RECOMMENDATIONS FROM D'A 26:
Agroecology to equip agricultural systems to cope with drought

Soil restoration, diversification, reduced dependence on external inputs and territorial anchoring... These structuring principles, based on a systemic approach to food systems, are at the heart of the concept of agroecology. Due to its adaptive nature and because it offers the means to strengthen both the environmental and economic resilience of a territory, this approach to agricultural production has real advantages in coping with the impacts of drought.

The contribution of agroecology in this area is recognised in particular by the Intergovernmental Panel on Climate Change (IPCC), which states that "agroecological principles and practices [...] support food security, nutrition, livelihoods and biodiversity"[1] in a context of climate change and increasing water stress. Certain decisions of the UNCCD (United Nations Convention to Combat Desertification) similarly highlight the value of "various technical approaches, such as sustainable land and water management, agroecological approaches [...] to cope with drought and increase the resilience of ecosystems and populations"[2].

However, this recognition remains partial and unstable. Agroecology does not appear in the founding texts of the UNCCD. More broadly, agroecology continues to play a minor role in international conventions, despite its importance. Absent from the founding texts of the three Rio conventions, the term is only used sporadically and belatedly in related decisions and documents. Agroecology is often reduced to a set of sustainable agricultural practices, without integrating its systemic, social and territorial dimensions. Strengthening its place would, however, make it possible to better articulate adaptation to drought, food security and natural resource governance, in line with the very objectives of the Rio Conventions.

1 | How does agroecology provide solutions to drought?

Implementing agroecology in the field means changing the way we think and moving towards practices and a mode of production organisation that are both less intensive and more respectful of the reality of resources and needs. More autonomous and less dependent on external inputs, farms and the territories in which they are located improve their resilience to drought. At the plot level, this resilience is based in particular on reducing water requirements and improving water conservation in the soil. There are a variety of techniques. Opting for traditional varieties, which can be exchanged via community banks, contributes to water savings. Soil cover, by promoting moisture retention and limiting erosion through runoff, maximises the water reserves available to plants during dry periods. The same applies to mulching, composting and the addition of organic matter, which physically stabilise the soil's usable reserves while limiting evaporation. Data collected using tools such as TAPE or the FAO's Global Soil Organic Carbon Sequestration initiative demonstrate that, far from being an abstract co-benefit, restoring soil organic matter and carbon builds the water resilience of plots.

[1] In "Climate Change 2022: Impacts, Adaptation and Vulnerability" - Report of Working Group II of the IPCC Sixth Assessment Report, 2022
[2] In ICCD/COP(16)/CST/3

At the farm level, diversification, a key agroecological principle, helps to limit the economic impact of droughts. Crop rotation, species associations, integration between crops and livestock, agroforestry... Diversification takes many forms and is not simply an "add-on" to an otherwise unchanged model. It appears to be a means of structurally reconfiguring production systems, whether subsistence or commercial. In the field, the challenge is therefore to offer a coherent "basket" of practices likely to increase the autonomy and resilience of farms in the face of crises.

Because it is systemic in nature, the agroecological approach places the farm back in its economic, social and natural context. It translates into integrated water and resource management, as well as forms of collective governance that promote trade-offs between uses. This building of resilience is based in part on non-market mechanisms, such as the co-creation of knowledge. The promotion of local knowledge, for example through "farmer-to-farmer" exchange networks, accelerates adaptation: practices that have been tried and tested under climatic constraints can be immediately mobilised, disseminated and improved thanks to peer-to-peer exchange and participatory research. By reducing dependence on fragile supply chains, mutual aid is equally essential. In contexts of resource scarcity, these forms of collective organisation strengthen cohesion and the ability to prevent conflicts over access to water and land, by enabling the establishment of more legitimate local rules and mediation mechanisms closer to the source of tensions.

The path outlined by agroecological principles is being built step by step, with a focus on support. It is based on experimentation, learning and continuous adjustment of practices. The transformations observed are not sudden breaks with the past, but incremental changes that allow farms to evolve without compromising their short-term viability. This gradual approach is particularly important in contexts marked by high climate uncertainty, where producers need to be able to test, adapt and combine solutions according to local constraints and changing conditions.

Box

Agroecology reduces vulnerabilities but does not eliminate them

While agroecology is a powerful lever for strengthening the resilience of agricultural systems to drought, its capabilities have limits, particularly in the face of extreme and prolonged events. Although essential, improving soil structure and fertility alone cannot compensate for severe or repeated rainfall deficits. Furthermore, the resilience of agroecological farms is closely linked to that of the landscapes and territories in which they operate. Integrated management of water, soil and ecosystems at the level of the agricultural territory remains crucial: isolated farms, even those engaged in virtuous practices, remain vulnerable when their environment is severely degraded.

The agroecological transition is a long-term process that goes beyond agricultural practices alone. Market incentives and public policy guidance play a decisive role in the sustainable reduction of vulnerabilities. As such, agroecology cannot be seen as a single or immediate solution, but rather as a central pillar of a broader drought management strategy, which must include coherent public policies at all levels in response to climate change.

2 | What are the challenges facing the agroecological transition?

Costs associated with changes in farming practices

The transition to agroecological practices often requires increased labour and sometimes also initial investment. This is despite the fact that the benefits are only gradually materialising. This paradigm shift is a barrier to entry into this mode of production and to its dissemination. These constraints are particularly limiting in contexts where access to credit and income security mechanisms are insufficient. This is the case in Niger, for example, where the adoption of practices that restore soil fertility, such as the development of agroforestry, is being held back.

An approach that is still too often misunderstood and poorly communicated

Many producers are reluctant to trust agroecological practices. Their technical complexity and uncertainty about possible short-term benefits fuel their reluctance. In a number of countries, agroecology is perceived as experimental or insufficiently proven. Without economic guarantees or quickly visible results, farmers are reluctant to commit. These negative perceptions are reinforced when scientific and technical "evidence" is lacking, as in Algeria, where the absence of large-scale demonstrations and dissemination of results is proving detrimental. In many countries, extension services continue to promote intensive systems and standardised solutions. Advice is ill-suited to supporting transformations that are both systemic and territorialised. In Senegal, for example, the lack of advisors trained in agroecology hampers the dissemination and appropriation of agroecological knowledge. Action research remains insufficiently deployed, local knowledge is still undervalued, and the agroclimatic data available to producers is often incomplete, as in Yemen, where the capacity for adaptation in the field is therefore reduced.

Policy frameworks that favour conventional agriculture

Agricultural policies continue to support intensive systems for the most part. As a result, there is generally no framework for recognising agroecological products that could lead to economic development. In Senegal, for example, competition from subsidised conventional production greatly reduces the economic incentive to change practices. Added to the lack of political will is the fragmentation of public policies and information systems between sectors and levels of governance, which complicates integrated approaches, despite their central role in agroecology. This structural imbalance contributes to marginalising these practices in the political, technical and economic system, limiting their dissemination and scaling up. This is all the more so given that in many countries, land tenure insecurity discourages the long-term investments necessary for the agroecological transition.

3 | Ways to facilitate the agroecological transition

Facilitating the agroecological transition in the face of droughts requires action on the conditions under which farms can commit to change in a sustainable manner. It is less a question of removing obstacles one by one than of creating favourable environments that can secure trajectories, support transformations over time and anchor the changes undertaken at several levels.

One initial approach is to secure the transition phases so that farms can experiment with new practices without jeopardising their economic stability.

Support mechanisms designed to last several years can play a decisive role in making these trajectories possible.

They take various forms, ranging from mutualisation mechanisms to temporary support for investment or labour, and the collective sharing of equipment. In Burkina Faso, for example, the spread of zaï, half-moon and stone cordons has been supported by forms of collective work organisation, led by farmers' organisations and local NGOs. The initial effort has thus been shared among farms.

The transition also benefits from being viewed as a gradual process, based on accessible entry points and incremental changes. From this perspective, support can be based on proven practices that are relatively simple to implement and generate initial visible results. These initial results play a key role in building producer confidence and paving the way for more profound changes in the systems. In Ethiopia, as part of an agricultural soil rehabilitation programme led by GIZ, the decision was made to prioritise the liming of acidic soils, a practice whose effects on productivity can be observed within a single growing season. These initial results have paved the way for more systemic changes.

Another key lever is the transformation of knowledge, advisory and training systems. The deployment of agroecology requires mechanisms capable of supporting complex, diversified systems that are highly dependent on their context, which are very different from those currently in place. They are based on collective experimentation, peer-to-peer exchange and action research, and aim to produce technical references that are directly adapted to local realities. In Senegal, networks of farmers' organisations and agricultural advisers have set up local training systems, combining field schools, demonstrations on plots of land and "farmer-to-farmer" exchanges. These approaches encourage the adoption of agroecological practices, while leaving plenty of room for local adaptation and continuous learning in the face of climate variability.

In order for the agroecological transition to be part of a broader dynamic than just individual farms, strengthening the territorial coherence of actions is essential. In Brazil, the gradual implementation of a national drought monitoring system – el monitor de seca – based on shared indicators illustrates this territorial approach. This system combines scientific data, local observations and public decisions, and mobilises an extensive network of observers and institutions. By making information accessible and useful at different levels, it helps to guide agricultural practices, anticipate crises and strengthen the coherence of drought management policies.

Finally, the dissemination and consolidation of the agroecological transition depend on its institutional and political recognition. When agroecology is clearly integrated into agricultural, food and climate policies, it gains visibility, legitimacy and scalability. In Senegal, the adoption of a national agroecological transition strategy has helped to structure public action around shared frameworks, while strengthening coordination between state actors, civil society organisations and producers. This institutional recognition sends a lasting signal in favour of more resilient agricultural systems, guiding funding, support mechanisms and long-term priorities.

4 | Where further action is needed

Make agroecology an international and national priority by explicitly including it in agricultural, food and climate policy frameworks.

Agroecology is gaining recognition at the international level, but this recognition is still too often implicit, particularly within the UNCCD. This complicates its adoption at the national government level, and then at the regional and local levels. Greater institutional recognition of this concept and its practical implications would help to disseminate it and integrate it into drought mitigation strategies.

Mobilising public funding as a lever for securing transition pathways.

By reducing exposure to risk, public funding – for agriculture, climate and risk management – is an essential lever for initiating and securing the agroecological transition in the face of drought. Flexible, multi-year and accessible mechanisms are needed to enable experimentation, support gradual adjustments and prevent farms from bearing the uncertainties associated with change alone. The development of risk-sharing mechanisms, including insurance, as well as targeted support for investment and technical assistance, will help to overcome reluctance to embark on the transition and secure trajectories over time.

Building viable regional economic models and sustainable outlets.

The resilience of regions to drought cannot rely solely on public funding. It requires the mobilisation of all economic actors in the regions – farms, sectors, cooperatives, processing companies, local authorities and financial actors – around economic models capable of creating value over the long term. The structuring of appropriate outlets, the economic recognition of products from agroecological systems and the development of regional sectors are all key factors in making the transition sustainable in the long term and must be supported.

Rebuilding knowledge, advisory and training systems.

The deployment of agroecology requires a profound change in the systems for producing and disseminating knowledge. It seems essential to move away from top-down extension models in favour of co-creation approaches based on action research, collective experimentation and peer-to-peer exchanges. Strengthening farmers' organisations, cooperatives and local advisory networks appears central to producing technical references adapted to local contexts. The systematic integration of agroecology into agricultural education curricula, vocational training and continuing education for advisors would be a key lever for anchoring the transition in the long term.

Excerpts from the bibliography used:

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Désertif'actions 2026

This document was produced as part of the Désertif'actions initiative, which seeks to better understand how to improve the resilience of territories to drought. It is based on a specific bibliographic analysis as well as on reports from country workshops and webinars held ahead of the summit to be held from 25 to 28 March 2026 in Djerba.

Intended for participants and contributors to Désertif'actions, this note aims to shed light on the transition to agroecology in agricultural systems. It should help strengthen the arguments that civil society representatives can put forward at COP17 of the UNCCD.

List of countries that contributed to this note through their preparatory workshops: Algeria, Belgium, Brazil, Burkina Faso, Cameroon, France, Mali, Niger, Palestine, Senegal, Tanzania, Tunisia, Yemen.

The reports of the preparatory workshops and webinars are available at desertif-actions.org

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