United Nations Development Programme



# Supporting Food Systems Transformation Towards Sustainability and Resilience

## Background Briefing:
## Why agroecology is a cornerstone for food systems

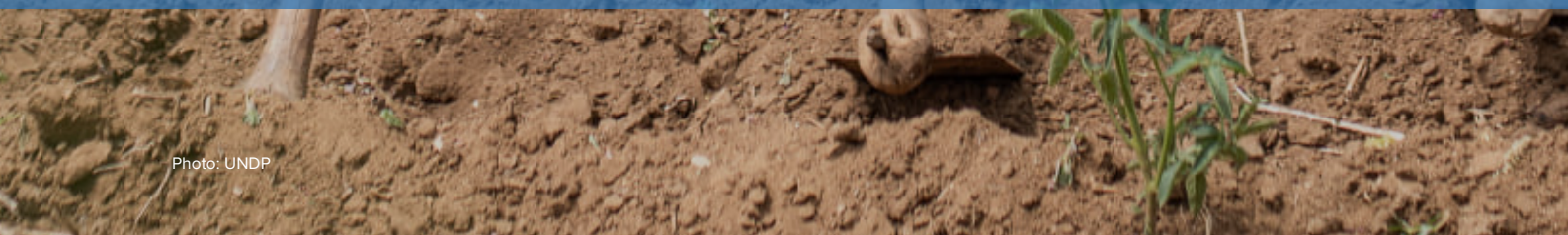

Photo: UNDP

# Introduction

How do we empower smallholder farmers, workers, and entrepreneurs in shorter food supply chains, with the potential to better serve local communities with improved nutrition and increased food security and sovereignty? How do we address the challenges posed by the significant control that a few corporations exert over global and national food supply chains? How do we reduce our heavy reliance on imported products with volatile prices, leading to more frequent food crises? This Background Briefing looks at the benefits of agroecology in meeting these challenges.

In the recently published UNDP White Paper on Food Systems Resilience and Transformation, agroecology is considered a fundamental and essential strategy for building resilience and transforming food systems. The White Paper promotes the resilience and transformation of food systems based on many factors, including the transition to and expansion of agroecology from a holistic and systemic perspective, emphasising its potential to be ecologically sustainable, socially just, and healthy.


Photo: istock

# The multiple benefits of agroecology

As defined by the 197 members of the UN Food and Agriculture Organisation (FAO), agroecology is an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. It seeks to optimize the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system. This definition is characterised by ten Elements which resonate strongly with the White Paper's recommendations:




In terms of sustainability and the environment, the White Paper advocates for accelerating the transition to agroecology as a strategy to significantly reduce dependence on fossil fuels and the use of chemical fertilizers, herbicides, and pesticides that harm both people and the environment. It also highlights the key role of agroecology in unlocking biodiversity's potential to nourish people with traditional, affordable, and healthy diets that benefit local ecosystems and natural resources. The diversification of crops in agroecology —through farmer-to-farmer exchange, knowledge-sharing networks, and participatory breeding programs— plays a critical role in sustaining genetic diversity, improving soil health, and reducing vulnerability to climate and market fluctuations.

The White Paper recommends integrating agroecology into climate change mitigation and adaptation policies, such as Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), National Biodiversity Strategies and Action Plans (NBSAPs) and development strategies. This includes prioritizing agroecology within frameworks for multi-stakeholder engagement, south-south exchanges, and capacity-building initiatives.

The White Paper also emphasizes the role agroecology plays in ensuring the resilience of food supply chains and the diversification of food production. It highlights the support needed for urban agroecology to facilitate access to affordable, diverse, and healthy diets. Additionally, it underscores the key role women can play in accelerating the transition to agroecology through the empowerment of women's collective action in cooperatives and associations, both in production and across the food supply chain.

Beyond production, agroecology strengthens proximity and stronger connections between producers and consumers by promoting short, transparent, and fair distribution networks that are more resilient to regional and global shocks. These territorial networks reduce the dependency on long and industrialized food supply chains, and re-embed food systems within local economies, ensuring greater control over pricing, food access and quality.

Agroecology empowers smallholder farmers, workers, and entrepreneurs involved in shorter food supply chains, offering the potential to better serve local communities with improved nutrition and strengthened food security and sovereignty. It is one of the best strategies to address the challenges posed by the significant control that a few corporations exert over global and national food supply chains. Farmer associations and cooperatives are essential for agroecology, as they provide collective bargaining power, facilitate access to markets, and enable the exchange of agroecological knowledge and practices.

Agroecology has the power to reduce the heavy reliance on imported products with volatile prices, which can lead to more frequent and severe food crises, and support dignified and robust livelihoods through fair trade, fair employment and fair treatment of intellectual property rights. Smallholder and peasant farmers gain the ability to shape food systems that align with their cultural heritage, identity, and traditions. This approach ensures that food remains deeply connected to local knowledge and ecosystems, providing communities with healthy, diversified, seasonal, and culturally appropriate diets. This White Paper provides systemic strategies to make this a reality.



Photo: UNDP Tajikistan

## Agroecology as a systemic approach

**So, how is agroecology systemic?**
It is a farming model that works with Nature rather than against it, unlike many conventional agricultural systems. Agroecology is grounded in both traditional and scientific understandings of how plants, animals, people, and the environment interact within agricultural systems. It is transformative because it is systemic. While the term "systemic" might often seem vague in the world of development, here it is precise: agroecology combines diverse production with the sustainable conservation of ecosystems, making it highly useful for climate adaptation and mitigation, sustainable biodiversity use, ensuring healthy and affordable diets, and improving the livelihoods of smallholder farmers.

## Scaling up agroecology

To **effectively expand and scale up agroecology**, the paper recommends that social protection institutions, social programs, and, in particular, government food procurement prioritize agroecological products. This would ensure that the most vulnerable populations have access to sustainable, nutritious, local, and diverse food. Moreover, the paper advocates repurposing subsidies and other incentives toward agroecology and directing private and public capital to this transition as a priority area that has significant funding gaps.

The **White Paper outlines UNDP's vision and strategy for its global role in transforming food systems** to better serve both people and the planet, addressing the UN Secretary-General's assertion that global food systems are broken. Global hunger affects approximately 733 million people and around 2.8 billion people can't afford a healthy diet. Food systems are also one of the major contributors to environmental and ecosystems degradation, being the main driver of deforestation and biodiversity loss.

To **ensure a systemic vision for food systems transformation**, the White Paper promotes actions in four key dimensions: 1) food systems governance; 2) structural drivers —which include poverty and inequality, health, gender, environment, climate change, and energy; 3) the food value chain (production, processing and transformation, distribution and marketing, and consumption); and 4) sustainable finance. As with many of the most transformative strategies in food systems, promoting and scaling-up agroecology requires considering all these dimensions. Otherwise, there is a risk of failing to achieve the necessary structural changes.

**The transition to agroecology is not easy.** Unlike industrial agriculture, which has been heavily subsidized and supported for decades, agroecological systems face structural barriers that make scaling up difficult. Farmers looking to adopt agroecology often struggle with an arduous shift away from conventional practices, limited market access, financial constraints, and policies that favour high-input, export-oriented agriculture. This transition can be costly and risky, requiring time, resources, and a willingness to navigate uncertainty before its full benefits are realized.

**This is why the White Paper calls for stronger public support.** Governments must redirect subsidies from chemical-intensive monocultures to agroecological systems, invest in research to optimize sustainability and productivity in a diverse array of crops, and integrate agroecological products into public food programs like school meals and hospitals. The benefits —healthier ecosystems, greater biodiversity, empowered farmers, and better nutrition— are too significant to ignore.

## Agroecology timeline

During the 1990s and 2000s, social movements **adopted agroecology and promoted it as a strategy for food sovereignty**, environmental protection, equity, smallholder empowerment, and the recognition of Indigenous knowledge.

Their advocacy bore fruit. In 2018, after years of global dialogues, the FAO formalized the 10 Elements of Agroecology as a flexible framework adaptable to local contexts. A year later, the **High-Level Panel of Experts on Food Security and Nutrition (HLPE-CFS)** identified 13 agroecological principles as a comprehensive framework for systemic change.

**Today, agroecology is gaining increasing momentum.** The Agroecology Coalition, established during the 2021 Food Systems Summit, is spearheading its integration into global food systems transformation policies. Agroecology is also receiving growing attention at biodiversity and climate conventions, with many civil society groups calling for agroecology to be included in negotiated texts. Several organizations —led by the Global Alliance for the Future of Food, the Biovision Foundation, and others— are advocating for its inclusion in National Biodiversity Strategies and Action Plans (NBSAPs), with specific recommendations for countries to promote agroecological strategies and policies at both national and subnational levels. In addition, the Agroecology Partnership in the European Union brings together dozens of organizations and significant budget for strategic research and innovation.

## Agroecology in NDCs, NAPs, NBSAPs, and national strategies

Many countries are incorporating agroecological principles into their NDCs, NAPs, and NBSAPs with several organizations recommending that climate finance be directed toward expanding agroecology. Notably, countries like Brazil, France, Kenya, and Uganda have developed national agroecology strategies—a significant departure from previous debates that predominantly focused on sustainable intensification and biotechnology. Through the Global Environment Facility Small Grants Programme (GEF-SGP), UNDP supports community organizations in adopting agroecological approaches and sustainable land resource management. This initiative has been implemented in various countries, including Mongolia, Armenia, Barbados, China, Cuba, Eritrea, Gambia, Nigeria, Tanzania, Zimbabwe, and South Africa. The projects focus on improving land management by communities, leveraging traditional knowledge and innovation.

**The UNDP White Paper highlights other systemic strategies essential for food systems resilience and transformation, many of which are vital for accelerating agroecology.** These include ensuring access and rights to productive resources like land and water, supporting territorial and traditional food markets, and using subsidies and taxation to create better food environments for those who need them most.

**The UNDP Nature Pledge** —which is the North Star for UNDP's work with Nature— emphasises the importance of shifting our narrative and values in relation to Nature. With Human and Social Values as one of its foundations, a shift to agroecology is an effective platform for a shift in narrative and values.

## Improving food access as one of the main objectives

**It is crucial not to lose sight of the need to address the food security and sovereignty needs of the most vulnerable populations, an objective that should be at the core of the agroecology strategies and policies**. We must all work to find ways to reach those who suffer the most from food insecurity and cannot afford or have access to a culturally appropriate, nutritious and healthy diet. Social programs, government food procurement, and school meals —as previously mentioned— are essential avenues and the communities they serve should be meaningfully engaged in their design and implementation.

## Coordinating towards transformation

We must all join efforts —UN agencies, international organizations, donors, governments, farmers, and consumers— to identify additional paths to reach those communities and individuals who need better and more affordable access to high-quality and nutritious products. UNDP, with its whole-of-government approach and comprehensive mandate on sustainable development, collaborates with key stakeholders to advance a holistic vision for transforming food systems. As co-chair of the United Nations Task Force, UNDP partners with other UN agencies to coordinate efforts and drive collective action toward this transformation.

You can download UNDP Food **Systems Resilience White Paper** here**.**



Photo: UNDP Guatemala



Author: José Luis Chicoma, Former UNDP Food Systems Senior Advisor and Former Minister of Production in Peru.

Copyright © UNDP 2025 All rights reserved. The views expressed in this publication are those of the authors and do not necessarily represent those of the United Nations, including UNDP, or UN Member States.