

This case study is one of several produced by the **CLARA** network to coincide with the publication of the IPCC Special Report on Land. We're showcasing **CLARA** member climate solutions which demonstrate the **rights-based, low-emission development pathways** needed for reducing emissions while **promoting livelihoods** and **ecosystem integrity**.

Agroecology: Making agriculture fit for purpose in an era of climate change

ActionAid is working with farmers to encourage nurturing of climate-friendly agroecological systems which improve food security and livelihoods

Organisations and individuals involved

ActionAid is an international federation working for social justice and development, working with local communities to promote agroecological approaches to agriculture.

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AGROECOLOGY IS AN important nature-based solution to the challenge of feeding the world in an era of climate change. By working with nature, increasing biodiversity and avoiding agrochemicals that impact the environment and human health, agroecology improves resilience to climate change and reduces the GHG emissions released in the process of producing agrochemicals and growing food. Techniques include: using compost, manure and mulching instead of chemical fertilisers; diversifying seed and crop varieties; storing seeds; and using botanical herbs for treating pests.

ActionAid works with farmers in more than 30 countries in the Global South to shift from using synthetic nitrogen fertilisers, to adopting techniques such as adding compost, manure and mulching to soils. Agroecological techniques add organic matter to improve soil fertility, structure and water carrying capacity of soils. Thus, agroecological soils are much slower to dry out, so crops can grow for weeks longer than crops grown in soils treated with agrochemicals, and soils are less likely to be eroded and swept away in heavy rains or floods.

By avoiding the use of synthetic nitrogen fertilisers, agroecology also reduces agricultural GHGs. The creation of fertilisers burns fossil fuels, causing CO₂ emissions. Applying fertilisers kills off the mycorrhizae that provide nutrients and soil structure, converting organic matter to CO₂. Nitrogen fertiliser also releases the potent GHG nitrous oxide (N₂O). On the other hand, adding organic matter builds soil carbon and must be incentivised.

Agroecology encourages diverse crops adapted to different conditions, helping farmers spread risks and reduce losses. This increases ecosystem resilience by providing diversity of microhabitats in soils, at the soil surface, in crops, and in tree canopies. Diverse agricultural systems are more resilient to natural disasters than monocultures. Diversity also caters to the needs of communities; providing local food access all year round. Smallholder farmers using agroecological methods experience improved food and livelihood security. Agroecology provides an attractive alternative to farmers squeezed by a highly competitive agribusiness system.

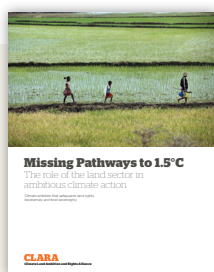
Testimony

Teresa Anderson, climate policy coordinator for ActionAid International

“Agriculture is both a victim and a driver of climate change. Farming must urgently move away from intensive, industrial approaches that rely on chemicals, cause deforestation and release harmful emissions. Food production must shift towards agroecological approaches that work with nature, reduce emissions and strengthen resilience to climate impacts. If we are to limit global warming to 1.5°C, the writing is on the wall for ‘Big Ag’ corporations.”

‘Missing Pathways’ to climate action

Last year, CLARA published the report ‘Missing Pathways’, identifying areas of global mitigation ambition rooted in land rights, restoration, agroecology, and food system change.



This example follows ‘Missing Pathways’ to climate action by...

Ensuring long-term stability of climate and food systems by using nature and biodiversity instead of harmful agrochemicals, and by valuing farmers as knowledge holders instead of customers. Agroecology results in emissions reductions through limiting fertiliser use and reversing soil degradation and loss. One estimate of emission reductions is 0.6Gt/year CO₂e1 with agroecological nutrient management techniques. This figure is just a fraction of the total GHG reduction and mitigation potential that could result throughout food value chains. Agroecology honours rights and social wellbeing, including in the ways in which it works for women farmers and rural communities.

Transformational change in land management starts with respecting rights.



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