



# AFSA briefing paper on Agriculture at COP27

## A. BACKGROUND

1. Africa's population is projected to reach 1.6 billion by 2030 (UNEP, 2013) and around 55 per cent of the continent's population will live in urban areas by the middle of the century (Cleland and Machiyama, 2016). Domestic food production and/or food imports will have to increase to accommodate this population growth, urbanization, and growing middle class (AfDB, 2011; Chandy et al., 2013; UNEP, 2013). Even as regional food demand is projected to increase by 55 per cent by 2030 (World Bank, 2015), chronic hunger on the continent remains high. Nearly 23 per cent of the population today is classed as hungry, many of whom are farmers owning less than two hectares of land.

Amidst this backdrop, Africa's agriculture is projected to suffer greater effects of climate change than other regions of the world, such as increased drought conditions, high temperatures, and unpredictable rainfall, particularly in dryland regions (WMO, 2020). This is certain to take a toll on the 33 million smallholder

farms in Sub Saharan Africa, which represent more than 80 per cent of all farms in the region and contribute up to 90 per cent of food production in some countries (Wiggins & Keats, 2013). Increasing the potential for agricultural growth and food security in Africa will require investment in integrated strategies for sustainable agriculture, with an emphasis on community-driven development approaches that enable smallholder farmers to adapt and rapidly respond to the adverse impacts of climate change.

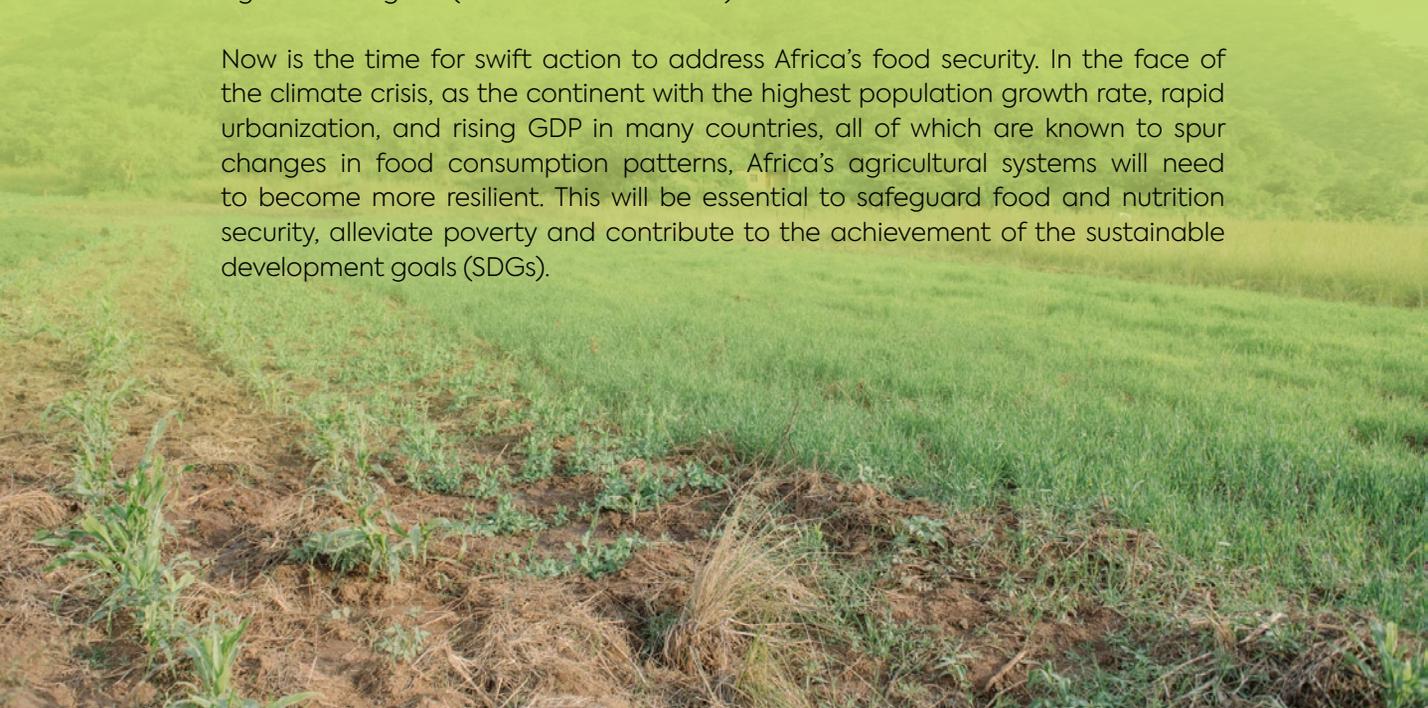
At this crucial time for solutions, agricultural development has focused on large-scale agricultural investments at the expense of smallholder farmers, donors, and governments in Africa providing significant support for large-scale efforts in recent years. Large-scale agricultural investments rely on a high-input, agro-biotechnological pathway that aim to reduce transaction costs for buyers and higher up supply chains. This large-scale regime is characterized by corporatization, a productivist (a focus on yield and profit) mentality, an emphasis on monoculture, and high-input, energy-intensive agriculture.

Empirical evidence clearly indicates that the outcomes of large-scale agriculture are highly uneven and often highly negative for local smallholders and communities (see Nelson et al., 2020) and land conflicts often result in operational challenges. Throughout the rest of the world, the large-scale industrial agriculture model is also associated with food surpluses, waste, obesity-related chronic diseases, and large-scale hunger and malnutrition.

Recent work has also identified the uneven nature of the existing policy playing field for smallholder farmers. An Oxfam and IIED report (Vorley et al., 2012) finds that despite widely varying contexts, current policy levers (e.g. public-private partnerships, tax incentives, support for individual rather than collective land rights) favour larger-scale commercial operations. This enables agro-industrial companies to gain greater power with increasing concentration, while smallholder bargaining power remains weak.

In contrast to the harm of large-scale, industrialized agricultural approaches, agroecology has crystalized as an alternative paradigm and vision that favours small producers. Agroecology places an emphasis on principles such as ecological processes, low external inputs, the agency and voice of food producers and consumers, and autonomy from elite and corporate power. It sharply contrasts with the incentives, policies, programmes, rules and norms of the large-scale industrial agriculture regime (Smith and Raven 2012).

Now is the time for swift action to address Africa's food security. In the face of the climate crisis, as the continent with the highest population growth rate, rapid urbanization, and rising GDP in many countries, all of which are known to spur changes in food consumption patterns, Africa's agricultural systems will need to become more resilient. This will be essential to safeguard food and nutrition security, alleviate poverty and contribute to the achievement of the sustainable development goals (SDGs).



In response to the call for climate action, about 80% of the nationally determined contributions (NDCs) submitted by African countries identified agriculture as one of the priority areas, with some countries having developed agricultural national action plans (AgriNAPs). Many African countries have also developed and implemented National REDD+ programs, Sustainable Land Management Strategic Investment Frameworks, and Climate Smart Agriculture programs including regional initiatives such as the Great Green Wall and AFRI 100, among others. However, these initiatives and approaches may require further review to assess the success and sustainability of their practices to ensure they are not false solutions to sustainable agriculture and climate change adaptation and mitigation.

***“We need to change funding flows and unequal power relations. It’s clear that in Africa as elsewhere, vested interests are propping up agricultural practices based on an obsession with technological fixes that is damaging soils and livelihoods and creating a dependency on the world’s biggest agri-businesses. Agroecology offers a way out of that vicious cycle.”***

Olivia Yambi, co-chair of IPES-Food

## B. Context

2. Globally 80% of arable land is increasingly being planted with just a handful of crop commodities (corn, soybean, wheat, rice, and others), therefore dangerously narrowing the genetic diversity present in global agricultural systems (Altieri, M.A, and Nicholls, C.I., Henoa, A, et al 2015). The majority of these crops are grown under “modern monoculture systems,” which, due to their ecological homogeneity, are particularly vulnerable to climate change and biotic stresses, posing a major threat to food security (Heinemann et al. 2013). Many scientists have argued that the drastic narrowing of cultivated plant diversity has put the world’s food production in greater peril and scientists have also repeatedly warned about the extreme vulnerability associated with crop genetic uniformity, noting that ecological homogeneity in agriculture is closely linked to pest invasions and outbreaks (Altieri and Nicholls 2004). According to the Food and Agriculture Organization (FAO), only nine plant species account for 66 per cent of total crop production, despite the fact that there are at least 30,000 edible plants. The global food system is not delivering good nutrition for all; it is causing environmental degradation and loss of biodiversity, and is easily disrupted in the event of global or regional instability or conflict. As such, a profound transformation is needed to meet the challenges of persistent food insecurity,

malnutrition, and rural poverty, aggravated by the growing consequences of climate change. Transitions to sustainable food and agricultural systems thus requires a long-term perspective and holistic approaches of the kind embodied in agroecological approaches. These approaches are increasingly recognized as having potential to facilitate the transformative change in agriculture required to meet the SDGs (FAO 2019).

3. Warming trends have already become evident across the African continent, and it is likely that the continent's mean annual temperature change will exceed +2°C by 2100 (WMO, 2019). Crop growth and productivity are highly dependent on temperature and water availability; the changes predicted in these factors are certain to lead to reduced crop yields. Climate-induced changes in insect pest, pathogen and weed population dynamics and invasiveness could compound such effects. Undoubtedly, climate- and weather-induced instability will affect levels of and access to food supply, altering social and economic stability and regional competitiveness.
4. Adaptation is considered a key factor that will shape the future severity of climate change impacts on food production. Changes that will not radically modify the monoculture nature of dominant agroecosystems may moderate negative impacts, but only temporarily (Matthews et al.2013). The biggest and most durable benefits will likely result from more radical agroecological measures that will strengthen the resilience of farmers and rural communities, such as diversification of agroecosystems in the form of polycultures, agroforestry systems, and crop-livestock mixed systems, accompanied by organic soil management, water conservation and harvesting, and general enhancement of agrobiodiversity (Altieri 2002; de Schutter 2010).



## C. Agroecology

5. Agroecology is defined as an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. Thirteen consolidated agroecological principles include: **recycling; input reduction; soil health; animal health; biodiversity; synergy; economic diversification; co-creation of knowledge; social values and diets; fairness; connectivity; land and natural resource governance and participation.**
6. As a set of agricultural practices, agroecology seeks ways to improve agricultural systems by harnessing natural processes, creating beneficial biological interactions and synergies amongst the components of agroecosystems (Gliessman 1990), minimizing synthetic and toxic external inputs, and using ecological processes and ecosystem services for the development and implementation of agricultural practices (Wezel et al. 2014). The aim is to transform agriculture to build locally relevant food systems that strengthen the economic viability of rural areas based on short marketing chains, and both fair and safe food production. This involves supporting diverse forms of smallholder food production and family farming, farmers and rural communities, food sovereignty, local knowledge, social justice, local identity and culture, and indigenous rights for seeds and breeds (Altieri and Toledo 2011; Nyéléni 2015; Rosset et al. 2011).
7. While agroecology predates the industrial food system, it has evolved in response to it (Altieri and Nicholls 2012; Gliessman 2015; M'endez et al. 2013). Agroecology is integrally linked to food sovereignty, and therefore entails tackling a variety of political, economic, social, and environmental challenges in an integrated and systemic way (Edelman et al., 2014). Studies have demonstrated that agroecological approaches can result in not only soil and ecosystems improvements, increased food security and health, and reduced dependence on inputs, but agroecology also represents a viable pathway to social and economic equity and stronger participation in food systems decision-making (Gliessman 2014; Rosset and Altieri 2017).



## D. Climate Change

# Negotiations on Issues Relating to Agriculture

8. Article 2 of the UNFCCC outlines the Objective of the Convention and provides the framework and entry point for agriculture by calling on parties to ensure that food production is not threatened as they seek to stabilize greenhouse gas concentrations in the atmosphere.
9. At the COP17 in Durban in 2011, the UNFCCC/COP adopted a specific decision on agriculture for the first time. The Decision requested The Subsidiary Body for Science and Technology Advice (SBSTA) to consider issues relating to agriculture with the aim of exchanging views. Starting in 2013, SBSTA held five in-session workshops on: (i) the current state of scientific knowledge on how to enhance the adaptation of agriculture to climate change impacts (SBSTA39); (ii) the development of early warning systems and contingency plans in relation to extreme weather events (SBSTA42); (iii) the assessment of risk and vulnerability of agricultural systems to different climate change scenarios (SBSTA42); (iv) the identification and assessment of agricultural practices and technologies to enhance productivity in a sustainable manner (SBSTA44); and (v) the identification of adaptation measures, taking into account the diversity of agricultural systems (SBSTA44).
10. Driven by enhanced impetus to address agriculture, at COP23 hosted by Fiji and held in Bonn, Germany in November 2017, parties adopted the Koronivia Joint Work on Agriculture (KJWA) decision 4/CP23. The decision 4/CP23 established a joint Subsidiary Body for Science and Technology Advice (SBSTA) and Subsidiary Body on Implementation (SBI) to work on agriculture, thus linking science and implementation. At the SBs 48 session, parties adopted the KJWA Roadmap that laid out when each of the workshop topics would be discussed by the joint SBs from 2018 to December 2020. In addition to the 6 topics in the roadmap, one virtual workshop on sustainable land and water management adopted at SBs 52 and supported by New Zealand and FAO was held in June 2021, prior to COP 26 in November 2021.
11. The Joint SBSTA/ SBI sessions discussed KJWA topics on issues related to agriculture, including the following: (2a) modalities for implementation of the outcomes of the five in-session workshops on issues related to agriculture and other future topics that may arise from this work; (2b) methods and approaches for assessing adaptation, adaptation co-benefits and resilience; (2c) improved soil carbon, soil health and soil fertility under grassland and cropland as well as integrated systems, including water management; (2d) improved nutrient use and manure management towards sustainable and resilient agricultural systems; (2e) improved livestock management systems, including agro-pastoral and other production systems; (2f) socioeconomic and food security dimensions of climate change in the agricultural sector; and the additional workshop on sustainable land and water management.

Table 1 **Elements of Conclusions on KJWA Topics that enhance Agro resilience**

| NO.  | KJWA TOPIC   | KJWA CONCLUSION RELATED TO AGROECOLOGY  |
|------|--|---|
| 2(a) | <b>Modalities for implementation of the outcomes of the five in-session workshops on issues related to agriculture and other future topics that may arise from this work</b> | Recognition of the importance of the continued involvement of scientific and technical knowledge in transforming the agriculture sector and enabling conditions; the crucial role of farmers, youth, local communities, and Indigenous Peoples, including gender considerations; and meeting the needs of farmers and the food systems.   |
| 2(b) | <b>Methods and approaches for assessing adaptation, adaptation co-benefits and resilience</b>  | The importance of sharing best practices among countries and other stakeholders and the important role of science, technology, and capacity-building in facilitating data collection and adaptation assessment.   |
| 2(c) | <b>Improved soil carbon, soil health and soil fertility under grassland and cropland as well as integrated systems, including water management</b>                           | Recognition that issues relating to soil carbon, soil health and soil fertility, sustainable soil, and integrated water management are context-specific and, considering countries' circumstances, should be dealt with in a holistic and inclusive manner to realize the full potential of increased productivity in contributing to food security, adaptation and adaptation co-benefits, and enhancing carbon sinks. |
| 2(d) | <b>Improved nutrient use and manure management towards sustainable and resilient agricultural systems</b>  | Recognition that soil and nutrient management practices and the optimal use of nutrients, including organic fertilizer and enhanced manure management, lie at the core of climate-resilient, sustainable food production systems and can contribute to global food security.  |
| 2(e) | <b>Improved livestock management systems, including agro-pastoral and other production systems</b>   | Recognition that livestock management systems are very vulnerable to the impacts of climate change and that sustainably managed livestock systems have high adaptive capacity and resilience to climate change while playing broad roles in safeguarding food and nutrition security, livelihoods, sustainability, nutrient cycling and carbon management.  |
| 2(f) | <b>Socioeconomic and food security dimensions of climate change in the agricultural sector</b>   | Recognition that socioeconomic and food security dimensions are critical when dealing with climate change in agriculture and food systems.  |
|      | <b>Intersessional workshop on sustainable land and water management</b>  | Noted that implementing sustainable approaches can render multiple benefits for society, such as improved water quality, higher biodiversity and increased soil organic matter, and further noted the value of incorporating diversification, recycling and efficiency, and supporting synergies within agriculture systems.  |



## E. State of Play

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12. At COP 26, the joint SBs 55 started compiling a report to the COP on the KJWA outcomes and the future of Agriculture under the UNFCCC and continued doing so at SBs56 session held in June 2022.
13. At COP27, the Joint SBSTA/SBI Work is expected to focus on finalizing a report to the COP on the progress made under the KJWA on issues relating to agriculture since June 2018 and recommend to the COP follow up measures and actions on the future of agriculture for a decision.
14. AFSA is promoting agroecology as a solution to the current crises of climate change, persistent food insecurity, malnutrition and rural poverty, contrasting with the dominant industrial agricultural model. This is advanced through building a large social movement in Africa; advocating for agroecology in policy and practice; compiling evidence of the benefits of agroecology; and campaigning to place agroecology as a key policy response to the climate crisis. In this regard, AFSA hopes to bring agroecology to the top as a solution to address climate change adaptation and mitigation and food security and nutrition challenges in the agricultural sector under the UNFCCC.



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15. At COP 27, AFSA and its partners' drive to promote agroecology may be constrained by a number of factors, including : (i) insufficient awareness and appreciation of agroecology as a viable approach to sustainable agriculture among some parties, including policy and decision makers and negotiators; (ii) varying definition, understanding and divergent views among actors about the concept and benefits of agroecology, which constrain cooperation; (iii) inadequate research, knowledge/information sharing (like with consumers) and funding to amplify agroecology; and (iv) inadequate emphasis given to agroecology as a priority approach for advancing sustainable agriculture or addressing climate change in policy and strategy documents by governments of most parties.

The above-mentioned factors have a bearing on the positions and consensus reached by negotiating blocks, the joint SBSTA/SBI and the COP regarding the role of agroecology as a solution to address climate change adaptation and mitigation and food security and nutrition challenges in the agricultural sector under the UNFCCC. In spite of these gaps, several KJWA workshop recommendations and conclusions enhance agroecology approaches as stated above. Building on this light, below are a number of opportunities, measures and actions that parties, and stakeholders may engage at COP 2, to promote agroecology.

## F. Opportunities and Measures to Enhance Agroecology at COP27

16. At COP 27, parties, negotiators and other stakeholders should seize opportunities to further promote agroecology as a solution to address climate change adaptation and mitigation and food and nutrition security challenges in the agricultural sector under the UNFCCC by:
  17. A) Including agroecology as one of the new topics in a new KJWA Road Map of the Joint SBSTA and SBI KJWA work to facilitate a wider analysis and understanding of agroecological principles, approaches, practices and technologies and their contribution to climate change adaptation, adaptation co-benefits and mitigation, and food and nutrition security.
  18. B) Putting forward a draft decision requesting that Constituted Bodies and Financing Entities of the UNFCCC integrate actions addressing relevant elements of the conclusions and recommendations of the KJWA Workshops in their work plans, aiming to increase and promote their implementation, particularly the generation, piloting and scaling of technologies, practices, approaches and activities that enhance agroecology for consideration by the COP;
  19. C) Promoting a strengthened institutional placement of agriculture within the UNFCCC process to improve coordination, enhance communication with Constituted Bodies and Financing Entities of the convention, and scale up consideration and implementation of key priorities, recommendations and decisions on agriculture;
  20. D) Building coalitions and partnerships with national, intergovernmental regional and sub-regional agencies and centres of excellence, e.g., NEPAD, COMESA, COMIFAC, and SAFGRAD, among others, as entry points for wider dialogue, capacity building and piloting of agroecology initiatives;
  21. E) Identifying initiatives and partnerships and mobilizing innovative financing, capacity building and other support to increase on the ground demonstration of agroecology principles and approaches, and buy-in by governments and stakeholders; and
  22. F) Encouraging stakeholders to review the proceedings of the KJWA and earlier workshops, reports, conclusions and recommendations to identify available best practices and lessons to promote and scale up agroecology principles and approaches, as well as provide policy guidance for further action at national and local levels.



## G. Conclusion

23. It is vital that we transform our agricultural and food systems, so they work with, not against, nature. Agroecology is a sustainable practice that meets our urgent need to address current and imminent crises from climate change and biodiversity loss to hunger, poverty and disease. It is clear that catastrophe is not just on our doorstep— it has arrived for many peoples around the world. Agroecology represents an overarching and comprehensive framework that can guide public policies towards sustainable agriculture and food systems. Agroecological systems are vital not only for addressing poverty, hunger, and climate change mitigation and adaptation, but also for directly realizing 12 of the 17 Sustainable Development Goals in areas such as health, education, gender, water, energy and economic growth. Agroecology centres farmers to create sustainable, fair and gainful agroecosystems and livelihoods. COP 27 is an essential opportunity to generate awareness, share knowledge and build coalitions and partnerships. Through this, we can advance means of implementation in terms of financing, technology transfer and capacity building for demonstration, piloting and scaling of agroecology principles and practices. We must uplift agroecology as a solution to the climate crisis, persistent food insecurity, malnutrition and rural poverty.

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