimal utilization of farm inputs such as fertilizers, herbicides and pesticides among others, to increase agricultural production potentials without adverse effects on man and the environment. Regarding fertilizer supply in the country, it aims to ensure maximum capacity utilization and expansion of existing plants to encourage the use of local raw materials for fertilizer production and therefore promote the use of organic fertilizers by farmers, thus supporting ecological organic agriculture.

Although these policies and strategies have various aspects that support ecological organic agriculture, they have not been successful in supporting and guiding EOA in the country. This failure can be attributed to unsupportive government regulations and institutions, insufficient markets for organic products and poor topography and climatic conditions. Also, lack of involvement by all stakeholders in the planning, implementation and evaluation of policies makes them fail in supporting important sectors like the ecological organic farming sub-sector. Moreover, the country faces political instabilities which cause inconsistencies in the implementation of national agricultural development policies.

5.2 Optimal enabling environment for EOA Implementation in Nigeria

The agricultural sector has witnessed remarkable policy changes since the Nigerian Vision 20: 2020 (NV20: 2020) which was launched in 2009. Over the past decade, there has been increasing public concern over nutrition, health and food safety issues. Consumers perceive high risk associated with the consumption of conventionally grown produce, thus shifting the attention to organic farming as a source of healthy food and healthy living. For the success and sustainability of organic agriculture, the presence of a favourable operating environment that encompasses fiscal policies, institutional frameworks, parliamentary acts and strategies is crucial.

The Nigerian agricultural sector’s goal is to strengthen institutions to respond effectively and efficiently to the needs of the farmers and other participants in rural development for the enhancement of food security, reducing poverty and increasing agricultural exports. Policy review and analysis of different agricultural policies and institutional frameworks in Nigeria indicate the presence of strategies and institutions to guide and provide a framework for agricultural practices. However, the majority of the frameworks have no specific linkages or support for EOA. The concept of organic agriculture is gaining popularity in the country, though, it is in its infancy stages. Various institutions have emerged to support and guide its implementation, with NOAN as the umbrella body (as discussed earlier on). Some projects and programmes have also been implemented to promote organic farming. However, organic farming is faced with many constraints, including lack of technical know-how, delays in

acceptance of Nigeria organic products in the world market, low level of organic certification, poor institutional support by the government, and inadequate government policies to safeguard organic farming. Additionally, it is worth noting that Nigeria is well endowed with natural resources which is a vital pre-requisite for the success of ecological organic agriculture in the land.

5.3 Sustainable implementation of EOA Initiative in Nigeria

The growth and sustainability of organic agriculture in Nigeria is dependent on many factors. Proper institutionalization and linkages between all stakeholders along the value chain are vital to its success. To ensure sustainable implementation of the EOA initiative, there is need for; establishment of a Department of organic agriculture in higher institutions of learning especially the universities and colleges of agriculture. This will aid in the incorporation of organic agriculture in the formal learning curriculum, hence more research on it. Also, the Ministry of Agriculture and extension services should be more functional in sourcing information on organic farming and making it more available to farmers.

For the sustainability of organic agriculture in Nigeria, Research institutes should be funded specifically for intensive research on organic farming. The government should also make supportive legislations to ensure a proper regulatory framework, for all stakeholders to play on level ground. The government should also consider establishing strong domestic markets for organic products as a way of protecting the organic producers. Additionally, extension workers should be trained in organic farming practices, which should be included in their training programme curricula.

Indigenous organic farming knowledge, skills, technologies and crop varieties should be included in modern organic agriculture activities. To promote organic agriculture and to make it competitive, the government should review current policies and programmes and remove disincentives to organic agriculture, for example, subsidies on agro-chemicals and ensure adequate and prompt funding of research in organic agriculture. Institutions mandated with the production and certification of farm inputs like seeds, fertilizers and pesticides should intensify the production of organic inputs and avail them to the farmers.

5.4 Proposed policy and strategic recommendations for Nigeria

Most agricultural policies in Nigeria focus on increasing agricultural productivity without any particular emphasis on eco-friendly agricultural practices. For the successful and sustainable implementation of EOA in Nigeria to happen, it is proposed that there is no need to formulate an EOA standalone policy. Rather, amendments should be done to the existing policies, strategies and institutional frameworks to offer guidelines for the implementation of EOA. Enactment of new laws and regulations is required to achieve the mainstreaming agenda such as the National EOA Implementation bill which will ensure that EOA practices are recognized and guided by the law. Additionally, there is need for an elaborate and supportive institutional framework that will oversee the proper implementation of organic and eco-friendly practices in the country.

Moreover, more research and training are required to unveil new and relevant eco-friendly organic practices specific to various parts of the country. This may require the formation of new institutions whose mandate is specifically to promote ecological organic agriculture. The government should also consider incentivizing organic farmers, which will increase the adoption rate of organic farming practices in the country. Besides, the government should incorporate organic farming in all major agricultural programmes which are market-oriented thus increasing agricultural production and farm incomes. In order to increase public awareness of the benefits of ecological organic agriculture over the prevalent conventional farming, it is important to involve the media since it is the only sure way to reach everyone across the country. It is also crucial to train the extension and education personnel on the new EOA technologies to enable them to demonstrate and educate the farmers accordingly. This should target more on the youth and the women since they are more involved in agricultural activities in the country. In order to make EOA more attractive and less costly to the farmers, the government should introduce a subsidy programme for the organic inputs countrywide and also ensure continuous availability and in a timely manner. This is because many farmers have limited access to those inputs which are very costly considering their economic status.

6. RWANDA

The Rwandan agricultural sector has been operating in the context of rapid changes and evolving dynamics in policy and institutional environments at national, regional, continental and international levels. This affects the sector's sustainable performance and development. Rwanda is working with regional bodies such as EAC and Common Market for Eastern and Southern Africa (COMESA) to expand the opportunities created by agricultural growth and integrated regional trade. It is also gaining recognition as a leader in its response to global goals and challenges, such as the SDGs and climate change (International Trade Centre [ITC], 2008).

The Government of Rwanda (GoR), through the agency of the Ministry of Agriculture (MINAGRI), is responsible for guiding rural development and promoting agricultural transformation that increases agricultural production and improves the lives of Rwanda's rural poor. MINAGRI has also been tasked with facilitating the consolidation of agricultural land use to improve land management and productivity. By so doing, it seeks to increase agricultural yields, protect smallholder land rights, improve the status, livelihoods, and lives of millions of rural Rwandans, promote efficient and sustainable use of land resources, promote the equitable distribution of land resources that recognizes the importance of agriculture to the subsistence needs of Rwanda's rural population and increase opportunities for and benefits derived from private investment in the agricultural sector.

The Rwanda Organic Agricultural Movement (ROAM) is the National Umbrella Organization which unites producers, farmers' organizations, processors, exporters companies, importers companies, institutions and organizations which are greatly involved in or support organic production, processing, marketing and export in the Organic sector in Rwanda. ROAM was established in 2007 to realize the vision of increased incomes and improved livelihoods in Rwanda through the adoption of Organic Agriculture. To achieve this, it has invested in education, training, extension and research in Organic Agriculture, promoting local and export marketing of organic products, advocating for Organic Agriculture, as well as attracting support for Organic Agriculture in Rwanda. Its main activities are to represent and promote the organic sector in Rwanda, to facilitate the establishment of laws and regulations as well as technical advice in the field of production, training, certification and marketing of organic products. Additionally, it coordinates all activities related to certification services and organic inspection acceptable both at the national, regional and international levels. It also aims at attracting donors and investors in the field of organic agriculture, lobby and advocacy for organic farming and to participate in the formulation and implementation of organic agriculture policies in Rwanda.

Certification in Rwanda has been done by Soil Association (UK), EcoCert (Germany), and Ceres (Germany), in cooperation with UgoCert in Uganda, which acts as an inspection agent for Ceres. The Rwanda Bureau of Standards (RBS) has the ambition to become an organic certification body and is negotiating a training programme with Grolink AB, a Swedish based consultancy with a regional office in Uganda. The RBS is currently involved in sourcing funds from donor groups to cover external certification and training, carrying out visits to farms and helping in the

implementation of organic standards, organizing general awareness of organic standards and training stakeholders in organic standards (Rundgren, 2007).

6.1 Relevant National and Agriculture sector Policies, Strategies, Plans and Programmes

Organic agriculture in Rwanda has been developed and promoted in two parallel tracks, an NGO track and a commercial track, driven by companies. Quite uniquely for Rwanda, the government is already involved in the early stages (Källander and Rundgren, 2007). On the NGO side, the organic farming idea was introduced in 1999. On the commercial side, the first organic production developed in the late nineties with the production of organic fruit by Emballage Rwanda/Rwanda Volcano Export Produce. In 2001, a USAID funded project ADAR introduced support to emerging organic exports from Rwanda (ITC, 2008). Until 2007 there was no Rwandan standard for organic production. With the adoption of the East African Organic Product Standard (EAOPS), Rwanda now has a public standard.

The GoR is fairly positive in the institutionalization of organic production, and the Ministry of Agriculture and Animal Resources (MINAGRI) is involved in creating awareness, capacity building among farmers, supporting the certification process, Seeds/Seedlings distribution, training local certifiers in an attempt to reduce the cost of certification, aggressive afforestation, agroforestry and reforestation programme to increase biomass for organic production, radical and progressive terracing, and general restocking of livestock.

The Government developed a Comprehensive Strategic Plan for Agricultural Transformation in the country. This plan emphasises on intensification, professionalization, regionalisation and commercialisation. Rwandan policies are not pro-organic per se, but they acknowledge that organic agriculture can play an important role, side-by-side with conventional agriculture. To support agricultural growth and development in Rwanda, several policies and strategic plans have been formulated and implemented. Some of the policies and institutions supporting organic agriculture include:

National Agriculture Policy (NAP) of 2018- The Ministry of Agriculture, in partnership with a wide range of sector stakeholders, coordinated the preparation of a revised and updated NAP in 2004. This is in correspondence with the changes facing agriculture and the food system nationally, regionally and globally. Rwanda's population is growing and the demand for more food, better nutrition and employment, and enhanced resilience is increasing. This update is consistent with the ambitious targets that African leaders have defined under the Malabo Agreement in 2014 for increasing agricultural productivity, reducing food insecurity and increasing trade. The National Agriculture Policy reflects best national and international practices and focuses on agriculture as a theme, not only as a sector. It has identified four main strategic and enabling pillars upon which core policy guidance and actions have been based: (1) Productivity and Commercialization for Food Security, Nutrition, and Incomes; (2) Resilience and Sustainable Intensification (3) Inclusive Employment and Improved Agro-food Systems' Skills and Knowledge; and (4) An Effective Enabling Environment and Responsive Institutions. NAP has indirect support on organic agriculture through advocating the use of livestock manure to improve soil fertility as a way of promoting agricultural productivity in Rwanda.

The Strategic Plan for Agriculture Transformation IV (2018-2024) - The Strategic Plan for Agriculture Transformation (PSTA) IV is a mid-term implementation framework to operationalize the National Agriculture Policies (NAP). Building on the achievements of the PSTA III that ran from 2013 to 2018 intending to transform Rwanda Agriculture from subsistence to a market-oriented value-creating sector, that contributes to the national economy and ensures food and nutrition security. PSTA IV asserts that crops are the main agricultural commodities in Rwanda and central to food security and the main source of income for most farmers. Additionally, PSTA IV promotes sustainable land husbandry and climate-smart agricultural practices like inter-cropping, cover crops, conservation agriculture (particularly reduced or zero tillage, maintaining crop residues/mulching and crop rotation), crop residue retention, use of improved vegetated fallows and crop rotation. Although in this strategic plan, the Rwandese government has no explicit concern on promoting ecological organic agriculture but rather, it has made concerted efforts to increase environmental and ecologically friendly farming practices thus indirectly supporting EOA.

National Environment and Climate Change Policy of 2018 – The goal of this Policy is to have a clean and healthy environment resilient to climate variability and change that supports a high quality of life for its society. This is achieved through greening economic transformation, enhancing functional natural ecosystems and managing biosafety, strengthening meteorological and early warning services, promoting climate change adaptation, mitigation and response, improving environmental well-being for Rwandans, strengthening environment and climate change governance and promoting green foreign and domestic direct investment and other capital inflows. Although this policy does not explicitly support organic agriculture, it points out inadequate soil conservation practices, the use of chemical fertilisers and over-cultivation as big contributors to soil degradation and pollution, which impacts negatively to the environment thus advocating for environmentally friendly farming practices.

The National Strategy for Transformation [NST1] (2017-2024)- This Strategy aims at modernizing and increasing agricultural productivity through strengthening the commercialization of crop and animal resource value chains, work with the private sector to increase the surface of consolidated and irrigated land and promote agricultural mechanization, promote new models of irrigation scheme management, increases the land area covered by terraces and ensure their optimal use, enhance farmers' access to improved seeds, promote research and develop of new seed varieties, increase the average productivity of key crops per hectare of land, work with the private sector to build post-harvest handling and storage facilities across the country and to add value to agricultural produce (processing), and establish a program to improve professionalization of livestock farmers and increase their output in terms of quality, volume and productivity among other key strategic interventions. In the economic transformation pillar, the strategy aims to accelerate private sector-led economic growth and increased productivity through promoting sustainable management of the environment and other natural resources, in order to transition Rwanda towards a green economy thus supporting eco-friendly and modern farming which is a key component of ecological organic agriculture.

The National Fertilizer Policy of 2014 – This policy envisions a competitive and profitable fertilizer sector that ensures fertilizer access and affordability at the farm gate in a timely manner creating acceptable fertilizer use by farmers for increased and sustainable agricultural productivity and farm incomes. The policy aims to promote diverse fertilizer products and technologies such as improved seeds, irrigation, soil conservation and lime that enhance efficient utilization of fertilizers. This policy encourages local production and the use of fertilizer made from locally available natural resources as a way of minimizing production costs. It directs that the Rwanda Agriculture Board shall provide technical guidance in developing and implementing extension programs aimed at promoting fertilizer use in collaboration with the local government through farmers’ field days and demonstrations. In its support for ecological organic agriculture, the policy encourages the use of lime, organic and bio-fertilizers to compliment inorganic fertilizer use as an integrated approach to soil fertility management. In addition, it encourages the appropriate use of fertilizers to minimize the emission of greenhouse gases thus protecting the environment.

Rwanda Vision 2020- Vision 2020 is the primary socio-economic policy document of Rwanda on which all national and sectoral policies and strategies are based. It describes the modernisation of agriculture and animal husbandry as one of the six pillars for building a diversified, integrated, competitive and dynamic economy. It seeks to transform Rwanda’s economy through a rapid increase in agriculture growth and a significant poverty reduction. Agriculture is a priority sector, with an emphasis on moving the sector from subsistence to commercial production through attracting increased investment. The vision aims to replace subsistence farming by a fully, commercialized agricultural sector by 2020, but no specific emphasis on promoting ecological organic agriculture development in the country.

The Strategy and Investment Plan to Strengthen the Poultry Industry in Rwanda of 2012 - The poultry industry in Rwanda is characterized by the coexistence of two (2) systems, rudimentary village poultry and industrial poultry at its infancy. This strategic plan set five objectives to establish the poultry subsector as one of the flagship industries: Maintaining the domestic market and increasing market share, becoming regionally competitive, developing export opportunities and accessing foreign markets, increasing food security, increasing incomes of small-scale producers and emergence of major poultry business farmers. This strategic plan gives a sector-wide approach on strategies to improve meat production, processing, value-addition and marketing both in domestic and export markets. It also emphasized adherence to the quality and marketing standards set out in their target markets. However, the strategic plan does not express any concern on ecological organic farming requirements in the meat industry.

National Post Harvest Staple Crop Strategy (PHSCS) of 2011- In consultation with MINAGRI, Ministry of Trade and Industry (MINICOM) and Ministry of Finance and Economic Planning (MINECOFIN), USAID has drawn national strategies for strengthening the value chains of staple crops through a policy framework on harvesting, post-harvest handling, storage, and marketing. Launched in 2011, PHSCS aims to develop an efficient post-harvest system driven by the private sector to ensure food security of staple crops. It envisages supporting the private sector to invest in strengthening the competitiveness by improving the efficiency and decreasing the marketing

costs along with the value- and supply chains, and enhancing farmers' access and strengthening their linkage with markets. However, this strategy does not set out any clear post-harvest interventions that are relevant to ecological organic agricultural practices.

Green Growth and Climate Resilience Strategy of 2011 – This strategy appreciates the fact that the future socio-economic development of Rwanda is uncertain due to rapid population growth and climate change, which exerts pressure on land, water, food and energy resources among other natural resources. Coupled with a high rate of urbanization, the country faces a potential threat to its food production given that it relies on rain-fed agriculture both for rural livelihoods as well as tea and coffee exports. This strategy aims to guide national policy and planning in an integrated way, mainstream climate change into all sectors of the economy and also place Rwanda in a better position to access international funding to combat climate change. Although this strategy does not recognize organic farming, it supports eco-friendly agriculture since it aims to achieve sustainable land use and water resource management that result in food security, appropriate urban development and preservation of biodiversity and ecosystem services.

The Crop Intensification Program (CIP) of 2007 – This was a cornerstone program for food staples within MINAGRI and the GoR. Launched in 2007, CIP was a pilot program to increase agricultural productivity in high-potential food crops and ensuring food security and self-sufficiency. CIP activities include bulk buying of inputs by GOR, training of district and sector extension agents, provision of subsidized inputs and credit for input purchase. CIP post-harvest activities include promotion and provision of hermetic storage at the community level, organization of markets, collection and dissemination of market information, and credit facilitation. Although CIP emphasises on promoting sustainable agricultural practices like ISFM as a way of improving agricultural productivity, the majority of the interventions proposed are in support of inorganic agriculture like increasing public expenditure on inorganic fertilizer imports and subsidies to intensify food productions. However, CIP proposes quality checks for organic fertilizers but it's silent on its utilization in the country.

The Girinka Program of 2006 – This was the one Cow per Poor Family program. It was introduced in 2006 by the GoR from National Umushyikirano Council (NUC), as a pro-poor programme to help poor families improve their welfare. The programme was inspired by the Rwandan Culture. Its purpose is to reduce child malnutrition and improve the health and wellbeing of vulnerable citizens. It aimed at enabling every poor family to access a dairy cow for income, nutrition and manure for organic fertilizer, thus promoting organic agriculture in the country.

Horticulture Strategy for Rwanda of 2006 – The Strategy proposed the following priority actions for Horticulture development: developing vegetable value chain with export potential; develop fruits value chain with high potential; develop essential oils; develop floriculture industry including cut flowers, foliage and ornamentals and facilitate communication among non-traditional export crop value chain actors. This strategy recognises Sericulture which is a relatively young industry in the country and requires sustained support to make the sector economically meaningful. The National Sericulture Center (NSC) has invested in most key drivers of the sericulture industry, including the acquisition of silkworm seed, standard rearing techniques,

improved mulberry productivity and capacity building at various levels of the value chain. This strategy firmly delineates the production and export of fresh and dried organic fruits and chillies to the European markets as well as the United States and the regional markets. The strategy also asserts that the development of the organic horticulture segment in Rwanda requires mapping of certain areas as strictly organic production zones and take precaution to avoid chemicals from other areas affecting them, thus supporting ecological organic agriculture.

National Decentralization Policy of 2001- This policy was enacted under the Ministry of Local Government and Social Affairs, in which institutions at the grassroots level are expected to participate and to play a major role in the implementation of policies. Among the strategic objectives of the policy was to develop sustainable economic planning and management capacity at local levels that will serve as the driving motor for planning, mobilization and implementation of social, political and economic development to alleviate poverty. This policy has no specific interventions tailored for organic agriculture development but rather indicates how different sectors, services and functions in the country are devolved to various levels of government.

Master Plan for Fisheries and Fish Farming in Rwanda (2011-2020)- This Master Plan was developed in 2011 to develop knowledge-based aquaculture and fisheries systems; input supply for commercial aquaculture, other than seed and feed; fish marketing, processing and product development; environmental health; fisheries and aquaculture management; and research and advisory services and training. The Master Plan aimed to provide Rwanda consumers with domestically produced, high quality, safe, competitively priced, and nutritious aquaculture products, produced in an eco-friendly manner thus revealing its indirect support for ecological organic farming in the aquaculture industry.

Although these policies and strategies are not meant purposely for EOA, a remarkable achievement is noticeable in the adoption of eco-friendly agriculture which is gaining popularity in the region. This can be noted from the increasing demand for organically produced agricultural products and the development of markets. This success can be attributed to their push for environmental protection and conservation which is an issue of great concern in the country given the prevailing environmental challenges causing food and water insecurity among others. Notwithstanding, the implementation pace of these ecological organic aspects of the policies and strategies is still wanting due to poor institutionalization and lack of awareness on the benefits of EOA.

6.2 Optimal enabling environment for EOA Implementation in Rwanda

The local organic market in Rwanda is rapidly growing as well as the international market. There are organic products visible on the shelves of local supermarkets. The existence of the East African Organic Product Standards (EAOPS) and the East African Organic Mark (EAOM) is an advantage that should be built upon. To facilitate access to the mark, ROAM should become a partner to the Mark agreement and licence it to producers in Rwanda. Policy review indicates the presence of supporting policies and strategies, though not for organic farming per se, the majority have a component in its support. For organic agriculture to grow in the country there is need for increased synergies between the existing agricultural policies and institutions, as well

as the government investing more resources in developing specific policies and institutional frameworks to guide and support organic agriculture.

Conventional and organic agriculture policies should support each other to the greatest extent possible to promote effective policy coherence, especially if organic agriculture is promoted as a mainstream solution. Integrating organic agriculture into overall agricultural policies and poverty reduction strategies, and building organic agriculture supply capacities through education, research, extension services, local and regional market development and export facilitation, are key to realizing the benefits that organic agriculture offers. For sustainability, governments should focus on playing a facilitating rather than a controlling role, since organic agriculture acknowledges the experiences of the farming communities and can build on and integrate indigenous or traditional knowledge, and thereby shows respect for the farmers as shapers of their future, rather than implementers of an agriculture production system imposed from above or from the outside.

6.3 Sustainable implementation of EOA Initiative in Rwanda

The strength of organic agriculture is that it combines and integrates solutions to so many of the pressing problems of agriculture. Nevertheless, for organic farming, the general framework also needs to be right. If farmers lack access to resources such as land, organic agriculture has little to offer; if farming is unreasonably taxed, there is not much relief to get from organic farming; if women are discriminated against by legislation or customs, they are likely to be discriminated against in an organic system as well. Organic agriculture can therefore not be seen as a silver bullet that solves all problems in the agriculture sector.

For Rwanda to develop and support sustainable organic farming, then the general agriculture policies need to be assessed to what extent they are encouraging, are neutral or are biased against organic agriculture. It should also consider subsidizing organic inputs distribution systems and grant tax exemptions, similarly to what is done in conventional farming. In Rwanda, the domestic market for organic products is not well established, and the majority of certified organic products is exported. Organic certification in the domestic market offers quality assurance to consumers by knowing that the products have been produced in adherence to strict production standards.

6.4 Proposed policy and strategic recommendations for Rwanda

Since there is no specific policy for EOA development in Rwanda, it is proposed that a stand-alone Ecological organic seeds multiplication policy is needed. This will give a clear guideline and full support to the production of organic products in the country. For this to be successful, proper institutionalization, inclusivity of all stakeholders and public-private partnerships are key. Moreover, a bottom-up approach in the policy implementation offers the farmers a good opportunity to contribute to the process and ensure its success. For this policy to be successful, proper supply and value chains should be established for effective marketing of organic products both locally and internationally.

Additionally, proper advocacy and mainstreaming of EOA initiatives and practices should be done at the national level to enhance their adoption and up-scaling into the national development programmes and plans. Moreover, the EOA technologies and practices should be youth friendly since this is an opportunity for youth employment. For this proper implementation of this policy, cross-sectoral coordination and support are necessary to form a strong basis for its sustainability. To ensure the success and sustainability of EOA in Rwanda, proper systems and institutions should be put in place to ensure adequate and effective local certification of EOA products that conforms to the common international standards thus widening the market.

7. SENEGAL

Senegalese agricultural sector is organized and administered through various ministries, including the Ministry of Agriculture, the Ministry of Mining, Industry, Agro-Industry, and Small and Medium Companies, the Ministry of Livestock and the Ministry of Higher Education and Scientific Research. The Ministry of Agriculture oversees various directorates. One of the mandates of the Ministry of Mining, Industry, Agro-Industry, and Small and Medium Companies is to promote the competitiveness of the country's agricultural sector. The Ministry of Livestock operates several services that delegate government support and control to the livestock, dairy, and poultry subsectors. The Ministry of Higher Education and Scientific Research administers biotechnology regulations and development and oversees agricultural research and development carried out by the country's universities (Stads and Sene, 2011). The government of Senegal aims to make agriculture an engine of economic growth. Senegal is among the few African countries that have allocated more than 10% of the public budget to agriculture under the CAADP Maputo target.

7.1 Relevant National and Agriculture sector Policies, Strategies, Plans and Programmes

The country developed several policies and strategic plans to guide national development as well as develop the agriculture sector. Some of the key policies and strategies include:

Plan for an Emerging Senegal (PSE) (2015-2035) - In 2014, the Government adopted the Plan for an Emerging Senegal (PSE), a 20-year strategy to guide the implementation of coherent economic and social development policies. PSE aims to promote human capital by improving people's living conditions and reducing social inequalities. PSE also focuses on social protection and resilience of the most vulnerable, gender equality, improved disaster and risk prevention, optimal use of natural resources and sustainable development. This plan is clear in its commitment to an inclusive, holistic approach to sustainable development, noting that "meeting basic social needs is a key factor in promoting sustainable human development and the green economy, thus revealing its indirect support for ecologically benign agriculture.

National Strategy and National Action Plan for Biodiversity (2015-2020) – The Strategy and Plan reinforce the country's vision 2030 and the Plan for an Emerging Senegal (PSE) among other policy frameworks. The plan aims to improve biodiversity knowledge and strengthen institutional and technical capacity; reduce pressures and restore and conserve biodiversity; promote biodiversity accounting in socioeconomic development policies; and promote the sustainable use of biodiversity and mechanisms for accessing biological resources and equitably sharing the benefits derived from them. The plan is fully supportive of eco-friendly economic activities and practices in the country including agriculture.

Partnership for Action on Green Economy (PAGE) of 2014 – PAGE supports Senegal to transform its economy as a driver of sustainability and social equity. PAGE is an initiative of the United Nations system, in response to the community appeal international at Rio+20. It appreciates the fact that improvement in the agriculture sector will have a huge effect on the economy. Additionally, it asserts that green investments in sustainable agriculture technologies and

techniques will prevent soil degradation and lead to an increase in agricultural production. PAGE has worked directly with multiple branches of government to mainstream green economy advocacy at the national and sub-national level and has leveraged its specialised expertise to help formulate and implement the National Strategy on the green economy. PAGE's commitment to capacity building has also led to the establishment of national institutions and partnerships that can help ensure the long-term success of Senegal's green economy transition, hence its support for ecological organic agriculture in the country.

National Strategy for the Development of Rice growing (SNDR) of 2010- In 2010, the PNAR was officially launched as the implementation instrument of the SNDR. It aims to promote and increase national rice production while meeting consumer demand with competitive prices. Strategies for development include: increasing cultivated areas, modernising the means and methods of production, and professionalizing the value chain actors. The SNDR does not provide any strategic interventions for the development or sustainability of ecological organic rice production in the country. This is evident from its support for increased modern input subsidies as well as improved seeds, as a way of improving and maintaining higher profit margins for the producers.

National Agricultural Investment Plan (PNIA) (2010-2020) – The plan was formulated in 2010, PNIA operationalizes the ECOWAP and the CAADP compact on the national level. Its objective is to increase production, ensure sustainable management of water and natural resources, improve market access and value-added transformation, and strengthen stakeholders' capacity to ensure efficient implementation. With regard to ecological organic agriculture, PNIA recognizes the importance of combating environmental degradation challenges to increase agricultural productivity, which is an ecologically sound practice but is mute on organic agriculture.

The Law on the Accelerated Growth Strategy (LOSCA) of 2008 – The law was adopted to create a comprehensive strategy for economic growth. The main objective of this strategy is to boost the economic growth of the country so that poor people can benefit. The law is well implemented and is operationalized through six clusters of economic activities, including agriculture and agribusiness, fishery and livestock. LOSCA articulates how the organizational structure, private-public dialogue, implementation, monitoring and evidence-based analysis, and dissemination will enable the realization of economic growth. With regard to ecological organic agriculture development in Senegal, this strategy does not give any intervention or recommendation on the same. However, its main focus is on improving productivity and reducing poverty. Therefore, agriculture is identified as one of the primary sectors among livestock, fisheries and forestry that could contribute to economic growth.

Return to Agriculture (REVA) of 2006- In response to increasing rural migration and emigration, the Senegalese government launched REVA in 2006 to engage the youth in farming jobs to fight against joblessness and illegal migration. This objective is achieved through the introduction of new and modern farming technologies such as irrigation equipment, new farming methods, on-farm technical assistance and value-added crops thus making agriculture less exhaustive, attractive and more profitable to the youth and women. Moreover, it aims at connecting farmers

to their potential markets and improving their social lives while on the farms. This policy does not express any direct support or recommendations on promoting ecological organic agriculture in the country. Instead, its main focus is to modernize agriculture and make it more profitable for the youth and women.

National Plan for Adaptation to Climate Change (NAPA) of 2006 – This plan gave a cross-sectoral view of the impacts of climate change as well as the adaptation and mitigation strategies. It identifies the Agriculture sector among the most vulnerable sectors of the economy. This is due to factors like soil degradation and loss of vegetation cover caused by higher temperatures and decreased rainfall, leading to continued agricultural losses. Additionally, increased soil mineralization instigated by higher temperatures will also degrade soils and fertility. The plan is also concerned about the effects of climate change on biodiversity, such as extinction and changes in species composition. Since environmental protection and conservation is the primary objective of this plan, this shows its support for eco-friendly agricultural practices.

The Agricultural, Forestry and Pastoral Law (LOASP), (2004-2024)- This law was adopted in 2004 and defines guidelines for the development of the agricultural sector and the reduction of poverty for 20 years, explicitly targeting the objectives of increasing agricultural exports and improving the quality of products destined for export, as well as establishing a system of incentives for private investment in agriculture and rural areas. The law should be operationalized through a National Agricultural Development Program (PNDA), a Forestry Action Plan (PAFS) and a National Livestock Development Plan (PNDE). However, the periodic reviews of these national plans lapsed for several years. As a result, only a small portion of the specified activities under LOASP have been realized. LOASP aims to reduce poverty and increase food security in the country while ensuring environmental protection and sustainable management of natural resources, thereby supporting ecological organic farming in the country.

The National Strategy for Sustainable Development (NSSD), 2002- It was developed in 2002 with the support of the United Nations Development Program (UNDP). The NSSD has made it possible to set up the National Commission for Sustainable Development (CNDD). It revolves around strategic axes aimed at integrating sustainable development in different sectors deemed to be priorities and growth drivers for the country including increasing the level of awareness and education of actors for Sustainable Development; promotion of sustainable production and consumption patterns; and the promotion of economic and harmonious development. This strategy supports and promotes environmentally friendly agriculture as a way of sustainable production in line with EOA principles.

7.2 Optimal enabling environment for EOA Implementation in Senegal

The implementation of environmentally sustainable farming systems is influenced by a range of policies and strategies, providing incentives or disincentives. The Senegalese government is often criticized for lacking clear direction in the design and implementation of agricultural innovation policies. Critics assert that research coordination is dispersed across too many ministries, and linkages between ministries are weak, leading to the duplication of activities.

Most of the policy measures used to support agriculture discourage sustainable and organic farming. In the short term, this means that farmers switching from high-input to resource-conserving technologies cannot do so without incurring some transition costs. For organic agriculture to thrive in Senegal, general policies should address issues of relevance for organic, such as reduction of pesticides, protection of soil and biodiversity, developing small-scale farms and decreasing dependency on imported fertilizers. The development of organic agriculture also depends on land tenure systems. Organic farming represents a major investment in a piece of land, and it is not likely to be of interest for farmers that are squatting or otherwise have less secure tenure. Therefore, there is a dire need for the government ministry related to land issues to ensure stable land ownerships, especially for small scale producers.

In Senegal, certification in organic farming is currently provided by support organizations such as ENDA-PRONAT, AGRECOL, and Association Solidarity of the Partisans of Ahllou Bayti (ASPAB) for farmers' organizations that practice organic farming. However, this certification is valid only at the national level and is not recognized by foreign bodies like the European Union (EU), the United States of America, Japan, among others. Thus, for the export of their organic products, producers are obliged to ask European Certification Organizations to certify their products. This certification is very expensive and is not within the reach of organic producers.

Currently, certification is based on trust and internal control provided by the support organizations (mentioned above) for the benefit of farmers' organizations practicing organic farming. This certification offers the necessary guarantees as long as the producers they supervise, actually practice organic farming. The guarantee is real, but it lacks visibility to the consumer and harmonization of the label of the organic product. Therefore, this type of certification does not reassure the consumer of product quality, no traceability, and no single label of the organic product compared to conventional agriculture products. The consumers must have a guarantee reassuring them of the biological nature of the product and its traceability.

7.3 Sustainable implementation of EOA Initiative in Senegal

For the sustainability of organic agriculture in Senegal, there is need to improve its competitiveness to match the prevailing conventional systems. This can be attained through budgetary support by government and non-government agencies, such as subsidizing organic inputs (e.g., seeds). Additionally, the introduction of a national program to support and promote organic farming and the establishment of organic production standards and the regulation of organic products in the domestic markets is crucial. The information needs of the farmers on organic farming and markets should be addressed using the government network of extension service.

For successful implementation of ecological organic agriculture in Senegal, research and capacity building on technical, economic and social aspects in the field of organic agriculture is a prerequisite. The contribution of organic farming to the development of sustainable and environmentally friendly agricultural systems as well as the impacts of a widespread conversion to organic farming on public costs and benefits should be evaluated and supported.

For sustainability of organic agriculture in Senegal, a Participatory Guarantee System is required and a unique organic label involving the different actors of agricultural sectors (producers, intermediate traders, retailers, wholesalers, consumers), for all organic products. For the establishment of this system, it is essential to involve NGOs in the organic agricultural sector, technical services and research institutes. Implementation of the system will allow: quality control of organic products, consumer and other stakeholder participation in the certification process, better promotion and marketing of organic products among consumers by better visibility of certified organic products with a unique "Bio Senegal" label, and marketing of the organic product at a fair price.

7.4 Proposed policy and strategic recommendations for Senegal

For Senegal to implement and realize the full benefits of EOA, there is need for coherent strategies and policy frameworks that allow the various actors to evolve and fully participate in the policy formulation and implementation process. Although there exists a range of policy and planning documents in the country, there is no coordination between ministries and institutions in charge of agriculture issues thus impeding sustainable development. There is also overlap, conflict of jurisdiction and confusion concerning mandates and responsibilities of various institutions and legal organs thus leading to poor performance in the agriculture sector. Since conventional farming has taken dominance over ecological organic agriculture, there is need for raising awareness on the importance and benefits of EOA hence the need for its integration in the national policy framework.

Ecological organic agriculture should be included in the school curriculum for higher education learning institutions and universities. There is also the need to increase research activities in this subject matter and develop new technologies for EOA. In order to increase the consumption of organic products, value addition as well as the development of new markets for organic products. Appropriate structures and guidelines should be put in place to increase the visibility of the EOA sub-sector and become an important component of the agricultural policy. Strong synergies between public and private sector actors should be encouraged to reinforce effective policy formulation and implementation.

8. CONCLUSION AND RECOMMENDATIONS

8.1 Conclusion

The study findings show that some policies and institutions support organic agriculture in Africa. These range from agricultural, environmental and industrial policies as well as institutional frameworks, visions and strategic plans. At the continental and regional levels, various strategies and policy documents exist to support sustainable agricultural development, although they are not explicitly meant to directly guide and support EOA. Such as Africa's Agenda 2063, STISA 2024, the CAADP among others. Policy review and analysis at country levels indicate that countries are at varying levels of adoption and institutionalization of organic agricultural practices and programmes. The findings also reveal that the existing policies/strategies and frameworks are not sufficient to support EOA and that new policies/strategies/frameworks are required. It was also noted that the awareness levels for continental and regional policies/strategies/frameworks that support EOA are very low compared to those of the national levels.

In Nigeria, most of the policies and institutional frameworks have no specific linkage or support on ecological organic agriculture, except for a few like the Organic Fertilizer Promotion and Development Division (OFPDD) under the Federal Ministry of Agriculture and Rural Development (FMARD), which is responsible for the development and promotion of organic fertilizer in the country. Most of the policies aimed at protecting and conserving the environment and biodiversity, which is a crucial component of EOA. Although some projects and programmes have been implemented to promote organic farming, EOA in Nigeria is faced with many constraints, including lack of technical know-how, delays in acceptance of organic products in the world market, low level of organic certification, poor institutional support by the government, and inadequate government policies to safeguard organic farming.

In Rwanda, organic agriculture has received support from the government (through government institutions by extension, Rwanda Agricultural Board and Rwanda Bureau of Standards among others), though the local organic market is more or less non-existent, and it will take quite some efforts to establish it. Policy review indicates the presence of supporting policies and strategies, such as the *Girinka* program (one cow per poor family) implemented in 2006. This program aims to reduce poverty and malnutrition in the country as well as in the provision of affordable organic manure to farmers. Additionally, the Rwandese Fertilizer Policy (2014) is largely about the increased use of chemical fertilizers but contains recommendations and actions targeting the better use of organic fertilisers, like improving extension system to create farmers' awareness on the importance of organic fertilizer and demonstrating better methods of producing and applying organic manure. These programs and policies are not for organic agriculture per se, but the majority have a component in its support. For organic agriculture to grow in the country there is need for increased synergies between the existing agricultural policies and institutions, as well as the government investing more resources in developing specific policies and institutional frameworks to guide and support organic agriculture.

In Senegal, most of the policy and institutional measures used to support agriculture are pro-conventional farming. However, the country has adopted various policies, strategies and plans

to deal with issues relating to sustainable development, without a clear mention of EOA. These include long-term national visions, national development plans, Poverty Reduction Strategy Papers (PRSPs) and sectoral strategies in the areas of agriculture, environment and natural resources. For instance, the National Strategy and National Action Plan for Biodiversity (2015 – 2020) and the National Plan for Adaptation (NAPA) to Climate Change of 2006 are concerned about the effects of climate change on biodiversity, such as extinction and changes in species compositions, which is key to ecological friendly agriculture. For organic agriculture to thrive in Senegal, policies should address issues of relevance for EOA, such as reduction of pesticides, protection of soil and biodiversity, developing small-scale farms and decreasing dependency on imported fertilizers. For the sustainability of organic agriculture in Senegal, there is need to improve its competitiveness to match the prevailing conventional systems.

In Benin, organic agriculture has received insufficient attention over the past decades although its health and environmental benefits have been advocated. Many farmers use traditional farming methods that are generally in harmony with modern organic principles but formal organic farming and certification are very limited. From the policy and institutional framework review and analyses done, it is evident that Benin has elaborate agriculture policies and strategies. For instance, Benin's National Adaptation Programme of Action (NAPA) of 2008 promoted the use of sustainable energy and energy-efficient stoves to reduce land degradation, improve access to energy and promote adaptation in areas vulnerable to climate change impacts. Benin's Strategy for Low Carbon Development and Climate Change Resilience 2016-2025 supports environmental protection and conservation in all production and economic undertakings thus expressing its support for ecologically sound agricultural practices among others. However, the majority of the policies and strategies do not prioritize organic agriculture practices in the country though they support sustainable development. The absence of a detailed explicit policy or strategy for the development of the Benin organic agriculture sector is a major setback in the implementation of the EOA Initiative.

8.2 Overall Policy and Institutional Recommendations

The following are some key recommendations that if fully implemented will have a great impact in the EOA sub-sector.

- i) ***Review existing agricultural policies or enact standalone EOA policy and develop strategies and plans that support it-*** This will give clear guidelines and full support to the production of organic inputs and products. For this to be successful, proper institutionalization, inclusivity of all stakeholders and public-private partnerships are key. Moreover, a bottom-up approach in the policy implementation offers the farmers a good opportunity to contribute to the process and ensure its success.
- ii) ***Establish effective markets for EOA products locally and internationally-*** Proper supply and value chains should be established for effective marketing of organic products both locally and internationally. This should be done through the different stakeholder and stakeholder networks within the EOA subsector in the specific study countries.

- iii) **Encourage mainstreaming of EOA initiatives in the various national programmes, strategies and plans** -This should be done through proper advocacy at the national level to enhance their adoption and up-scaling into the national development programmes and plans. Moreover, the EOA technologies and practices should be youth friendly since this is an opportunity for youth employment.
- iv) **Develop a cross-sectoral coordination and support mechanism for EOA stakeholders**- To ensure success and sustainability of EOA, proper systems and institutions should be put in place to ensure adequate and effective coordination of EOA activities including activities such as local certification processes for EOA products to ensure that they conform to the common international standards thus widening the market for the products.
- v) **Development of organic standards that are easily implementable in the countries**- These would offer producers an opportunity to apply them in their specific contexts, climatic and agroecological conditions thereby leading to more farmers getting involved in organic agriculture.
- vi) **The Governments and other financial stakeholders should facilitate and convene conferences, seminars and workshops for EOA**- These will lead to enhancing learning and exchange of knowledge on EOA thus promoting its adoption. It is important to create functional and reliable regional networks for better interaction and networking among stakeholders in EOA subsector.

REFERENCES

- Dayou, E. D., Zokpodo, B. K. L., Montcho, M., Ajav, E. A., Bomgboye, I. A. and Romain, L. G. (2020). Current Agricultural and Environmental Policies in Benin Republic. Sustainable Agriculture Research, Vol. 9, No. 2. Canadian Center of Science and Education.
- Ecological Organic Agriculture [EOA], (2015). The Ecological Organic Agriculture (EOA) Initiative in Africa Action Plan 2015-2020. Biovision Africa Trust.
- Food and Agriculture Organization, [FAO], (2006). Food Security and Agricultural Development in Sub-Saharan Africa. Building a Case for More Public Support. Working Paper No. 01/E. FAO, Rome.
- Global Agriculture Information Network, [GAIN] (2014). Organic Agriculture in Nigeria. Available online at: https://apps.fas.usda.gov/newgainapi/api/report/downloadreportbyfilename?filename=Organic%20Agriculture%20in%20Nigeria_Lagos_Nigeria_6-5-2014.pdf
- International Federation of Organic Agriculture Movements [IFOAM], (2017). Guidelines for Public Support to Organic Agriculture, IFOAM-Organics International.
- IFOAM, (2000). Proceedings Report of a Scientific Conference, Basel, IFOAM, Switzerland, 28-31 August 2000.
- International Institute of Tropical Agriculture [IITA], (2017). Synthesis Report of the Nigeria Zero Hunger Strategic Review, IITA Publishers, Ibadan, Nigeria.
- International Trade Centre [ITC], (2008). Overview of Organic Agriculture in Rwanda and Options for Policy and Trade development, ITC, Geneva.
- Källander, I. and Rundgren, G., (2007). Building Sustainable Organic Sectors, IFOAM, Bonn
- Ministry of Agriculture, Livestock and Fisheries, MAEP, (2015). Agricultural sector performance report, Management 2014, Activity Report. Republic of Benin.
- Rundgren, G., (2007). Building Trust in Organic, A guide to set up organic certification bodies, IFOAM, Bonn, Germany.
- Stads, G. and Sene, L., (2011). Private Sector Agricultural Research and Innovation in Senegal; Recent Policy, Investment and Capacity Trends, IFPRI, McGill University.
- Statista (2021). Population of Nigeria in selected years between 1950 and 2020. Available online at: <https://www.statista.com/statistics/1122838/population-of-nigeria/>
- UNEP-UNCTAD, (2008). Organic Agriculture and Food Security in Africa. UNEP-UNCTAD Capacity Building Task Force on Trade, Environment and Development (CBTF), United Nations, New York and Geneva.
- Willer, H. and J. Willer, (2018). The world of organic agriculture-statistics and emerging trends 2018. Research Institute Organic Agriculture (FiBL) and International Federation of Organic Agriculture (IFOAM), Frick, Switzerland.
- ZEF, FARA and INRAB, (2017). Country Dossier: Innovation for Sustainable Agricultural Growth in Benin. Program of Accompanying Research for Agricultural Innovation. Bonn, Accra and Cotonou. Center for Development Research, Forum for Agricultural Research in Africa and Institut National des Recherches Agricoles du Benin.

ANNEXES

Annex 1: Data Collection Tools

i) Key Informant Interview (KII) Questionnaire



MAINSTREAMING ECOLOGICAL ORGANIC AGRICULTURE INITIATIVE (EOA-I) INTO THE AGRICULTURAL SYSTEMS IN AFRICA

KEY INFORMANT INTERVIEW (KII) QUESTIONNAIRE

This Key Informant Interview (KII) questionnaire was prepared by the African Technology Policy Studies Network (ATPS) to assess the Ecological Organic Agriculture (EOA) related policies, regulations and institutional frameworks, and to identify all stakeholders along the EOA value chains in the continent, regions and project implementing countries (Kenya, Rwanda, Nigeria, Senegal and Benin). This study aims to:

1. To review and assess the policies and institutional frameworks aligned with the Ecological Organic Agriculture (EOA) initiative in the continent, regions and the target countries.
2. To identify and categorize all actors and stakeholders in (EOA) along the value chains, citing their linkages, the roles they play, as well as their levels of influence and power in the implementation process of the EOA Initiative.

The questionnaire is aimed to be filled by stakeholders along the EOA value chain including policy makers, research organizations, public and private actors, producers, consumers, traders, processors, exporters, inputs suppliers and development bodies and agencies among others. The information obtained will inform futuristic recommendations on how the policies and institutional landscapes can be improved to support the EOA initiative's integration into continental, regional and national agricultural programs and plans in Africa. In addition, it will inform recommendations on how to engage the stakeholders better as well as tap on their powers and influence to spur successful implementation of the EOA initiative.

The questionnaire will take about 20 minutes of the respondent's time. All the data and entries of the respondent will be anonymized in the analysis and project publications. Respondents will however be included in the distribution lists for final project outputs.

Date [Click here to enter a date.](#)

1. Respondent/stakeholder specific details

- 1.1. Name of respondent (optional): [Click here to enter text.](#)
- 1.2. Phone number: [Click here to enter text.](#)
- 1.3. Email address: [Click here to enter text.](#)

- 1.4. Name of organization you work in: [Click here to enter text.](#)
- 1.5. Category of organization/respondent
- a. Policy maker
 - b. Public research and training institution
 - c. Private research and training institution
 - d. Academic institution
 - e. Development organization
 - f. Lead agency
 - g. Non-Governmental Organization (NGO)
 - h. Community Based Organization (CBO)
 - i. Faith Based Organization (FBO)
 - j. Trader (manufacturer, processor, input supplier, exporter, e.t.c)
 - k. Producer/producer organization
 - l. Consumer/consumer organization
 - m. Any other (please specify) [Click here to enter text.](#)
- 1.6. Designation: [Click here to enter text.](#)
- 1.7. Number of years worked in the organization: [Click here to enter text.](#)

Policy, Regulations and Institutional Review and Analysis on Ecological Organic Agriculture (EOA) in Africa

2. Key Policies, Strategic plans, Regulations and Institutional frameworks related to agriculture sector (*all agriculture related policies, strategic plans, regulations and institutional frameworks available in the continent, regions and target countries*)

2.1 At the continental level (Africa), please list and explain all policies, regulations and strategic plans related to the agriculture sector, citing their years of enactment

[Click here to enter text.](#)

2.2 At the continental level (Africa), list and explain all institutional frameworks that guide and support the agriculture sector

[Click here to enter text.](#)

2.3 At the regional level (ECOWAS and / or EAC), please list and explain all policies, regulations and strategic plans relevant to the agriculture sector, citing their years of enactment

[Click here to enter text.](#)

2.4 At the regional level, list and explain all institutional frameworks that guide and support the agriculture sector?

[Click here to enter text.](#)

2.5. Which policies, regulations and strategic plans are available in this country to support and guide agricultural activities in the country? (**List them and their years of enactment**)

[Click here to enter text.](#)

2.6. Which Institutions are there to support and guide agricultural activities in the country? (**List their names and explain and the sub-sectors they support**)

[Click here to enter text.](#)

3. EOA aligned Policies, Strategic plans, Regulations and Institutional frameworks (all ecological organic agriculture related policies, strategic plans, regulations and institutional frameworks in this continent, region and country)

3.1 Does the above-mentioned continental policies, regulations and strategic plans (**in question 2.1 above**), support EOA implementation in the continent? Yes or No

3.1.1 If Yes (**in question 3.1 above**), please list the ones that are in support of EOA and explain how?

[Click here to enter text.](#)

3.1.2 If No (**in question 3.1 above**), please explain why?

[Click here to enter text.](#)

3.2 Does the aforementioned continental institutional frameworks (**in question 2.2 above**) support EOA implementation in the continent? Yes or No

3.2.1 If Yes (**in question 3.2 above**), list the ones that support EOA and explain how

[Click here to enter text.](#)

3.2.2 If No (**in question 3.2 above**), please explain why?

[Click here to enter text.](#)

3.3 Does the above-mentioned regional policies, regulations and strategic plans (**in question 2.3 above**), support EOA implementation in the region? Yes or No

3.3.1 If Yes (**in question 3.3 above**), please list the ones that support EOA and explain how?

[Click here to enter text.](#)

3.3.2 If No (**in question 3.3 above**), please explain why?

[Click here to enter text.](#)

3.4 Does the aforementioned regional institutional frameworks (**in question 2.4 above**) support EOA implementation in the continent? Yes or No

3.4.1 If Yes (*in question 3.4 above*), list the ones that support EOA and explain how

[Click here to enter text.](#)

3.4.2 If No (*in question 3.4 above*), please explain why

[Click here to enter text.](#)

3.5 Does the aforementioned national policies, regulations and strategic plans (*in question 2.5*) support Ecological Organic Agriculture in this country? Yes or No

3.5.1 If Yes (*in question 3.5 above*), which one (s)? List them and indicate how?

[Click here to enter text.](#)

3.5.2 If No (*in question 3.5 above*), explain why?

[Click here to enter text.](#)

3.6 Does the aforementioned national institutional frameworks (*in question 2.6*) support EOA in the country? Yes or No

3.6.1 If Yes (*in question 3.6 above*), list them and explain how they support the EOA sub sector

[Click here to enter text.](#)

3.6.2 If No (*in question 3.6 above*), explain why?

[Click here to enter text.](#)

3.7 Are there policies, regulations and strategic plans specific for EOA in this continent, region and/or country? Yes or No

3.7.1 If Yes (*in question 3.7 above*), List them (*including their years of enactment*) and explain how they support the EOA sub-sector

[Click here to enter text.](#)

4. Optimal enabling environment for EOA-I implementation (*the presence or absence of a policy, regulatory and institutional environment for optimal performance of Ecological Organic Agriculture in this continent, region and country and their complementarity in creating the right enabling environment*)

4.1 In your opinion, how does an optimal environment for proper implementation of EOA look like in the continent, region and in this country? (*give your description*)

[Click here to enter text.](#)

4.2 In your opinion, does an optimal environment for EOA-I implementation exist in the continent, region or country? Yes or No

4.2.1 If Yes (*in question 4.2 above*), describe it

[Click here to enter text.](#)

4.3 In your opinion, does the existing policies, strategic plans and regulations in this continent, region and country offer an optimal environment for EOA implementation? Yes or No

4.3.1 If Yes (*in question 4.3 above*), list the specific policies, regulations and strategic plans and explain how they offer that environment

[Click here to enter text.](#)

4.3.2 If No (*in question 4.3 above*), explain why?

[Click here to enter text.](#)

4.4 In your opinion, does the existing institutional frameworks in this continent, region and country offer an optimal environment for EOA implementation? Yes or No

4.4.1 If Yes (*in question 4.4 above*), list the specific institutions and explain how they offer that environment

[Click here to enter text.](#)

4.4.2 If No (*in question 4.4 above*), explain why?

[Click here to enter text.](#)

5. Sustainable implementation of the EOA initiative (*Overall policy, regulatory and institutional coherence within the agricultural sector to ensure sustainability of the Ecological Organic Agriculture Initiative in the continent, region and target countries*)

5.1 In your opinion, is the current policy, strategic and regulatory environment suitable for sustainability of the EOA initiative in this continent, region and country? Yes or No

5.1.1. If Yes (*in question 5.1 above*), list the specific policies, regulations and strategic plans and explain how they support sustainability of the EOA initiative in this continent, region and country

[Click here to enter text.](#)

5.1.2 If No (*in question 5.1 above*), explain why?

[Click here to enter text.](#)

5.2 In your opinion, is the current institutional environment suitable for sustainability of the EOA initiative in this continent, region and country? Yes or No

5.2.1 If Yes (*in question 5.2 above*), list the specific institutions and explain how they support sustainability of the EOA initiative

[Click here to enter text.](#)

5.2.2 If No (*in question 5.2 above*), explain why?

[Click here to enter text.](#)

5.3 Do you believe that EOA-I implementation in this continent, region and country will be a success? Yes or No

5.3.1 If Yes (*in question 5.3 above*), explain why?

[Click here to enter text.](#)

5.3.2 If No (*in question 5.3 above*), explain why?

[Click here to enter text.](#)

6. Proposed policy, regulatory and institutional recommendations (*overall policy, regulatory, institutional and strategic amendments and recommendations proposed including identified gaps with regard to EOA-I implementation and its sustainability*)

6.1 Which policy, regulatory and strategic amendments and recommendations would you propose for sustainable implementation of the EOA initiative in this continent, region and country?

[Click here to enter text.](#)

6.2 Which institutional amendments and recommendations would you propose for sustainable implementation of the EOA initiative in this continent, region and country?

[Click here to enter text.](#)

ii) Focus Group Discussion (FGD) Guide



MAINSTREAMING ECOLOGICAL ORGANIC AGRICULTURE INITIATIVE (EOA-I) INTO THE AGRICULTURAL SYSTEMS IN AFRICA

FOCUS GROUP DISCUSSION (FGD) QUESTIONNAIRE

This Focus Group Discussion (FGD) questionnaire was prepared by the African Technology Policy Studies Network (ATPS) to assess the Ecological Organic Agriculture related policies, regulations and institutional frameworks, and to identify all stakeholders along the EOA value chains in the continent, regions and project implementing countries (Kenya, Rwanda, Nigeria, Senegal and Benin). This study aims to:

3. To review and assess the policies, regulations and institutional frameworks aligned with the Ecological Organic Agriculture (EOA) initiative in the continent, regions and the target countries.
4. To identify and categorize all actors and stakeholders along the EOA value chains, citing their linkages, the roles they play, as well as their levels of influence and power in the implementation process of the EOA Initiative.

The information obtained will be used to inform futuristic recommendations on how the policies and institutional landscapes can be improved to support the EOA initiative's integration into continental, regional and national agricultural programs and plans in Africa. Moreover, it will inform recommendations on how to engage the stakeholders better as well as tap on their powers and influence to spur successful implementation of the EOA initiative in Africa.

DISCUSSION GUIDING QUESTIONS

Policy, Regulations and Institutional Review and Analysis on Ecological Organic Agriculture (EOA) in Africa

1. Key Policies, Regulations, Strategic plans and Institutional frameworks for agriculture sector

This aims to review and analyse all agriculture related policies, regulations, strategic plans and institutional frameworks available in the continent, regions and target countries)

1.1 At the continental level (Africa), please list and explain all policies, regulations and strategic plans related to agriculture sector, citing their years of enactment

1.2 At the continental level (Africa), list and explain all institutional frameworks related to agriculture sector

1.3 At the regional level (ECOWAS/EAC), please list and explain all policies, regulations and strategic plans that support and guide the agriculture sector, citing their years of enactment

1.4 At the regional level, list and explain all institutional frameworks relevant to the agriculture sector?

1.5 Which national policies, regulations and strategic plans are available in this country to support and guide agricultural activities? (**List them and their years of enactment**)

1.6 Which national institutions are there to support and guide agricultural activities in the country? (**List their names and explain and the sub-sectors they support**)

2. EOA aligned Policies, Regulations, Strategic plans and Institutional frameworks

This aims to assess all ecological organic/ sustainable agriculture related policies, regulations, strategic plans and institutional frameworks in the continent, region and country

2.1 Does the aforementioned continental policies, regulations and strategic plans (**in question 1.1 above**), support EOA implementation in the continent? Yes or No

2.1.1 If Yes (**in question 2.1 above**), please list the ones that are in support of EOA and explain how?

2.1.2 If No (**in question 2.1 above**), please explain why?

2.2 Does the aforementioned continental institutional frameworks (**in question 1.2 above**) support EOA implementation in the continent? Yes or No

2.2.1 If Yes (**in question 2.2 above**), list the ones that support EOA and explain how

2.2.2 If No (**in question 2.2 above**), please explain why?

2.3 Does the above-mentioned regional policies, regulations and strategic plans (**in question 1.3 above**), support EOA implementation in the region? Yes or No

2.3.1 If Yes (**in question 2.3 above**), please list the ones that support EOA and explain how?

2.3.2 If No (**in question 2.3 above**), please explain why?

2.4 Does the aforementioned regional institutional frameworks (**in question 1.4 above**) support EOA implementation in the continent? Yes or No

2.4.1 If Yes (**in question 2.4 above**), list the ones that support EOA and explain how

2.4.2 If No (**in question 2.4 above**), please explain why

2.5 Does any of the aforementioned national policies, regulations and strategic plans (*in question 1.5*) support Ecological Organic Agriculture in this country? Yes or No

2.5.1 If Yes (*in question 2.5 above*), which one (s)? List them and indicate how?

2.5.2 If No (*in question 2.5 above*), explain why?

2.6 Does any of the aforementioned national Institutional frameworks (*in question 1.6*) support EOA in the country? Yes or No

2.6.1 If Yes (*in question 2.6 above*), list them and explain how

2.6.2 If No (*in question 2.6 above*), explain why?

2.7 Are there policies, regulations and strategic plans specific for EOA in this continent, region and country? Yes or No

2.7.1 If Yes (*in question 2.7 above*), List them (*including their years of enactment*) and explain how they support the EOA initiative

3. Optimal enabling environment for EOA-I implementation

This aims to assess the presence or absence of a policy, regulatory and institutional environment for optimal performance of the Ecological Organic Agriculture initiative in this continent, region and country and their complementarity in creating the right enabling environment

3.1 In your opinion, how does/should an optimal environment for proper implementation of EOA look like in this continent, region and country? (*Enter the descriptions*)

3.2 In your opinion, does an optimal environment for EOA-I implementation exist in your country? Yes (1) or No (0)

3.2.1 If Yes (*in question 3.2 above*), describe it

3.3 In your opinion, does the existing policies, regulations and strategic plans in this continent, region and country offer an optimal environment for EOA implementation? Yes (1) or No (0)

3.3.1 If Yes (*in question 3.3 above*), list the specific policies, regulations and strategic plans, and describe how they offer that environment

3.4 In your opinion, does the existing institutional frameworks in this continent, region and country offer an optimal environment for EOA implementation? Yes (1) or No (0)

3.4.1 1 If Yes (*in question 3.4 above*), list the specific institutions and describe how they offer that environment

4. Sustainable implementation of the EOA initiative

This aims to evaluate policy, regulatory and institutional coherence within the agricultural sector to ensure sustainability of the Ecological Organic Agriculture Initiative in the continent, region and target countries)

4.1 In your opinion, is the current policy, regulatory and strategic environment suitable for sustainability of the EOA initiative in this continent, region and country? Yes (1) or No (0)

4.1.1. If Yes (***in question 4.1 above***), list the specific policies, regulations and strategic plans and explain how they support sustainability of EOA

4.2 In your opinion, is the current institutional environment suitable for sustainability of the EOA initiative in this continent, region and country? Yes (1) or No (0)

4.2.1 If Yes (***in question 4.2 above***), list the specific institutions and explain how they support sustainability of EOA

4.3 Do you believe that EOA-I implementation in this continent, region and country will be a success? Yes (1) or No (0)

4.3.1 If Yes (***in question 4.3 above***), explain why?

4.3.2 If No (***in question 4.3 above***), explain why?

5. Proposed policy, regulatory and institutional recommendations

This intends to ascertain proposed policy, regulatory, institutional and strategic amendments and recommendations including identified gaps with regard to EOA-I implementation and its sustainability)

5.1 Which policy, regulatory and strategic amendments and recommendations would you propose for sustainable implementation of the EOA initiative in this continent, region and country?

5.2 Which institutional amendments and recommendations would you propose for sustainable implementation of the EOA initiative in this continent, region and country?

Annex II: List of Respondents

S/N	Name	Country	Organization name	Phone no.	Email
1	Onunwa Akudo Ogechukwu	Nigeria	Nnamdi Azikwe University Awka	2348034817334	udobekee@gmail.com
2	Gbadamosi Razaq Oyewole	Nigeria	Nigerian Organic Agriculture Network (NOAN)	2348072711147	ogbadamosi@noanigeria.net
3	Bayo Olaniyan	Nigeria	Farmers Development Union (FDU)	2348033944101	lasadeo@yahoo.com
4	Mfon Onukak	Nigeria	Justice Development & Peace Commission/Caritas (JDPC)	2348103423660	mfongrace27@gmail.com / mfonann@yahoo.com
5	Oluwayombo O. Olufunmi	Nigeria	National Horticultural Research Institute	2348038530447	yombo4rial@yahoo.com
6	Abdul Lateef	Nigeria	FMARD	2348052259054	biliqisabdullateef@gmail.com
7	Joseph Ali	Nigeria	Cofarms GreenAid Revolution Ltd	2348155064363	cofarms84@gmail.com
8	Mrs. Saidat Shonoiki	Nigeria	De Ideal Agro Allied Services Ltd/Greeskil Acquisition centre Ltd/Gte	2347082016126	greenskillnaija@gmail.com
9	Olufemi E. Ayanfeoluwa	Nigeria	Federal College of Agriculture, Ibadan	2348075137957	ayanfeoluwaolufemi@gmail.com
10	Ebiriekwe, Sabinus C. PhD	Nigeria	Raw Materials Research & Development Council(RMRDC), Abuja	2348033898343	sabhermis@gmail.com
11	Otti Walter C.	Nigeria	Enugu State Agricultural Development program	2348038268844	ottiwalter44@gmail.com
12	Nweze Samuel	Nigeria	Enugu State ADP	2347065355623	samwezple@gmail.com
13	Ezema Elizabeth Ijeoma	Nigeria	Ministry of Agriculture/ENADEP Enugu	2348037222107	elizabethijeoma95@gmail.com
14	Okwor Joseph E.	Nigeria	Enugu State Bureau of Statistics	2348035099085	joeokwor@gmail.com
15	Prof. K. P. Baiyeri	Nigeria	University of Nigeria, Nsukka	2348039281834	paul.baiyeri@unn.edu.ng

16	Dr. Sunday A. Dialoke	Nigeria	Federal University of Technology, Owerri	23435266808	akuamka@yahoo.com
17	Nwokocha Ivy Nwamaka	Nigeria	National Root Crops Research Institute, Umudike	2348052675527	ivyamaka.nn@gmail.com
18	Dr. Freedom Uzongu Oyongwo	Nigeria	MOUA, Umudike	2348055807831/2348082436145	freednggwoz@gmail.com
19	Dr. Ogechi Umeh J.	Nigeria	Michael Okpara University of Agriculture, Umudike	2348037420857	umehogecgi2@yahoo.com
20	Azubuike Nwoche	Nigeria	One-A Agric Foods	2348062693540/2348073097744	agrholdingslimited@gmail.com
21	Ugwoke Chijioke	Nigeria	Marshal MGL	2348036228285	marshallmgl@yahoo.com
22	Ugwu Okenwa Bala	Nigeria	Sunrise Amogwu Edmani	2348060115470	ugwubalaokenwa@gmail.com
23	Ugwu Batholomew	Nigeria	Uzongu(Ibagwa-Aka) FMCS Ltd	2347030526759	Bathhills@gmail.com
24	Ugwu Patrick	Nigeria	Umunne Di Na Mba Yellow Pepper Organization	2348057020164	ugwupatrick22@gmail.com
25	Uwinama Chrysostome	Rwanda	RODI	250788756347	chryso101@yahoo.fr
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28	Jean Paul Nsabimana	Rwanda	ARDI	250788778567	jeanpaul.nsabimana@yahoo.fr
29	Kobusingye Scovia	Rwanda	Ministry of Local Government-MINALOC	250789706746	kobusnyescovia@gmail.com
30	Theodose Mbonigaba	Rwanda	S.D.A-IRIBA-NGO	250781262775	theodose.mbonigaba@yahoo.com
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