



Food Systems and Agroecology at COP28: A VSO brief

What's at stake?

Food systems are responsible for a third of greenhouse gas emissions.¹ Climate change and environmental degradation are formidable drivers of hunger and food injustice. Erratic weather patterns due to climate change can reduce crop yields by up to 25%, contributing to food shortages and price spikes, as reported by the Intergovernmental Panel on Climate Change (IPCC).

Environmental degradation, including soil erosion, affects approximately 33% of global soils, diminishing agricultural productivity, as estimated by the Food and Agriculture Organization (FAO). Additionally, the World Food Programme (WFP) notes that resource depletion, habitat loss, and the resulting loss of biodiversity

further exacerbate food insecurity. Addressing these interconnected challenges through sustainable resource management and climate-resilient farming practices is crucial to combat food injustice and ensure food security for all.²

According to the 2023 Status of Food Security and Nutrition report, one in ten people suffer from hunger.

¹ <https://www.nature.com/articles/s43016-021-00225-9>

² FAO, IFAD, UNICEF, WFP and WHO. 2023. The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural-urban continuum. Rome, FAO. <https://doi.org/10.4060/cc3017en>

Our Demands

There is increased recognition that food systems need to be transformed.

In order to transform our food systems, we need to address four key areas:

1. Ensure access to safe and nutritious food for all
2. Shift to sustainable consumption patterns
3. Boost nature-positive production
4. Advance equitable livelihoods

To get there, VSO is calling for four game changers:

- Advance the right to adequate food and nutrition
- Promote the active agency of smallholder food producers
- Recognise and promote agro-ecology
- Tackle the climate crisis

In particular at COP28, VSO is calling for:

- Recognition of centrality of agro-ecology for food systems transformation, climate resilience, adaptation, mitigation and financing within the Global Stocktake.
- Clear integration of agro-ecology and focus on wider food systems transformation within the Sharm el-Sheikh Joint Work on Implementation of Climate Action on Agriculture and Food Security.
- Phase out of fossil fuels including in agriculture and food systems.

Agro-ecology a key climate solution that VSO is supporting through its Volunteering4Development approach

Industrial food systems are the main driver of biodiversity loss and ecosystems degradation. Without transforming food systems, we will not be able to reverse these highly destructive impacts. The IPCC Assessment 6 reports with high confidence that the “adoption of agroecology principles and practices will be highly beneficial to maintaining healthy, productive food systems under climate change.”

Agro-ecology emphasises sustainable farming practices that prioritise the efficient use of natural resources, including water.³

In hunger hotspot countries, where water resources are often scarce and threatened by climate change, adopting agro-ecological approaches can help optimise water usage in agriculture. Techniques such as rainwater harvesting, integrated crop-livestock systems,

and agroforestry can enhance water retention and reduce wastage.⁴

- Women in the Humla district in Nepal have adopted the use of the System of Rice Intensification (SRI) method. SRI is a holistic approach to sustainable rice cultivation. By minimising water use and alternating wet and dry conditions, it minimises methane production and emissions. Supported by VSO volunteer and permaculture expert, Chris Evans, the women have been trained to plant single rice seedlings at a young (2-leaf) stage, using wider spacing and less flooding than conventional methods, resulting in better root growth.

Agroecological practices, such as cover cropping and crop rotation, enhance soil health.⁵

Healthy soils can retain moisture better, reducing the need for excessive irrigation in regions prone to drought.⁴ By improving soil structure and organic matter content, agroecology contributes to enhanced water infiltration and retention.

- Youth champions like Kenyan volunteer, Fridah Okomo, are helping to strengthen community resilience to the effects of global warming and improve soil quality by training local people in organic farming methods. She’s taught people in her community about the benefit of working alongside nature, by cultivating and planting resilient crops that don’t require the use of harmful pesticides.

Agro-ecology encourages the cultivation of diverse crops and the preservation of natural habitats within agricultural landscapes.

These practices support pollinators and beneficial organisms, which in turn contribute to more efficient water use through improved ecosystem services.⁶ Healthy ecosystems can help regulate water flows and maintain water quality.

³ Altieri, M. A. (2002). Agroecology: the science of natural resource management for poor farmers in marginal environments. *Agriculture, Ecosystems & Environment*, 93(1-3), 1-24.

⁴ Rockström, J., & Falkenmark, M. (2015). Agriculture: Increase water harvesting in Africa. *Nature*, 519(7544), 283-285.

⁵ Gliessman, S. R. (2014). *Agroecology: the ecology of sustainable food systems*. CRC Press.

⁶ Pretty, J. (2008). Agricultural sustainability: concepts, principles, and evidence. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 363(1491), 447-465.

- In Mozambique, VSO has linked farmers with the National Gene bank, which supports knowledge and skills transfer on seed storage, seed conservation and supporting withdrawal of lost seeds from the national gene bank. This helps to ensure the long-term conservation of Mozambique's diverse and valuable plants and produce a wide diversity of food which is essential for proper nutrition, as well as supporting research to improve species conservation and habitat restoration.

Agro-ecological approaches are inherently adaptive and resilient, as they diversify farming systems and reduce reliance on single crops that may be sensitive to climate variability.⁷

This adaptability helps communities cope with changing water availability.

- Nelson Mudzingwa is the National Coordinator for VSO's partner, Zimbabwe Small-Holder Organic Farmers Forum (ZIMSOFF), which is a centre of excellence in agro-ecology. Funded by the UK governments ACTIVE programme, the project is supporting agro-ecology work and the role of farmer associations in improving food sovereignty and helping people to access to healthy food, produced through ecologically sound and sustainable methods. "Sometimes as farmers we are not able to cope. The volunteers have come with a lot of counselling because we are not coping with climate change. They come in as a bridging gap for us to develop resilience." says Nelson. "Climate change has pushed more farmers to start harvesting water. This is a very dry area. When it's a good season, we get just 400ml. We are showing evidence that this method of food production that is based on utilisation of local resources is very possible, even when you are in a very dry land area."

Agro-ecology can also lead to improved livelihoods and reduced poverty in hunger hotspot regions.⁸

As communities adopt sustainable farming practices, they become less dependent on expensive inputs like synthetic fertilizers and pesticides, which can be water intensive. This reduction in input costs can free up resources for investments in water infrastructure and conservation projects.^{9 10}

Policy support for agro-ecology is crucial.

- In Zimbabwe, VSO is working with partners to hold duty bearers to account through citizen-led monitoring and dialogue to improve delivery of public services. VSO is working with several local and international organisations and the agriculture ministry to elevate the practice of agro-ecology and contribute to the formulation of a national agro-ecology policy where the voices and agency of smallholder farmers are central.

Youth (volunteer) led actions to advance agro-ecology key for its scale up and sustainability.

- In the Philippines, VSO works with local partners and municipal governments to restore mangrove forests in different coastal villages, as well as community-based lake resource management, to increase community resilience against the impacts of climate change. In Mozambique and Malawi, VSO uses youth platforms to equip communities with assessment tools with youth volunteers leading climate-related loss and damage assessments. VSO's climate champions are also taking leadership roles in international spaces to engage governments in implementing their climate commitments.

⁷ Ibid.

⁸ FAO (Food and Agriculture Organization). (2019). Save and Grow: Maize, Rice, and Wheat.

⁹ Altieri, M. A. (2002).

¹⁰ Gliessman, S. R. (2014).