

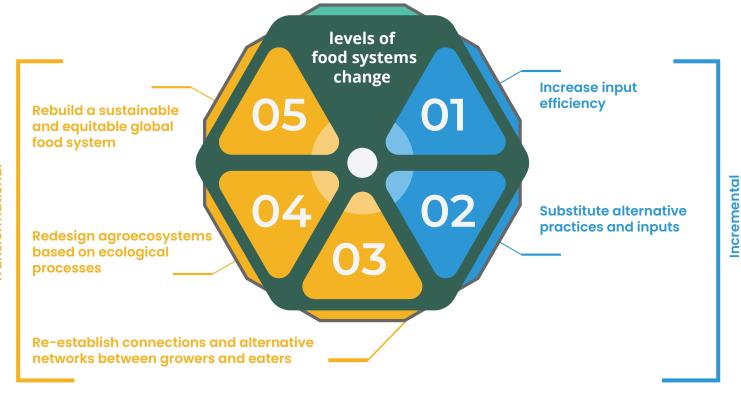


# Southern Africa Agriculture Context: Why Ecological Organic Agriculture?

Africa's food systems and agriculture face complex and interrelated challenges, requiring systemic solutions supported by an enabling policy environment for food systems transformation. Hunger and food insecurity are rising, and these issues are worsened by growing numbers of micronutrient deficiency and obesity-related health issues. Dwindling biodiversity and the impacts of climate change further threaten agricultural and food systems and require fundamental transformations. These transformations are essential in enhancing sustainability, resilience and increased production of quality and quantity of food under dramatically changing conditions.

The COVID-19 pandemic has painfully highlighted the poor resilience and equity in industrial food systems. Agroecology and organic farming increasingly take a whole food systems approach. The FAO Agroecology Criteria Tool distinguishes five levels of food systems change, the first two associated with incremental changes and the last three with transformational changes.

#### The Agroecology Criteria Tool + 10 elements of Agroecology















Responsible Governance

Co-creation of Knowledge

Diversity

Synergies

Resilience





T

Recycle





Circular Economy

Culture & food Transitions

Regulations

Using a typology developed for the African Union based on five EOA types, there are four (4) advanced EOA countries, eleven (11) active EOA countries, ten (10) developing EOA countries, twelve (12) infant EOA countries and eighteen (18) countries awaiting inspiration regarding Ecological Organic Agriculture. In West Africa, Benin, Mali, Nigeria, and Senegal have joined EOA Initiative. In Eastern Africa, Tanzania, Uganda, Ethiopia, Kenya and Rwanda have also joined the EOA Initiative.

Organic agriculture and agroecology provide systemic and evidence-based solutions to the aforementioned interrelated challenges, resulting in increased sustainability, equity and resilience of food systems. For the results, however, to be realized a major shift in funding and public policies is required. Ecological Organic Agriculture (EOA) will put carbon into the soil, not into the atmosphere; it will reduce poison use, reduce pollution, improve food quality and increase water use efficiency. Since the 2010 decision on Organic Agriculture of the African Union (AU) Heads of State, the EOA Initiative has been implemented in order to support small-scale farmers and improve African food security and food sovereignty. Western Africa has a history of involvement with Ecological Organic Agriculture (EOA) through the EOA Initiative and farmer organisations, but there is still a long way to go!

Several issues need to be addressed in Southern Africa's agricultural development, such as:

- Transport infrastructure for access to markets.
- Equitable land rights.
- Public procurement schemes for sustainably countries produced foods.
- Payment for ecosystem services to farmers.
- Communities and entrepreneurs.
- Elimination of subsidies for synthetic fertilisers, pesticides, and hybrid seeds.
- Integrated seed systems value traditional varieties and breeds and seed exchange systems.
- Promotion of agroforestry.
- Strengthening of agroecological research and development as well as participatory extension services.
- Integration of agroecology in the country's climate change adaptation plan.
- Organic waste strategies take principles of the circular economy into account.
- Formalised inclusive multi-stakeholder processes for policy development on food system change.
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The African Union (AU) Heads of State and Government resolved in 2010 that EOA should be supported in Africa with research, extension and capacity-building support. They expressed this resolution in 2012 by supporting the development of the EOA Initiative, and activities have now been mainstreamed in nine countries (four in West Africa and five in East Africa).

The AU is now adopting a climate-resilient monitoring and evaluation framework in order to encourage member states to move towards climate-smart ecological intensification in agriculture. Each country is called upon to monitor the climate-resilient variables as outlined in the AU Assessment of EOA and to work towards food security, food sovereignty, and sustainable rural development through Ecological Organic Agriculture. If EOA is to be mainstreamed in Africa's farming systems agriculture as envisioned in the Africa 2063 document, a process of scaling up will be required. This can only be done through implementing policies that reward and support climate-resilient strategies and remove non-developmental approaches such as Farm Input Subsidy Programmes (FISP).



EOA-I member.

Projection: Geographic. Datum Hartesbeeshoek 1994

Source: Surveyor General Insert : ESRI Data & Maps

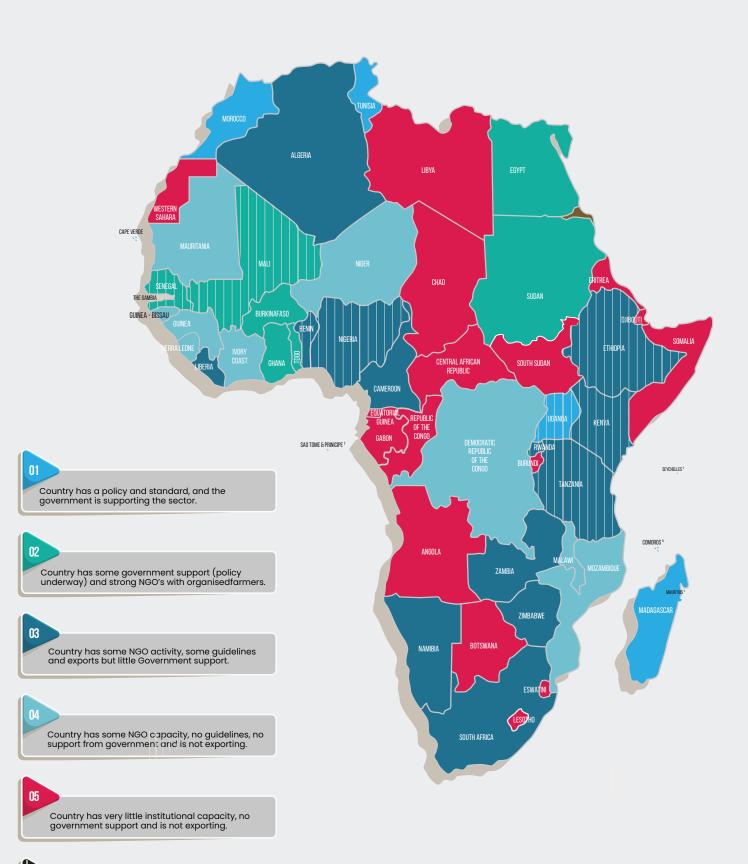


Figure 1: Ecological Organic Agriculture Status of the 55 Countries of Africa Source: Biological Systems Consulting & Research for the African Union Commission in 2020

# Scaling up to achieve the Sustainable Development Goals (SDGs)



Scaling up requires an understanding of the "levers of change". If change towards EOA is to take the SDGs into account, it is essential to combine scientists' findings with the experience of farmers and the government's political objectives. A required policy must be based on recognising the integrated management of natural resources; an agroecological approach based on an understanding of the multi-functional nature of agriculture. In recommending an agroecological approach as an important part of future agricultural policy, the International Assessment of Agricultural Knowledge, Science and Technology for Development reported on the interconnectedness agriculture's different roles and functions. To scale up, we need to bring about sustainable system change; in the scaling discourse. Sustainability refers to a change that perpetuates itself as the "new normal" sustained by local actors beyond a particular project.

In the course of 2020, the phrase "new normal" has regularly been applied to a post-Covid world, where the spectre of persistent infectious diseases is part of the reality we have to live with. Climate change is another aspect of this reality, but as we re-build food systems, EOA must also be factored in as a major part of the solution to broken food systems, compromised global health, disempowered women suffering under chauvinistic regimes and crippled economies struggling to find prosperity. Scaling implies a sufficient number of key drivers and relations such that the system which once perpetuated a "problem" now perpetuates a solution.

## The situation in Southern Africa: food systems and agricultural production

Some Southern African countries have been very open to EOA. In contrast, others have tended to assume that there is no science behind EOA and that crop and animal yields would be much lower than in conventional agriculture. Conventional scientists have been trained in the traditional paradigm, where pests and diseases are treated with chemicals and synthetic fertilisers to improve fertility. More recently, much progress has been made in the science of agroecology and integrated pest management. In South Africa, EOA has been opposed by those wishing to sell agrochemicals, synthetic fertilisers, and genetically engineered (GE) seeds; many scientists and policymakers have assumed that EOA is not scientifically based, and yields from EOA are dramatically lower than conventional farm yields.

Scientific research shows that this is not the case. Research from many countries (including South Africa: Auerbach 2020) shows that EOA uses water and nutrients more efficiently than conventional farming, uses less non-solar energy, improves biodiversity, and sequesters carbon in the soil, thus reducing greenhouse gas emissions significantly. When soil fertility is improved using scientific recommendations, EOA yields are similar to the conventional method, and under moisture-constrained rain-fed agriculture, EOA outperforms conventional agriculture. This is important for supporting African Food Security and African Food Sovereignty post-Covid and during times of climate change. Policymakers Should take note and build African Agricultural policy around these findings. This will make for independent producers of nourishing food who do not have to use expensive imported inputs.

EOA builds biological soil fertility through compost and develops integrated pest and disease management with crop rotations and biological management; integrating animal and crop production optimises fertility cycles, and the judicious addition of natural substances such as rock phosphate, potassium sulphate and lime correct any deficiencies identified by soil analysis. Soil water-holding capacity is raised by organic management, and the nutrient-holding capacity of the soil is also raised. This is therefore, directly applicable to the objectives stated in the RAP and is also in line with the South African Agricultural Research Council (ARC) Vision 2050 document, which promotes agroecology, biodiversity and climate-resilient agriculture.

#### Research approach



The research required to support EOA in Southern Africa should be based on best practices in other regions; long-term research has been carried out for over thirty years in Switzerland, Denmark and the United States of America (see (Auerbach, 2020).

An extract from the abstract of Chapter 3 of this work follows:

Long-term research has had a major impact on the production, processing, marketing and consumption of organic produce worldwide, as shown by Danish research through four research programmes at Aarhus University (which contributed to sales of organic produce increasing from US\$80 million in 1996 to US\$821 million in 2010), and this assisted many Danish farmers to expand production and understand the needs of the market. Danish policymakers took note and formulated more supportive organic farming policies. In the USA, the Rodale Institute in Pennsylvania carried out long-term research trials to show that EOA can be economically competitive while benefiting the environment and the health of consumers; they showed that in dry years, organic crops outyield conventional crops. All three studies had close links with agricultural policy, but the Danish and Swiss studies were more sympathetically received and resulted directly in positive changes to agricultural policies in those countries (Organic Research Contributes to Sector Development and Good Organic Policy: the Danish, Swiss, American and African Case Studies, Auerbach p.32).



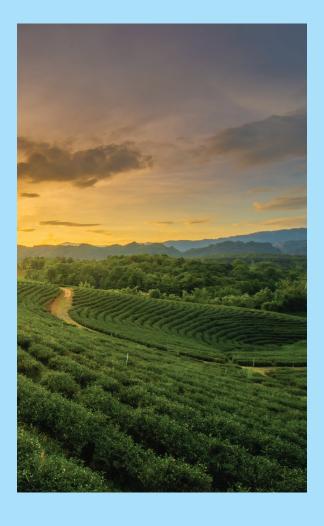
Sales of organic produce in 2010

## Elements of policy required to transition to sustainable food systems in the region

The Foreword to a study on what government can do to support the development of agroecology and organic sectors (UNCTAD 2008) states: "Organic agriculture is a production system based on an agro-ecosystems approach that utilises both traditional and scientific knowledge. Modern organic techniques can potentially maintain and even increase yields over the long term while improving soil fertility, biodiversity and other ecosystem services that underpin agriculture".

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Guidelines from the International Federation of Organic Agriculture Movements (IFOAM 2017 p.8) propose that: "It makes political sense to support organic agriculture, as it contributes in many ways to the welfare of society and to achieving the Sustainable Development Goals. It is also an infant economic sector with strong consumer demand and market potential. Recognising this, governments in all parts of the world have initiated public policies and programs to support the organic sector. Such political support may be a result of different political strategies and goals, such as tapping into export markets or addressing the issue of externalities in agriculture. Designing organic support policies that will most effectively address those political goals and be adapted to the situation of each country is a complex undertaking".



In Uganda, Morocco, Tunisia and Madagascar, effective National Organic Agricultural Movements (NOAMS) supported the development of standards, regulations, and government policy and supported the development of the domestic market and effective promotion of exports. In Southern Africa, this has often not been the case. Where a NOAM developed but was not well-governed, this led to short-lived adoption of certified organic farming, followed by a rapid decline once support for the costs of organic certification was withdrawn (Munthali et al. 2000). Similar to other forms of Farm Input Subsidy Programmes (FISP), simple subsidisation of organic certification costs is not enough to establish a robust EOA sector. Training capacity, marketing expertise and research support are vital.

To support production, marketing, and quality management, institutions need to train farmers, facilitators, and quality managers and build civil society capacity. The Government should empower these institutions and support improved quality management through organic certification and locally-based participatory guarantee systems (PGS).



### Building community participation: why is it important, and how can it be done?

The GIZ-supported Knowledge Centre for Organic Agriculture (KCOA) programme in Africa includes projects in North, West, Central, East and Southern Africa. In Southern Africa, the facilitators are called pollinators. They work with the local NOAMs in farmer training and developing quality management systems, such as third-party organic certification and PGS, allowing farmers and consumers to manage quality for local markets at a very low cost. Once local capacity has been developed and farmers given the tools to negotiate terms of trade with wholesalers and retailers, the sector is on the road to sustainability (social, environmental and economic). The use of smartphone "apps" is helping with research, transparency, market development and farmer networking, helping independent farmers innovate and make use of indigenous technical knowledge and local resources.

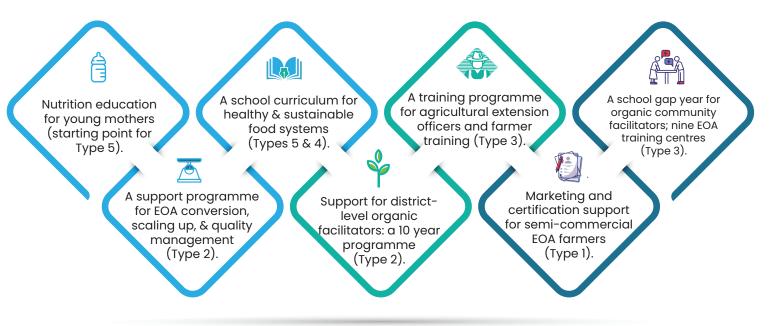
#### Transforming the Departments of Agriculture:

- a. National Department and ARC (also health, education & environment) should be engaged, and government policy must ensure that appropriate skills are included in extension training.
- b. Provincial departments should work on the production and distribution of nourishing food.
- c. Local farmers' associations and EOA co-operatives need support and resources.
- d. Participatory Guarantee Systems (PGS) can help farmers to manage quality, plan crop plantings and marketing, train members in organic practice and keep abreast of useful farmer innovation and research findings.



## The elements of change for the strategy, policy and programme need to include:

The following intervention elements have been identified as essential to Positive Change toward sustainable food systems, which can promote the ten sustainable development goals mentioned:



In Southern Africa (based on the Southern African Development Community, SADC, but excluding Tanzania for the purposes of this study), EOA has taken very different pathways:

Angola, Botswana, Lesotho and Eswatini have had very little government interest or support.

Mozambique and Malawi have had low-level production of a few commercial farmers, mainly aimed at the export market.



Namibia, Zimbabwe and Zambia have had some initial government support, which later dwindled somewhat. Mauritius has had some good government support, especially with assistance with the development of compostmaking capacity and the "Green Mauritius" initiative.

Madagascar has steadily worked at improving capacity, policy and various programmes of organic production, including the highly successful system of rice intensification, which has seen the country move from an importer of rice to an exporter of speciality organic rice cultivars and the development of organic villages showing a high degree of pride, independence and self-sufficiency. Along with Morocco, Tunisia and Uganda, Madagascar is one of Africa's four Advanced EOA Countries, having recently complied with all the requirements ahead of more developed economies.



South Africa is agriculturally complex, with its mix of intensive chemical agriculture, extensive grain cropping and grazing, and recently increased interest in agroecology. AgroEcology South Africa (AESA) has mobilised for agroecology policy and successfully persuaded the Government that the Covid relief packages for farmers should not be exclusively chemical but should cater for EOA with organic fertilisers, integrated pest management products and support for quality management structures. Recently, the South Africa Agricultural Research Council (ARC) declared that sustainable management of natural resources, safe and nutritious food production and biodiversity conservation are key outputs to which they are committed. Appropriate research strategies are under consideration. Government departments are looking to coordinate food sovereignty, nutritious food production, and nutrition education programmes for schools and young mothers.

The implementation of South Africa child grants has seen surprising effects; However, the number of chronically hungry people had fallen before a rapid increase during Covid-19, but the incidence of child stunting has not (Chapter 7 of <u>Auerbach 2020</u>). Nourishing food is produced from healthy soils and biodiverse plant and animal systems. Empty calories do not nourish children, so fresh food must be carefully prepared with minimal processing.



### Monitoring and evaluation of EOA progress in Southern Africa

The criteria identified through the assessment, examining the progress of various countries towards EOA, and the desired outcomes for each, were the following:

M & E Criterion		Desired Outcome
1.	Development of national EOA policy and regulations	Development process and support for EOA sector and national EOA policy and legislation development.
2.	National EOA standards & certification	A national or regional standard for organic production is developed, with the private sector and Government, well adapted to conditions in the country and focused on the domestic market.
3.	Government support to the EOA sector	National governments develop and implement enabling policies and programmes in support of EOA. National institutions are equipped with the skills and competencies required to promote EOA in Africa Scientific research outcomes, indigenous knowledge technologies and innovations in EOA are increased Consumer education and awareness should be actively promoted.
4.	Civil sector strength	Development of organic farming in countries has typically been initiated by either NGOs or private companies and sometimes both. In many developing countries, organic agriculture has been promoted by NGOs. Countries with well-developed organic sectors have had participatory policy development with close interaction between the Government and the EOA sector (including NGOs, associations and organised agriculture). This improves the sector's ability to work towards joint objectives and makes it easier for the government to consult with the private sector. A unified and organized EOA sector enables the ability to work towards joint objectives.
5.	EOA sectoral performance (domestic & export markets)	The EOA sector in the country has developed in a positive direction towards the goals formulated in the national action plans and national policy; EOA farmer organisations are flourishing and well-governed markets are developing.

### Food system targets and a monitoring and evaluation system to meet them

Regarding the first criterion, the policy support requires the following process:

- l(a) An in-depth integrated assessment of general agriculture policies, programmes and plans has been performed to understand how they affect the organic sector's competitiveness and production.
- 1(b) Objectives for government involvement in developing the EOA sector **are clarified and formulated**. All relevant stakeholders are involved in the development of policy, plans and programmes. Objectives can include Increased income, environmental protection, biodiversity enhancement, smallholder competitiveness, human health, increased exports, and domestic growth.
- 1(c) One government ministry or agency is assigned a leading role in sector development, and organic desks are to be established in other relevant ministries and agencies.
- I(d) A national organic action plan or strategy is formulated and implemented. The plan is correctly sequenced (logic) and should state measurable targets for the organic sector to help agencies and stakeholders focus their efforts. The Plan typically would include aspects of standards, regulations, market development, production issues, capacity-building and research.
- l(e) A country has formulated a national EOA policy based on participatory policy development with close interaction between the government and the sector. The government has actively supported the sector's organisation and its participation in the policy formulation process.
- 1(f) A country has formulated and promulga-ted some EOA regulations.
- 1(g) A country has formulated implementation decrees and action plans for the actioning of the EOA Policy.
- I(h) EOA is recognised and integrated into the main policies of the country, e.g. agricultural, food, health, education envi-ronmental, and poverty eradication policies.

#### Regarding the second criterion (national certification and standards), the following is needed:

- 2(a) Standards are available.
- 2(b) A Participatory Guarantee System is in place but needs further development.
- 2(c) Governments should **facilitate access to certification services.** In some countries, especially where the private sector is weak, the government could consider establishing a governmental certification service.

**Indicator:** Measure of government support for certification. A proxy may be the ease of access of farmers to certification (i.e. are certification requirements excluding some farmers?).

#### Regarding the third criterion (government support), the following is needed:

- 3(a) The existing EOA Strategy should be used to develop a budget for EOA support.
- 3(b) Research and extension need to be strengthened in accordance with the Strategic Plan.

#### Regarding the fourth criterion (civil sector strength), the following is needed:

- 4(a) Mapping of civil society organisations must be performed & assessment of their capacity undertaken.
- 4(b) Governments should support the development of a well-organized sector.

### Regarding the fifth and sixth criteria (civil society involvement & markets), the following is needed:

- 5(a) Annual growth in an organic agricultural area (ha) must be measured and evaluated against the strategy.
- 5(b) Measure the change in the number of EOA producers (no.) and set targets for the next three years.
- 5(c) Determine annual growth in EOA earnings through export and domestically (currency).
- 5(d) Assess changes in civil society involvement in the organic sector.

#### The Regions of Africa

Like many country borders in Africa, the regions of Africa are subject to discussion, and several countries are involved with more than one region. In developing regional policies for EOA in Africa, the **Southern African** regional policy countries include Angola, Mozambique, Malawi, Zambia, Zimbabwe, Botswana, Namibia, Lesotho, Eswatini, South Africa, Madagascar, Seychelles, Mauritius and the Comoros Islands

The fifteen **West African** countries of ECOWAS are Benin, Burkina Faso, Cape Verde, The Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. As several Central African countries are also in the East African Community (EAC), we include only the following eight countries in the **Central African** EOA Policy: Cameroon, Chad, Central African Republic, Congo Republic, the Democratic Republic of the Congo, Equatorial Guinea, Gabon and the island state, Sao Tome & Principe. In **Eastern Africa**, we include Southern Sudan, Ethiopia, Kenya, Uganda, Tanzania, Rwanda and Burundi, as well as Somalia. Under the **North African** region the ten countries include; Mauritania, Western Sahara, Morocco, Algeria, Tunisia, Libya, Egypt and Sudan, as well as Eritrea and Djibouti. In this way, each of the 55 countries of Africa is only included in one region for the purposes of this policy.



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