



Agroecology: A Transformative Opportunity for the Convention on Biological Diversity

Agroecology represents an unparalleled opportunity to address biodiversity loss while providing simultaneous, multiple co-benefits to climate adaptation, food security, ecosystems resilience, sustainable livelihoods and human rights.

As substantiated by scientific evidence, agroecology addresses many of the direct and indirect drivers of biodiversity loss that is exacerbated by monoculture and industrial food systems. We can transform from damaging industrial global food systems to biodiverse agroecology.



Agroecology and its focus on agricultural biodiversity is critical to all three pillars of the CBD: conservation, sustainable use, and equity, and must be included in Target 10 of the Global Biodiversity Framework.

Agroecology must be included in the Target 10 of the Global Biodiversity Framework

as it is critical to agriculture. It is also critical in Target 1 (spatial planning), Target 2 (degraded ecosystems), Target 3 (area based conservation), Target 7 (pollution), Target 8 (climate change), Target 9 (sustainable use), Target 11 (restoration), Target 18 (subsidies), Target 20 (knowledge), Target 21 (participation) and Target 22 (gender).

What is agroecology?

Agroecology is a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems. It seeks to **optimize the interactions between plants, animals, humans and the environment** while also **addressing the need for socially equitable food systems** within which people can exercise choice over what they eat and how and where it is produced.

Agroecology is concurrently a science, a set of practices and a social movement and has evolved as a concept over recent decades to expand in scope from a focus on fields and farms to encompass the entirety of agriculture and food systems. It now represents a **transdisciplinary field that includes the ecological, socio-cultural, technological, economic and political dimensions of food systems, from production to consumption.**
-FAO Agroecology Hub

Early CBD decisions recognized the ‘special nature’ of agricultural biodiversity, which led to the establishment of its Program of Work on Agricultural Biodiversity in 2000 (COP Decision II/15; also see CBD 2008 for description of the ‘special nature’ of agricultural biodiversity). However in the last decade, **agricultural biodiversity has fallen away from the CBD agenda**, even as numerous authoritative reports signalled otherwise, by pointing to the **critical place of agricultural biodiversity, agroecology and resilient food systems in the fight against climate change, biodiversity loss, ecosystems destruction and unsustainable livelihoods for the communities who maintain them** (FOEI 2021).

In the negotiations for the post-2020 Global Biodiversity Framework, agricultural biodiversity’s place continues to diminish. “Agroecological approaches”, appear in the WG2020-4 text (Nairobi, June 2022) but are bracketed; and are not mentioned in the Informal Group’s streamlined suggested text. Significantly, the text of the “Joint Work on Implementation of Climate Action on Agriculture and Food Security” from COP27 also fails to mention agroecology. **These omissions are cause for grave concern over the likelihood of missing a key opportunity for widespread food systems transformation through agroecology, and its co-benefits to address biodiversity loss across scales.**

Key messages

1 Industrial food systems are the main driver of biodiversity loss. Without transforming food systems, we will not be able to reverse biodiversity loss.

The evidence has been clearly established that agriculture and land use change are one of the main drivers of biodiversity loss (IPBES 2019, IPCC 2019). **Agriculture alone is the identified threat to 86% of the 28,000 threatened species. It is large scale industrial agriculture**, with monocropping and high external inputs, that bears the responsibility for the destruction.

In the last century we have lost most of the world's crop and animal genetic diversity. Currently only twelve plants and five animals make up 75% of the world's consumption, with just three species (wheat, rice and corn) make up over half of the world's staple foods (FAO 2004). According to IPBES, 75% of the planet's land surface is significantly altered; 66% of the ocean has experienced serious negative impacts; more than 85% of wetlands have been lost. Furthermore, the global industrial food system is responsible for one-third of all greenhouse gas emissions, and uses 70% of fresh water (IPBES 2019).

The loss of diversity, including genetic diversity, poses a serious risk to global food security by undermining the resilience of many agricultural systems, including to pests, pathogens and climate change. (IPBES Global Assessment)

Figure 1. The environmental impacts of food production.
Re-drawn from WWF 2021, Farming with Biodiversity.

Agriculture is responsible for 80% of global deforestation



80%
Global
deforestation

Food systems release 27% of global GHGs



27%
Global
GHGs

Agriculture accounts for 70% of freshwater use



70%
Freshwater
use

Drivers linked to food production cause 70% terrestrial biodiversity loss



70%
Terrestrial
biodiversity loss

Drivers linked to food production cause 50% freshwater biodiversity loss



50%
Freshwater
biodiversity loss

52% of agricultural production land is degraded



52%
Degraded
agricultural land



2 Biodiverse agroecology and adaptable food systems that work with nature are required to ensure resilience to climate change and other shocks. Agroecology is a systems approach that has the power to build resilience against such crises, and achieve multiple biodiversity targets across scales, with substantial co-benefits across the SDGs.

While industrial food systems are destroying biodiversity, small biodiverse (peasant) family farms are at the forefront of conservation and sustainably using agricultural biodiversity, while producing the majority of the world's food. The majority of biodiversity exists in the South. It is the world's peasant farmers who hold the most sophisticated knowledge of agricultural biodiversity – in their fields, pastures, seeds, forests, and waters. Through their agroecological practices, experience and innovation, they nurture heterogeneous biodiversity that provides food, energy, fodder, medicine, shelter and livelihoods for their communities, and also conserves biodiversity for the entire planet (FAO 2019; IPC 2016). We need more farmers at the policymaking table, to give concrete, scalable solutions to produce nutritious food and reverse biodiversity loss.

Agroecology is the untapped opportunity to tackle biodiversity loss, climate change and the food crisis all at once. Agroecology as a

systems approach addresses the various parts of our global food system to greatly enhance agricultural biodiversity and its multiple benefits – from production to consumption, and at various scales from farm to landscape to food systems (HLPE 2019). Family farmers, the custodians of the world's agriculture biodiversity, practice biodiverse agroecology grounded in Indigenous and traditional knowledge. It is critical to maintaining and sustainably using agricultural biodiversity on-farm and in-situ, in their landscapes and territories, particularly the heterogeneity and variety within species (also known as intra-specific biodiversity).

Agroecology is the untapped opportunity to tackle biodiversity loss, climate change and the food crisis all at once.

Agroecology also provides vital contributions to the conservation of biodiversity and ecosystems beyond the farm. These include maintaining complex connectivities by integrating natural habitats within agricultural landscapes, reducing edge effects, leakages, and runoffs to biodiverse and fragile landscapes (such as aquatic ecosystems); and maintaining critical ecosystem functions and processes (such as pollination, nutrient cycling, water cycling) that are crucial for ecosystem health and integrity. A vast body of diverse knowledge, expertise and evidence on agroecology shows its transformative potential

“We must ensure that the knowledge, innovations and practices of indigenous peoples and local communities are respected, preserved and maintained with their free, prior and informed consent, including through their full and effective participation in decision-making.”

GBF Informal Group Report, Oct 2022



for the world. Studies of agroecological performance around the world by FAO have proven its co-benefits and its potential to be scaled out in diverse landscapes, strengthening the ecosystem resilience, food security and the economic and social viability of territorial food systems. According to IPES-Food, investing in agroecology produces multiple benefits right across the development spectrum, simultaneously enhancing 15 of the 17 SDGs (IPES-Food 2016).

Supporting biodiverse agroecology is an opportunity to “substantially transform food systems” (IPBES 2019)

“The sustainable agriculture transition: redesigning agricultural systems through agroecological and other innovative approaches ... recognizes the role of biodiversity, including pollinators, pest and disease control organisms, soil biodiversity and genetic diversity, as well as diversity in the landscape, for productive and resilient agriculture that makes efficient use of land, water and other resources”
CBD, Global Biodiversity Outlook 5

3 Agroecology is the missing piece of the puzzle. Without agroecology in the Global Biodiversity Framework, we will miss the mark.

Agroecology is an integrated approach critical to addressing the three pillars of the Convention: conservation, sustainable use, and equity, and must be included in Target 10 of the Global Biodiversity Framework.

Strong national commitments to agroecological approaches must be a key part of National Biodiversity Strategies and Action Plans (NBSAPs), including planning, implementation and monitoring.

TARGET 10 (agriculture and forests) is the most relevant and critical place for agroecological approaches.

Current text Target 10:

Ensure that [all] areas under agriculture, aquaculture, [fisheries], forestry, [and other productive uses] are managed sustainably, in particular through the sustainable use of biodiversity, contributing to [the long-term] efficiency, productivity and resilience of these production systems, conserving and restoring biodiversity and maintaining [its ecosystem services]/[nature’s contribution to people].

Proposed Text Target 10:

Ensure that all areas under agriculture, aquaculture, fisheries, forestry, and other productive uses are managed sustainably and halt biodiversity loss, in particular through agroecological approaches and the sustainable use of biodiversity, conserving, restoring and contributing to the long-term resilience of food systems.



4

Support for Agroecology is Well Established

“Nature can be conserved, restored and used sustainably while other global societal goals are simultaneously met through urgent and concerted efforts fostering transformative change”.

Global Biodiversity Framework

The Agroecology Coalition was established in 2021. Forty governments including France, Spain, Mexico, Senegal, Ethiopia, Thailand, Vietnam are members, as are regional bodies like the European Commission and African Union Commission. International organisations (including IPBES, IPCC, UNEP, FAO, IFAD, UNDP, UNCCD) agree that agroecology can significantly contribute to climate adaptation and cutting carbon emissions.

The transformative role of agroecology in biodiversity conservation is well established.

5

Support for Agroecology is Well Established

How Should Governments Support Agroecology?

- At the CBD negotiations, ensure the inclusion of “agroecology” in the text of Target 10 (and other targets) in the GBF.
- At national level, enact policies and action plans that put agroecology and agricultural biodiversity at the centre of environmental and climate action (esp NDC, NBSAP, SDG strategies).
- Provide funding for vital organizations at the front lines of biodiversity conservation, sustainable use and equity; particularly Indigenous Peoples’ and Local Communities and farmers/food provisioners organizations.
- Support transdisciplinary research in agroecology and agricultural biodiversity; and facilitate evidence mobilization and knowledge sharing.
- Remove the funding and subsidies that destroy biodiversity and reorient them to agroecology.

Conclusions

It is paramount that the Global Biodiversity Framework and its targets include specific text that promotes and supports agroecology, enhances agroecological approaches agricultural biodiversity, and Indigenous food systems, and recognizes the peasants, small-scale farmers, livestock farmers, pastoralists, artisanal fishers, forest dwellers, Indigenous

Peoples and other small-scale food producers who preserve agricultural biodiversity in their fields, lands and waters. **This is critical for supporting the CBD’s pillars of conservation, sustainable use and equity.**

The Parties of the CBD must ensure that the collective rights of Indigenous Peoples



and Local Communities, peasants, family farmers, pastoralists, fisherfolks, agricultural and food workers, landless, women and youth are respected and fulfilled in the development and implementation of the GBF. Established international principles, protocols and declarations must be explicitly recognized in the GBF and in subsequent CBD frameworks and policy recommendations. This includes

Free, Prior and Informed Consent (FPIC), the 13 Principles of Agroecology, Farmers Rights, the Precautionary Principle, the UN Declaration on the Rights of Peasants (UNDROP) and on the UN Declaration on the Rights of Indigenous Peoples (UNDRIP).

“The framework aims to catalyze, enable and galvanize urgent and transformative action by Governments...and all of society”.

Global Biodiversity Framework

References

1. **African Centre for Biodiversity (2022).** Global Biodiversity Framework stuck in a paradigm of catastrophic growth: what future for Africa? <https://acbio.org.za/corporate-expansion/gbf-stuck-in-catastrophic-growth-what-future-for-africa/>
2. **CBD Alliance (2022).** Key Ingredients for a Successful GBF. <https://cbd-alliance.org/en/cbd/2022/cbd-alliance-updated-ingredient-document-successful-post-2020-gbf>
3. **Convention on Biological Diversity [CBD] (2008).** Agricultural Biodiversity: Why is it Important? <https://www.cbd.int/agro/importance.shtml>
4. **Convention on Biological Diversity [CBD] (2020).** Global Biodiversity Outlook 5 – Summary for Policy Makers. <https://www.cbd.int/gbo/gbo5/publication/gbo-5-spm-en.pdf>
5. **COP Decision II/15 (2006).** FAO Global System for the Conservation and Utilization of Plant Genetic Resources for Food and Agriculture. <https://www.cbd.int/decision/cop/?id=7088>
6. **ETC Group (2017).** Who Will Feed Us? <https://www.etcgroup.org/whowillfeedus>
7. **FAO (2004).** What is happening to agrobiodiversity? <https://www.fao.org/3/y5609e/y5609e02.htm>
8. **FAO (2019).** State of the World's Biodiversity for Food and Agriculture. <https://www.fao.org/3/CA3129EN/CA3129EN.pdf>
9. **FAO Agroecology Hub** <https://www.fao.org/agroecology/home/en/>
10. **Friends of the Earth International [FOEI] (2021).** Replanting Agricultural Biodiversity in the CBD. <https://www.foei.org/publication/replanting-agricultural-biodiversity-in-the-cbd/>
11. **HLPE (2019).** Agroecological and Other Innovative Approaches for Sustainable Agriculture and Food Systems that Enhance Food Security and Nutrition. <https://www.fao.org/3/ca5602en/ca5602en.pdf>
12. **Intergovernmental Panel on Biodiversity and Ecosystems Services [IPBES] (2019).** Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services. <https://ipbes.net/global-assessment>
13. **IPES-Food (2016).** From uniformity to diversity: a paradigm shift from industrial agriculture to



diversified agroecological systems. International Panel of Experts on Sustainable Food Systems. http://www.ipes-food.org/images/Reports/UniformityToDiversity_FullReport.pdf

14. Intergovernmental Panel on Climate Change [IPCC] (2019). Special Report on Climate Change and Land. Summary for Policymakers <https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/>

15. International Planning Committee [IPC] for Food Sovereignty (2016). Peasants Give Life to Biodiversity. <https://www.foodsovereignty.org/biodiversity-old/>

16. Third World Network (2022). Bringing Agricultural Biodiversity Back to the Centre of the CBD. <https://www.twn.my/title2/susagri/2022/sa992.htm>

17. WWF (2021). Farming with Biodiversity. Towards nature-positive production at scale. https://wwfint.awsassets.panda.org/downloads/farming_with_biodiversity_towards_nature_positive_production_at_scale.pdf

Endorsing organisations: African Biodiversity Network, African Centre for Biodiversity, Agropolis Foundation, Biovision Foundation, Coventry University Centre for Agroecology, Water and Resilience (CAWR), Cultivate!, EcoNexus, Food Policy Forum for Change, Friends of the Earth International, Global Alliance for the Future of Food, Institute for Agriculture and Trade Policy (IATP), International Panel of Experts on Sustainable Food Systems (IPES Food), Latin American Scientific Society for Agroecology (SOCLA), Laurier Centre for Sustainable Food Systems (Canada), Third World Network (TWN), University of Vermont, and the UNESCO Chair on Food, Biodiversity, and Sustainability Studies.



Cover & header photo credits: © Biovision/P. Lüthi