

FORWARD-THINKING FARMING FOR A BETTER FUTURE

Despite the world producing more than enough food, almost three in 10 people globally do not have enough nutritious food every day. In addition, food prices worldwide are rising, with people in low-income countries, and especially rural areas, being worse off.

Agroecology can offer a solution. It's a way of farming that protects natural resources while applying both modern science and people's traditional and local knowledge. The potential of agroecology to change people's lives drives DGMT's investment in small-scale farming initiatives that work in synergy with nature.

This learning brief presents key findings from DGMT-commissioned research that explores the enabling factors behind smallholder farming initiatives grounded in ecologically sound practices, aimed at helping communities thrive and build a sustainable future.

FARMING FOR THE FUTURE

Food is our future on a plate¹ — because what we eat determines how well we live, how our children grow, and how we keep the food production cycle going. Today, the amount of food produced in the world is more than 1.5 times what people need for a healthy weight,² yet in 2024 almost three in 10 people globally did not get enough nutrients, including carbohydrates, protein, vitamins and minerals, needed for a healthy body every day. Women and young children are the worst affected, with data showing that a third of women and

two-thirds of children between six and 23 months didn't eat a diet varied enough to give them all these nutrients in the right amounts.³ In addition, food prices worldwide are rising, with people in low-income countries, and especially rural areas, being worse affected than elsewhere.⁴

Agroecology can offer a solution. It's a way of farming that protects natural resources such as soil and water, focuses on sourcing inputs like seeds and organic fertilisers locally or from an own supply, and uses natural ways to control pests. It also applies both modern science and people's traditional and local knowledge.⁵ In short, it's about farming that is sustainable and socially just.



IN A NUTSHELL

THE FOOD AND AGRICULTURE ORGANISATION DEFINES THESE 10 BASIC ELEMENTS:⁶

PEOPLE

- Use people's existing knowledge about farming and create new knowledge together.
- Ensure that everyone has enough healthy food to eat, while respecting their traditions and culture.
- Protect and improve rural livelihoods, equity and communities' wellbeing.
- Put policies in place so that enough food can be grown for everyone, without damaging the environment.
- Allow people to buy and sell food at a fair price.

ENVIRONMENT

- Use resources like water and energy efficiently.
- Recycle what is already available instead of buying new materials all the time.
- Create food systems that can thrive in an area's natural conditions, such as little rainfall or cold winters.
- Make the most of an ecosystem's natural services such as insects as pollinators, or wetlands to protect land against flood damage or erosion.
- Plant many different crops on a piece of land, rather than focusing only on one type.

1 Food and Agriculture Organization. 2025. World Food Day 2025. <https://www.youtube.com/watch?v=ieKh487cHrg>

2 The global food supply provides approximately 2 957 kCal per person. The global minimum daily energy requirement is 1 834 kCal. See: Our World in Data. Food Supply. <https://ourworldindata.org/food-supply>

3 World Bank. 2025. *State of Food Security and Nutrition in the World 2025*. Available at: <https://openknowledge.fao.org/bitstreams/e612e779-ec47-44c2-a3e0-499569c3422d/download>

4 Ibid.

5 Food and Agriculture Organization. Agroecology Knowledge Hub. Available at: <https://www.fao.org/agroecology/overview/en/>

6 Food and Agriculture Organization. *The 10 elements of agroecology*. Available at: <https://www.fao.org/agroecology/overview/overview10elements/en/>

Agroecology is about producing food in a way that is good for people and good for the environment too. The idea is that if people farm in a way that protects their local ecosystems, communities will be able to grow not only enough food for everyone, but also adequately varied foods to ensure that people can get the nutrients they need to stay healthy. In addition, growing healthy food near people's homes means communities have easier access to good nutrition and that produce can be sold (and bought) at fair prices. It fosters sustainable development: if people are strong because they eat healthy food, they can be economically productive, care for their families and children better, and improve their standard of living. Because food is produced in an ecologically responsible way, the cycle can be maintained.

In many low-income countries, research shows that applying agroecological principles, such as intercropping, planting diverse and indigenous crops, and rotating plots, has improved food security. These practices allow for year-round harvests and help protect crops from climate shocks. But they have a social benefit too: people needed to tend to their crops less while their productivity increased, they received more sustainable income and also spent less on buying inputs, and they strengthened their community networks by sharing produce with one another.⁷

The potential of agroecology to change people's lives drives DGMT's investment in small-scale farming initiatives that work in synergy with nature. Research shows that almost two-thirds of households in South Africa are food insecure (46% of households to a moderate extent, and 17.5% to a severe extent) and more than a quarter of children under five are stunted.⁸ Therefore, empowering people to grow healthy food locally, in a way that is in step with nature, can support not only their own healthy eating and secure livelihoods, but also those of others in their communities.

"Social barriers like not having secure access to food or a sustainable way to create meaningful income hinder people from reaching their full potential," says Busisiwe Kabane-Bailey, innovation director at DGMT. "But smallholder farmers can be pivotal connectors between food security and income generation, especially in rural areas, and we see agroecology as an opportunity to connect communities to their environment in ways that can empower them socioeconomically."

CATALYSTS OF CHANGE

To better understand how supporting localised, future-thinking farming initiatives can help change people's lives, DGMT commissioned researchers from the Southern Africa Food Lab,⁹ a non-profit organisation linked to the Food Security Initiative at Stellenbosch University, to look into what makes agroecology work in small-scale farming, and what gaps might prevent successful operations.¹⁰

The study set out to answer four main questions:

- What are the key enablers that give small-scale farmers access to the inputs they need?
- What helps these farmers to sell their produce successfully?
- How does conserving biodiversity complement agroecology in these setups?
- Can the "best buy" food items¹¹ that Grow Great advocates for be supplied through small-scale farming initiatives that run on agroecological principles?¹²

"The research was a sense-making opportunity so that we can be a better partner for organisations already working in the small-scale agroecology space," says Kabane-Bailey. "Understanding what works or where challenges lie allows an organisation such as DGMT to make better informed and strategic decisions as to where to get involved and how to invest resources to help drive change."

The researchers visited eight small-scale initiatives in KwaZulu-Natal that farm according to agroecological principles or support such enterprises. The case studies were diverse: some involved many farmers, others focused on smaller groups; many were run by women, but some also included youth; some were in rural settings, and others were closer to urban areas; some had been running for decades, and others were just starting out.

Observing activities and talking to people about how they run their small farms or gardens — some about the size of a rugby field and others not even a tenth of that — gave researchers deeper insight into what works and what holds people back. They also interviewed experts from organisations involved in agroecology, and later brought people from different groups together to learn from one another.

7 Bezner Kerr, R. et al. 2021. Can agroecology improve food security and nutrition? A review. *Global Food Security*, 29, 100540. Available at: <https://doi.org/10.1016/j.gfs.2021.100540>

8 Mutanga, S.T. et al. 2023. *National Food and Nutrition Security Survey: National survey*. Pretoria: Human Sciences Research Council.

9 Southern Africa Food Lab. Available at: <https://www.southernafricafoodlab.org/about/>

10 Drimie, S. and Carden, K. 2025. *Enabling the success of small-scale agroecological farming projects*.

11 In public health, "best buys" are interventions that evidence shows will be the most affordable to improve someone's health or development.

12 Grow Great and DGMT. *Become an advocate for the double-discounted list of ten best buy foods*. Available at: <https://dgmt.co.za/lets-close-the-food-gap/>

The overarching finding of the deep dive was that agroecological farming realises several development objectives. It not only improves communities' access to a stable supply of healthy food but also helps them to learn about nutrition and how to safeguard their livelihoods in a changing climate by making the best use of natural resources in a sustainable way. The case studies showed that small-scale farmers have a practical approach to sourcing inputs such as seedlings or compost, and combine this with capacity-building initiatives that gradually build local self-sufficiency. By approaching agroecology initiatives in a way that works in their specific community or setup, such as promoting home-based composting rather than relying on a centralised source, farmers' immediate needs can be balanced with longer-term sustainability goals.

The same holds for market access. The farming initiatives were found to take a realistic approach to how to create markets for their produce. Long before retailers are targeted further afield, local communities are served first. Farmers set up local informal markets, supply nearby early childhood development centres or schools, and find innovative ways to process produce for longer shelf-life, such as through drying, powdering or fermenting.

Despite the successes, many groups still face systemic constraints such as insecure land tenure, unreliable transport, limited extension support and a lack of recognition of informal certification systems. Addressing these challenges can help to increase the development impact of agroecological farming initiatives in underserved communities.

THE POLICY LANDSCAPE

The research showed that current policy frameworks seem to favour conventional farming and its associated value chains and formal markets.

- Access to seed, specifically, can be problematic. That's because the laws that govern how plants are bred — and therefore how seeds are produced — align closely with an international convention (UPOV 91) aimed at protecting new plant varieties.¹³ The agreement is contentious because it appears to benefit commercial seed producers and impose on the rights of farmers to save, share or sell seeds of protected varieties.¹⁴ This goes against some of

the core principles of agroecology, in that farmers are forced to rely on using external inputs (seeds, in this instance) rather than becoming more self-reliant.

- Market access and distribution channels can be hampered by laws or regulations that govern where and how food can be sold. Different stakeholders — from agriculture and social development authorities to town planners and those responsible for transport infrastructure — have to work together to create spaces where food can be bought and sold conveniently and at fair prices.

Despite these constraints, the policy environment also presents emerging opportunities through initiatives such as the development of a new national framework for agroecology in South Africa, initiated by Parliament's portfolio committee on agriculture, land reform and rural development in 2023.¹⁵ The new framework was expected to be released for public comment in 2025.

In January 2025, South Africa also ratified the International Treaty on Plant Genetic Resources for Food and Agriculture, which promotes the conservation and sustainable and fair use of genetic material from plants for farming.¹⁶ This provides an important framework for protecting farmers' rights to save and share seeds. Regional platforms such as the Southern African Development Community and the African Union may offer more promising avenues than national policy advocacy alone.



¹³ South Africa is a member of UPOV 78, but not a signatory to the 1991 convention. This means that there may be opportunities for some farmers to be exempted from certain restrictions regarding seed production, as has been argued by Biowatch SA in their comments to the UPOV Working Group's questions regarding implications for smallholder farmers. See: https://biowatch.org.za/download/policy-submission_smallholder-farmers_definition-private-non-commercial_upov/#

¹⁴ Centre for Biodiversity. 2018. *Reflections on ITPGRFA, UPOV 1991 and South Africa*. Statement, 30 October. <https://acbio.org.za/seed-sovereignty/seed-laws-policies/reflections-itpgrfa-upov-1991-south-africa/>

¹⁵ Parliamentary Monitoring Group. 2023. *Agroecology Strategy and Plan for South Africa: Stakeholder input*. Meeting notes, 14 March. <https://pmg.org.za/committee-meeting/36544/>

¹⁶ Food and Agriculture Organization. 2025. South Africa joins the international treaty. Media statement, 16 January. <https://www.fao.org/plant-treaty/news/news-detail/SOUTH-AFRICA-JOINS-THE-INTERNATIONAL-TREATY/-en>; Food and Agriculture Organization. 2025. International Treaty on Plant Genetic Resources for Food and Agriculture. <https://www.fao.org/plant-treaty/en/>

At a municipal level, local government has emerged as an important policy arena. Municipalities like eThekweni in KwaZulu-Natal showed that local policies can support agroecological initiatives, although implementation often faces capacity constraints. The implementation of local procurement plans, such as KwaDukuza's use of the National School Nutrition Programme, demonstrate how policy can create significant market opportunities for small-scale farmers.

HIGHLIGHTS FROM THE FIELD

The case studies yielded valuable insights into how small-scale farming that embraces ecologically sound principles to grow food can help change people's lives. Here are some highlights about what some of these initiatives do, what works for them and what holds them back.

1 THANDA – UMZUMBE LOCAL MUNICIPALITY IN KWAZULU-NATAL

Thanda supports over 300 smallholder farmers, mostly women and youth. The organisation has been involved in agroecology since 2014 and its operation covers a combined area of 40 hectares, made up of homestead gardens and 31 cooperative farms. The projected value of vegetable production was estimated to be around R8 million in 2024. A combination of 12 vegetable crops is grown across the network, all foods that are popular in the local community.

- **What works:** Farmers get seedlings on credit from a commercial nursery about 60 km away but can only take a limited number at a time, ensuring they don't rack up unmanageable debt. Compost is available from a bio-digester at their agri-hub, and farmers are also encouraged to make organic pesticides and save seeds for future planting.

After first ensuring that their own households have enough food, farmers sell the rest of their produce in their community and to institutions linked to Thanda's feeding programmes. Over 80% of the produce is sold by the farmers themselves, although the programme also offers a safety net by buying up surplus.

Thanda combines biodiversity conservation and land stewardship by encouraging farmers to maintain wetland reeds to protect their land against flood damage.

- **What holds them back:** Thanda farmers don't have their own seedling nursery. Attempts to set one up before were unsuccessful because of limited technical skills and the intense care required to raise strong plants. There is also little demand for high-nutrition crops such as cauliflower and broccoli. Detailed information about farmers' profitability, post-harvest losses and sales volumes by market channel is lacking.

2 SIYAVUNA – UGU DISTRICT IN KWAZULU-NATAL

Siyavuna has eight community hubs and reaches about 1 500 farmers, of whom a large number are women and young people. Farmers feed their own families first and sell the rest of their produce weekly for cash. Siyavuna is also a founding partner of the Kumnandi brand (which means "it's delicious") and serves as a collective marketing platform that connects farmer groups across provinces to shared branding, standards and market access strategies. Produce is grown on homestead plots of 500–1000 m² — about a tenth of the size of a rugby field. Farmers are encouraged to grow at least 10 crop types per season, with some indigenous varieties in the mix. The use of chemical inputs like fertiliser or pesticides is strongly discouraged.

- **What works:** Siyavuna focuses on promoting soil health, implementing water-wise practices such as mulching and using greywater, and reducing reliance on external inputs. Compost is often produced at home although some hubs also coordinate group composting activities, and farmers are encouraged to save seeds.

Training is delivered through the organisation's farmer development programme and supported by local facilitators who do home visits and run seasonal workshops.

Fresh produce is sold mainly to retailers on the KwaZulu-Natal South Coast, but some is also sold at local market days such as "Fresh Produce Fridays" or bought by early childhood development centres and informal traders. Siyavuna has also set up a sophisticated processing facility for drying produce, with many of the products being supplied to processing companies and health shops nationwide under the Kumnandi brand.

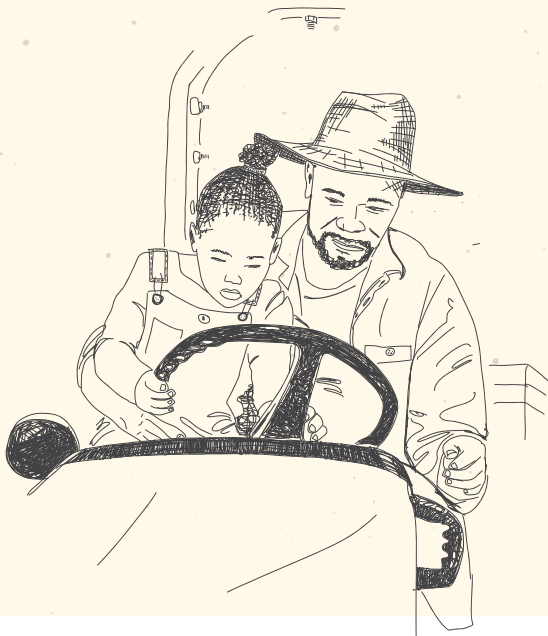
- **What holds them back:** Siyavuna farmers don't have access to formal cold-chain infrastructure, which means that they have limited opportunities for scaling. Transport limitations reduce marketing reach and the size of plots limits productivity and consistent supply. Little information is available about farmers' production volumes or income, which makes it difficult to track outcomes over time or compare them across hubs. Homestead growers also don't have formal land tenure documents.

SIYAVUNA: PLANTING HOPE, GROWING FUTURES

Growing food sustainably is not only about caring for natural resources and ensuring ecological resilience; it's also about caring for those growing the food and building their resilience. This is why Siyavuna makes mental health support and life skills training part of their youth-led farming projects. Often, the barrier to young people making a success of their farming endeavours is not related to technical skills, land access or funding. Instead, it's something that lies hidden: unresolved trauma, undiagnosed depression, or the weight of daily survival.

Siyavuna includes resilience-building workshops in their programme to help participants develop emotional strength and the capacity to deal with stress, especially around failure and uncertainty — which is a real possibility when income and food security depend, to a large extent, on unpredictable factors such as the weather. By creating structured spaces for peer-to-peer support, young people can share their experiences with one another, and benefit from knowing that they're not alone.

But seeing young people's mental health struggles can also take a toll on technical facilitators whose core role is to impart knowledge about farming, and they may not always be equipped to absorb young people's emotional burdens. By providing training on trauma awareness, boundary setting and personal wellbeing, Siyavuna helps staff to also build up resilience, which allows them to better help young farmers develop their skills.



3

SIYAZISIZA — KWAZULU-NATAL, THE EASTERN CAPE AND MPUMALANGA

The Siyazisiza Trust is a non-profit rural development organisation that has been working with small-scale farmers in South Africa's three eastern provinces for almost 40 years. The Zululand Agri Enterprise Centre in Obanjeni serves as the operational hub and includes agro-processing and fresh-produce storage facilities, shaded and open nurseries, a newly established kitchen, and two hectares of land under agroecological transition. The model positions agroecology as both a technical solution and a community-driven process to support long-term resilience through farmer training, input and logistics support, and market access facilitation through a decentralised village-based structure. Traditional farming wisdom is combined with modern principles to foster crop diversification and soil health management.

- **What works:** Siyazisiza encourages farmers to plant traditional grains such as sorghum and millet. Seed access is being strengthened through indigenous seed networks, which connect younger farmers with older women who have traditional farming knowledge. The Siyazisiza input model also includes species development through crop trials, seed banking and the establishment of local supplier networks to strengthen sustainability.

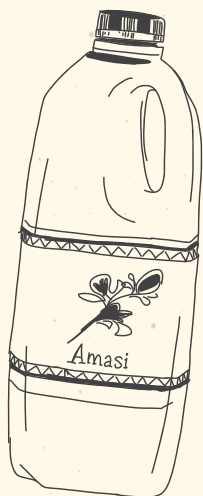
The network negotiates contracts with secure buyers, establishes partnerships with health-focused retailers and coordinates delivery of the produce, allowing smallholders to focus on volume. Vegetables like spinach, cabbage and fast-growing amaranth form the core of their fresh produce offering, selected for their short growth cycles and high turnover. Siyazisiza also produces innovative processed food items such as puffed ancient grains, flours and vegetable powders, which have opened niche markets and helped reduce waste.

- **What holds them back:** Bird damage to sorghum crops and labour-intensive practices make growing traditional grains challenging, and reviving indigenous seed systems requires sustained effort in knowledge transfer and crop trials. Social barriers such as expectations around credit, community tensions, and farmers' limited capacity to market their produce can hinder progress. Additionally, the network's wide geographic reach puts pressure on logistics, monitoring and support systems.

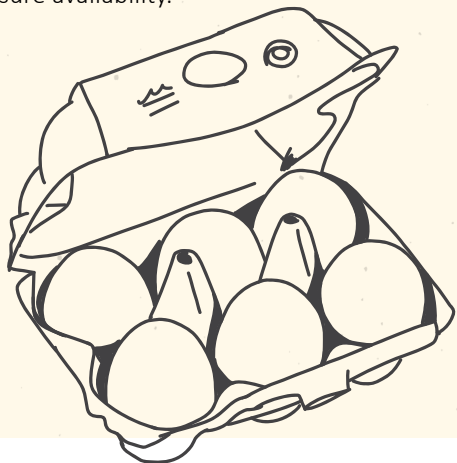
SMALL-SCALE AGROECOLOGY AND GROW GREAT'S 10 BEST BUYS

Grow Great works towards building a future where no child in South Africa is unjustly denied the opportunity to reach their full potential. As part of its campaign to halve stunting by 2030, Grow Great has identified the following protein- and energy-rich foods that can provide high nutritional value at the lowest cost for families:

- tinned tuna
- tinned pilchards
- peanut butter
- fortified maize meal
- eggs
- soya mince
- dried or tinned beans
- dried lentils
- amasi
- long-life full cream milk



The DGMT-commissioned research found that small-scale farmers using agroecological practices are well positioned to boost local supplies of amasi, eggs, groundnuts, and speckled beans. To enable decentralised production of these foods, potential strategies include: creating product-focused agricultural hubs; building integrated market linkages to support scaling; strengthening input value chains; and improving subsidy systems and policies to ensure availability.



KEY LESSONS

The success of agroecology in small-scale farming is rooted in creating interconnected systems that function locally but also tap into diverse external channels to support sustainable, community-centred food systems.

Here are some of the main takeaways from the research:

1 SOWING SUCCESS

By sourcing seeds or seedlings locally, farmers can become less dependent on external inputs and thus more self-reliant. This can be achieved through seed-saving initiatives and establishing seedling nurseries. At the moment, South Africa's policy environment is not ready to accommodate or promote a seed-saving and-sharing culture, but civil society organisations such as Biowatch SA, interviewed as part of the DGMT-commissioned research, are part of discussions about how small-scale and homestead farmers can be exempted from rules that would make seed-saving and-sharing practices unlawful.

2 COMPOST IS KEY

Reliable access to high-quality organic fertiliser is essential for successful agroecological farming. Sharing composting knowledge across farmer networks can build the expertise and capacity needed to support sustainable production. Thanda's experience shows that success depends on having enough space for producing large amounts of compost, dedicated management of the process and a steady supply of biomass to keep production going. For elderly farmers, though, household composting with kitchen waste could be a more manageable model as it does not require much hard physical work.

3 LOCAL IS LEKKER

Prioritising local markets is a fundamental enabler of success. For a local market strategy to be impactful and economically viable, strong community connections and multiple complementary market channels are needed. For example, Thanda's farmers ensure that their own households have enough food first and then sell the rest of their produce to members of their own community, while Siyavuna hosts local fresh-produce market days and encourages links with food stores in their community.

4 PARTNER UP

Strategic partnerships, particularly with schools and early childhood development centres, can offer reliable markets

while simultaneously contributing to a community's nutrition security. Such institutional relationships reinforce the social value of agroecology. This model works well for Thanda, Siyavuna and Siyazisiza.

5 ADD VALUE

Innovative thinking around making the most of everything that is grown is a critical enabler of economically successful agroecology. The use of processing methods such as drying, fermentation and powdering can help farmers cope with overproduction, extend product shelf life and open niche markets with higher margins, and so create robust and diverse income streams. Both Siyavuna and Siyazisiza have successfully added processing initiatives to their offerings.

6 WORK WITH NATURE

Successful agroecology ventures build on existing ecosystem services such as wetlands and natural vegetation instead of replacing them with artificial inputs. Incorporating indigenous crops into small-scale farming helps preserve biodiversity and genetic resources that are well adapted to local conditions, contributing to food security and resilience in the face of climate change.

7 DRAW ON THE WISDOM OF WOMEN

Across all eight case studies, women emerged as central agents of agroecological transformation. In many of the projects reviewed, more than three-quarters of the farmers were women. They not only drive household nutrition but are also instrumental in creating organisational structures for farmers, bringing people together and empowering them. In addition, many older women have a wealth of traditional knowledge, which they can pass on to younger farmers.

WHAT'S NEXT?

The overarching outcome of this research — that connecting people to the environment is at the heart of building sustainable, thriving communities — transcends across all DGMT's projects, says Kabane-Bailey. "We're in it for the long haul."

"The study highlights how DGMT can continue to support smallholder agroecology initiatives by backing organisations already active in this space — through funding, operational support, or knowledge sharing. But more than that, as a public innovator, DGMT can also leverage its resources to act as a convenor of co-learning opportunities that link environmental sustainability to empower people," Kabane-Bailey explains.

"We don't see ourselves as the experts in agroecology, but rather as a facilitator of knowledge sharing," she adds. Plans are already forming to create a space over the next year that will help experts from across the spectrum — from organisations working in the field to policymakers — to take concrete actions to use agroecology projects as a way to empower communities.

Says Kabane-Bailey: "We envisage our role as creating a bridge for knowledge sharing. That's synergy in practice."

The information in this brief is based on research commissioned by DGMT, and authored by Scott Drimie and Kenneth Carden. The brief was written by Linda Pretorius and edited by Rahima Essop.



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