



Agroecology in Action: Stories from the Ground

Second Edition

Acknowledgements

This publication is the result of extensive discussions and presentations held as part of the Agroecology Coalition's [Working Group on Implementation](#). These sessions enabled members to share and reflect on the lessons learned and the challenges that arose from implementing agroecology projects and initiatives around the world. These contributions are available in the [Repository of Case Studies](#) on the Agroecology Coalition website, from which ten case studies were selected for inclusion in this publication. The selection aimed to ensure broad geographical representation (with projects based on all continents) and to cover a variety of topics, such as markets and entrepreneurship, reduced dependency on external inputs, valuing tradition and nutritious local diets, legal frameworks, labelling and traceability systems, and the co-creation of knowledge. We would like to thank those who presented their projects during the various meetings, those who contributed to drafting the case studies, and those who actively participated in the discussions after the presentations. Lastly, we would like to thank the Working Group co-facilitators: Pierre Ferrand (FAO), Andrea Gómez Lozano (Proyectar Sin Fronteras, Colombia) and Afshan Omar (Baylor Children Foundation, Malawi) for their support to the Secretariat.

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Foreword

Time flies and we are now happy to release the second edition of *Agroecology in Action: Stories from the Ground*.

Since the debut version of this publication a year ago, we have continued to observe a growing interest in agroecology – from different studies on its value and shared benefits, to additional countries developing their own national strategies. Agroecology has also been recognized at global policy events such as this year’s UNFSS+4, where the UN Secretary General mentioned in his opening statement that agroecology is now becoming part of government efforts to transform food systems worldwide.

References such as these reveal the important role of agroecology in accelerating positive transformation for our food systems – something for which there is no lack of supporting evidence. Indigenous peoples, smallholder family farmers, pastoral livestock farmers and other food system frontliners have been engaging in agroecology all along, throughout their lives and in their respective landscapes and territories.

Shared and discussed by members during monthly online conversations led by the Coalition’s Working Group on Implementation, the various initiatives captured in this compendium are part of a growing testament to the fact that agroecology works. Such conversations have allowed members to co-create and draw from each other’s approaches and lessons learned in implementing agroecology on the ground.

Moving forward, the Agroecology Coalition will continue to contribute to the transformation of food systems by facilitating collective action and reflection while empowering members with the capacities needed to drive positive change at all levels.



Oliver Oliveros
Executive Coordinator
Agroecology Coalition





Key learnings

- **Programs require well thought-out long-term interventions** instead of short project cycles (less than 3 years) **to truly impact change at multiple levels**, especially when it comes to decision making, converting to agroecology, ensuring diversity in diets, and educating people to make adequate health choices.
- **Partnerships between ministries**, especially the Ministry of Health, the Ministry of Agriculture, the Ministry of Environment, is critical in influencing change at multiple levels such as health, environment, and food systems.
- **Connecting human health to environmental health** is important and in line with the global shift towards purposefully connecting agroecology to health outcomes.
- **Natural Livestock Farming supports both smallholder farmers** and large-scale farmers and has potential for upscaling within **pastoralist communities** as well, while contributing to all of the principles and elements of agroecology.
- **Decentralized systems outperform centralized models in fragile rural economies**, and community **ownership of standards** such as Participatory Guarantee Systems **builds consumers' trust and improves compliance**.
- **Systems thinking** is essential for addressing **the interlinked challenges** of food, energy, water, and waste.
- **Farmers learn best through their peers. Adoption of new techniques by farmers can be made possible through membership in farmer groups.** These groups serve as training spaces and allow peer-to-peer exchange. They allow farmers to deploy a chain of solidarity in order to exchange knowledge and other input (seeds, seedlings, animals, etc.).
- **Women play a central role in small-scale agriculture and household food security.** They are keepers of traditional farming knowledge, seed saving, and nutritional decisions within households.
- Having a **Joint Implementation Programme between different stakeholders enhances synergy and builds on the strengths** of various organizations.
- **Food assistance and agroecology can reinforce each other.** In contexts where food sovereignty is not yet feasible, solidarity-based actions can foster food security while supporting agroecological values.
- **Accessibility is a systemic issue and agroecological food products must not remain a privilege.** Inclusive models must combine production, distribution, and education to reach those most affected by structural inequality.
- **Strong local governance frameworks, such as district byelaws, are critical for scaling agroecology.** The incorporation of agroecology within laws and policies legally binds governments to protect and promote agroecology and protect the interests of smallholder farmers.





Introduction

One year after the [launch](#) of *Agroecology in Action: Stories from the Ground*, the Agroecology Coalition and its members are back with a second edition to continue shining light on the important work done by various stakeholders to implement agroecology on the ground.

This second edition is being released at a time of **changes in the developmental funding landscape** related to major budget cuts in Official Development Assistance from the USA (at least 86% of such programs) and in the aid programs of OECD countries (a 7.1% drop from 2023 to 2024), affecting the funding for agriculture and food systems in many countries. All in all, the agriculture sector has experienced the highest budget cuts in absolute terms and an overall reduction of 81%.¹

Despite this, there is still a **growing momentum behind agroecology in several parts of the globe**, backed by grassroot movements, civil society and policymakers. For instance, the Second [Eastern Africa Agroecology Conference](#), held in March 2025, gathered 800+ participants (compared to around 600 in 2023), showing a strong regional interest in agroecology. Countries like Tanzania, Kenya (several of its counties in particular), Benin, Burkina Faso, and Tunisia have launched their own national agroecology strategies while others like Zambia, Zimbabwe, South Africa, Uganda, and Ethiopia are finalizing theirs. Meanwhile in 2023, the Association of South-East Asian Nations (ASEAN) published the ASEAN [Policy Guidelines on Agroecology Transitions](#), recommending policy instruments, practices, and principles to support policymakers in scaling up and scaling out agroecology transitions.² In the Americas, Brazil published its National Agroecology and Organic Production Policy, followed by Colombia during the Conference of Parties (COP) on the Convention of Biological Diversity (CBD), held in Cali in October 2024.

The Agroecology Coalition, with its more than [430 members](#) to date, is working to completely transform our food systems through agroecology. As outlined in its [Strategic Directions 2024–2030](#), the **Coalition facilitates co-creation and exchange of knowledge on agroecology, fosters increased investments for agroecology, advocates for and amplifies supportive policies, and supports markets and inclusive business models.**

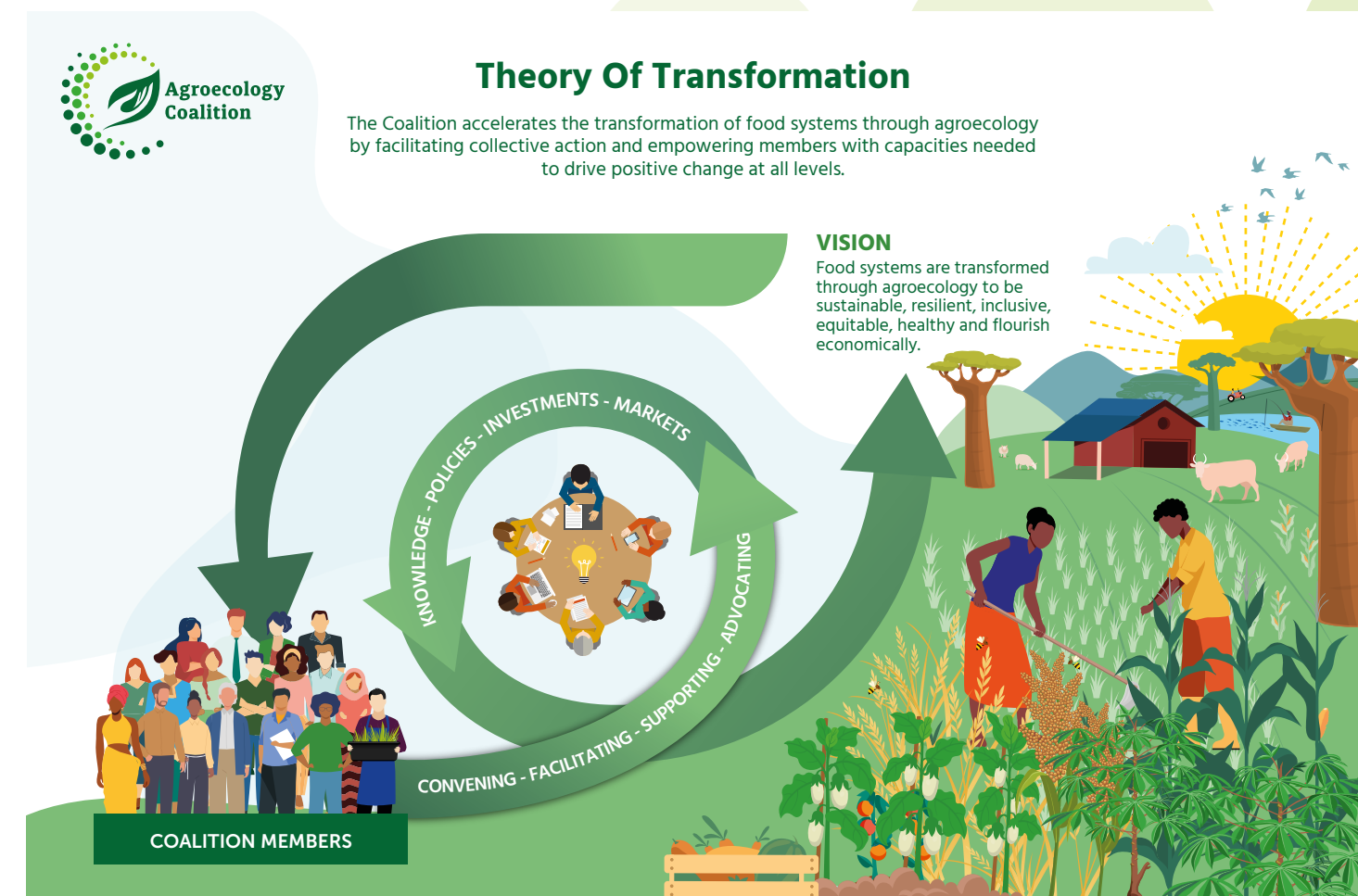
The Agroecology Coalition's work is guided by the 13 principles of Agroecology defined by the High-Level Panel of Experts for Food Security and Nutrition (HLPE-FSN) of the Committee on World Food Security (CFS). These principles are, in turn, **aligned with the 10 Elements of Agroecology** adopted by the Council of the UN's Food and Agriculture Organization (FAO) in December 2019.

1. Source: <https://publications.jrc.ec.europa.eu/repository/handle/JRC142455>

2. The Association of South-East Asian Nations (ASEAN) is composed of Brunei, Burma, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand and Vietnam.

Ten years after the first International Symposium on Agroecology for Food Security and Nutrition, in 2024, the Agroecology Coalition published the first edition of *Agroecology in Action: Stories from the Ground*, a compilation of **ten projects making the case for agroecology**, highlighting how the principles and elements of agroecology can be implemented on the ground in various countries.

In this 2025 edition, we explore **fresh perspectives on agroecology**, highlighting its health benefits in clinical settings and its connection to mental well-being. We also delve into the participatory guarantee systems of farmers, veterinary medicine, marginalized communities, watershed management, and the critical role of different legal frameworks. Through their stories we highlight our incredible members' work in **Indonesia, India, Nepal, Tanzania, Uganda, Ethiopia, Malawi, Kenya, South Africa, Colombia, the Netherlands and Spain.**



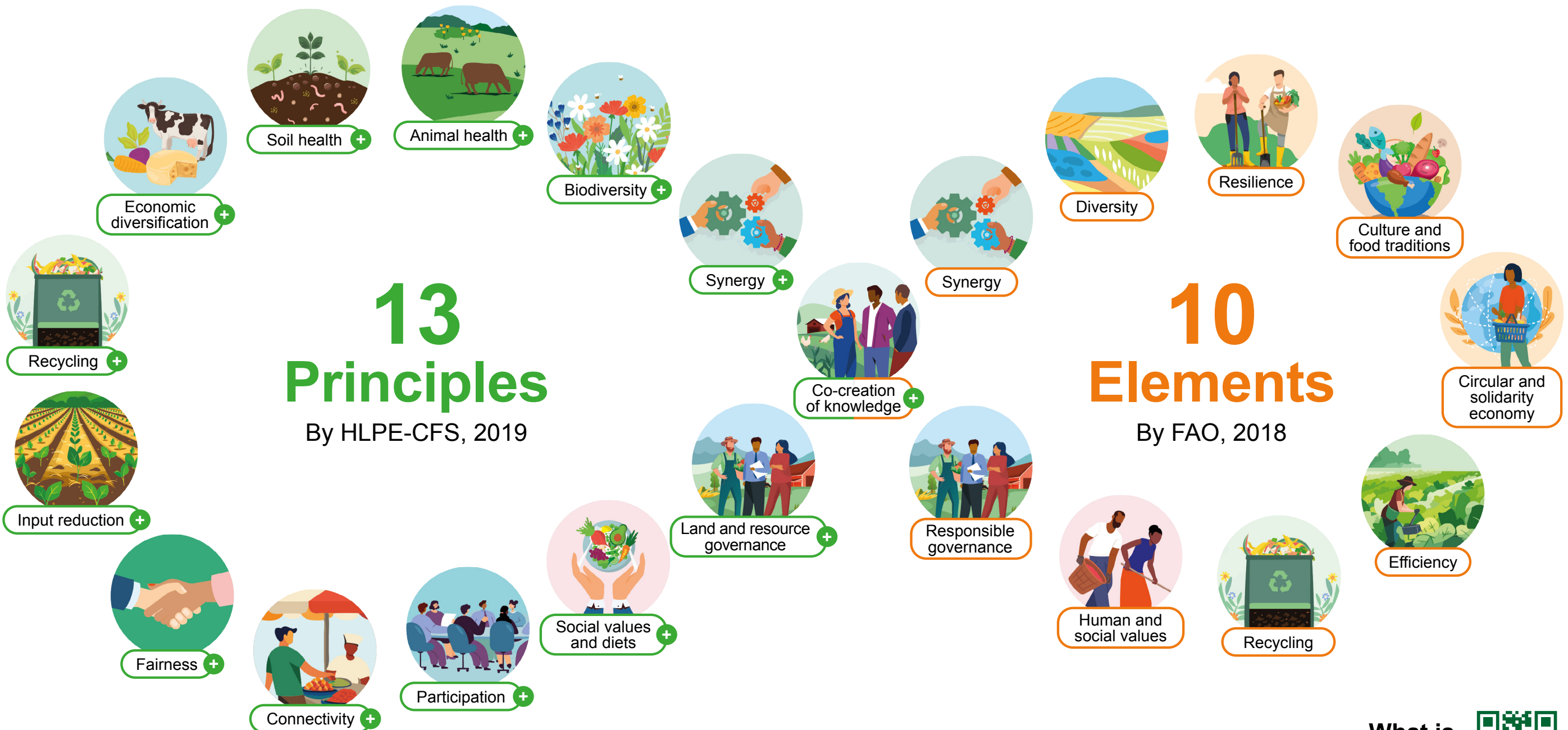


Agroecology- towards the transformation of food systems

Agroecology, based on a set of principles and elements, is a transformative pathway towards sustainable food systems.

Discover its foundations through theory and practical examples!

 Click on the **+** icon to find out more.



As you explore the infographic, you will come across the word «farmer» several times. This is often used to indicate other food producers (fisher-folks, herders...)

What is
Agroecology?





Story by Baylor Children's Foundation Malawi

Area 25 Community Hospital

Launched in 2015 and still running, this project focuses on integrating human and environmental health, improves connections to the environment, and explores agroecology as a powerful path to both mitigating and adapting to climate change. The project blends the principles of agroecology with permaculture and resilient design. Strategically based in a local community hospital working with pregnant women, acutely malnourished children, adolescent mothers, youth and community groups, it is a center of excellence for learning and demonstrating the link between human health outcomes and environmental health outcomes, overcoming the more typical siloed approach to solving multiple issues in Malawi.



 Baylor Children's Foundation



Organizations involved in this project include: [Baylor Children's Foundation – Malawi](#), [Texas Children's Health Global](#), government bodies, educational institutions, parastatal and local structures.

Country: Malawi (Lilongwe).

Timeline: June 2015–ongoing.

Funding: Donors are the Baylor Foundation (for over 10 years) with an annual contribution of USD 150,000, as well as Texas Children's Health Global, diverse grants and philanthropic funds.

Mission: Under the direction of Malawi's Ministry of Health, to provide healthcare for women through the delivery of clinical services, mentorship and education, research and measures of effectiveness, as well as community outreach and awareness.

Context: This project has been implemented in the Central Region of Malawi: Lilongwe. Malawi, with a current poverty rate of 71.2% (World Bank, 2025), has an economy that is primarily dependent on agriculture, with maize being used mostly as a staple food. The country has been facing consistent climate-related disasters such as severe floods, droughts, seasonal climate shocks, erratic rainfall, and chronic food insecurity, which increase health risks and decrease access to quality healthcare. At the Area 25 Community Hospital, women accessing services are primarily from a peri-urban population catchment area of 700,000, in which the average daily income is less than USD 2.50. As a facility led by the Ministry of Health, the public private partnership with Texas Children's Health Global provides free healthcare to all those who access these services. For the last five years, the maternal mortality ratio at Area 25 has been less than 50 maternal deaths per 100,000 live births compared with the national average of 400 maternal deaths per 100,000 live births. Similarly, the stillbirth and early neonatal death rate is substantially lower than the national average (0.2% at Area 25 versus 2–3% nationally).

Main beneficiaries: Pregnant women, acutely malnourished children, with a high percentage of children with stunted growth (ages 0–15), adolescent mothers, youth and community groups.

Types of farms targeted by the project: Farms with an eight-acre area of productive space filled with approximately 150 species (medicinal and edible), combining pollinator-friendly spaces and agroforestry utilising the principles of agroecology rooted in permaculture design.

Featured agroecology principles and elements:



Social values and diets



Human and social values



Culture and food traditions



Biodiversity



Soil health



Recycling



Co-creation of knowledge





Objectives

To eliminate preventable maternal and neonatal morbidity and mortality and to empower women to become self-actualized community members.

- **To improve land use and soil health practices** in order to increase the understanding of food systems, environmental stewardship, and access to healthier foods, to improve raw water quality and biodiversity restoration, to improve ecosystem services, and to increase climate mitigation and adaptation efforts.
- **To promote environmental education** around a wide range of topics (nutrition, food security, health, organic waste, climate change, etc.), making apparent the connections between health, permaculture, the environment, and agroecology, and to provide education and direction on creating dietarily diverse, nutritious and delicious meals for all.
- **To support the reforestation** of the fastest growing peri-urban area in the country through the triple seedling program.



Activities

- **Daily health talks** coupled with permaculture design and agroecological education.
- **Daily healing garden walks** that are either silent, meditative, or interactional and are designed to improve observational abilities and sharpen all the senses.
- **Weekly compost making sessions** that help teach the community how to grow their own biomass on site.
- **Plant identification** for increasing intercropping and crop rotation within small spaces.
- **Home and community garden design and competitions** to increase accessibility to foods rich in micronutrients, and during which participants are encouraged to identify five different garden designs and create their own garden space.
- **Weekly cooking demonstrations** that connect seasonal harvests to meal preparation and provide information on how to cook for nutrient deficiencies and integrate readily available micronutrients.
- **A feeding program three times a week** that covers patients, post-operative mothers, adolescent mothers, and participants in the nutrition program.
- **Weekly nutritious food packs** for adolescent mothers to help address food insecurity within households.
- **Weekly workshops** on tree planting, agroforestry, garden design, climate change, soil health, managing greywater, clean cooking, fuelwood alternatives, and menu design.
- **Triple seedling distribution**, connecting the birth of a child to tree seedlings and caring for the environment.
- **Work demonstrations linking agroecological principles to improved human health** from a healthcare perspective.

Outcomes and results

- 25,000 tree seedlings distributed in 2024 as part of the triple seedling program
- A wide range of patients educated on dietary diversity
- 1,200 litres of soy milk prepared
- 4,200 trees planted
- Composting projects: 2,220
- Gardens designed: 2,200
- Beneficial plants: 4,272
- 5,769 nutrition training sessions given
- 96 agroecology classes for patients at the maternity waiting home
- Nutrition Program held in 2024
- 2,968 meals provided weekly to approximately 136 participants and 136 guardians
- 3,466 kg of a micronutrient-rich porridge mix provided
- Feeding Program held in 2024
- 10,200 meals prepared for patients, guardians, and staff
- Around 220 adolescent mothers involved in the 2024 program, receiving 1,168 meals and 1,200 kg of a nutritionally diverse porridge



Adolescent Mothers Program: Over three years, 386 adolescent mothers have successfully graduated from the program, during which each participated in a two-year outpatient program involving nutrition, education and other activities from 20 weeks into their pregnancy until their children turned one year old. 75% of these mothers have accessed family planning alternatives, 40% are enrolled in a livelihood program that focuses on skills building, and 30% have gone back to school via scholarships funded by the program.

Nutrition Program: From January 2024, when the program had 21 participants, it has expanded to currently host 156 acutely malnourished children and their guardians. As an outpatient program, mothers/guardians and children come weekly to receive a meal, a food pack, an education session and to engage in creative activities. Moreover, five community gardens have been established that are managed by mothers and guardians in their groups, growing a diverse array of plants and integrating various agroecological methods. Finally, five small enterprises have been created that make and sell soy milk to both increase nutrition and provide a source of income.

Feeding Program: In 2024, this program was extended to post-operative mothers, women in labor and delivery, and mothers with premature babies to reduce the stress associated with food preparation.



Lessons learned

- **Programs require well-thought-out, long-term interventions to truly make an impact at multiple levels:** decision making, diversity in diets, health choices, and the implementation of agroecological principles within a homestead.
- **Partnerships with the Ministry of Health and community leaders are critical in influencing change at multiple levels within the healthcare system and to connect community leaders with the agricultural system.** This extends to the integration of nutrition into healthcare.
- **Engagement with the local environment** is important to understand how it affects health and mental well-being.
- **A shared knowledge approach** is beneficial, especially when combined with current conditions in order to make it applicable to real-life situations.
- **Designing spaces within a healthcare setting requires both time and patience**, and all lessons learned should be shared in connection with local and indigenous knowledge.
- **All information should be available at different literacy levels** and in the vernacular language.

- **Connecting human health to environmental health** is important and in line with the global shift towards purposefully connecting agroecology to health outcomes.
- **Combining multiple service lines** (healthcare, maternal and pediatric health, nutrition, environment, and agriculture) aids in overcoming the barriers of a siloed approach.
- **Ensuring that ideas are successfully demonstrated for all** is important, as not many people understand what a holistic system, that integrates agroecological principles to build resilience to climate change, looks like.
- **Climate and agroecology are intricately linked**, and agroecology is a response to an increasing number of climate shocks.
- **The co-creation and co-designing of solutions should be integrated from the beginning** of the project to ensure uptake and sustainability.
- **Sustainable food systems are directly linked to agrobiodiversity and are a basic right for all.**

Limiting barriers

- Aligning the goals of the project with local, national and regional goals can be difficult.
- There is an increased number of agroecological and food system projects but none of them work together or share what they learn with each other.
- Knowledge and awareness is lacking when integrating agroecological principles effectively within a healthcare setting.
- Holistic and comprehensive approaches are often rejected.
- There is a lack of capital to create sustainability.
- Time limits on projects based on funding cycles directly affect the sustainability and longevity of the projects' impact. There needs to be a shift in how we think about project financing, sustainability and time investment.
- Results on projects that are tackling enormous challenges require time in order to think through the potential impacts and results after ten or more years.
- Monitoring frameworks that are very detailed, instead of focusing on more manageable targets with a single touchpoint.



Quotes

“We were not able to prepare different nutritious foods from ingredients we didn’t know before, but now have gained new cooking skills and learned about new plants and spices to improve the flavor of our foods.”

“We can now classify the six food groups that we were unable to name before and ensure they are being integrated into our meals at least on a weekly basis. This wasn’t something we did before as we were mostly reliant on *nsima* (maize flour) for all our nutrients.”

“There has been a huge change for both the child and myself. A lot of the children in this program are experiencing a significant change in their weight, MUAC (mid-upper arm circumference), and heights have changed compared to before enrollment in the nutrition program. For myself, I have gained new skills as well as experience cooperating with others.”

“We have started community gardens and home gardens, and are now able to access different local food varieties, supporting our diets and utilising agroecological principles and permaculture design.”

Useful links

[Project description on the Texas Children’s Health Global webpage](#)

[Project presentation](#)



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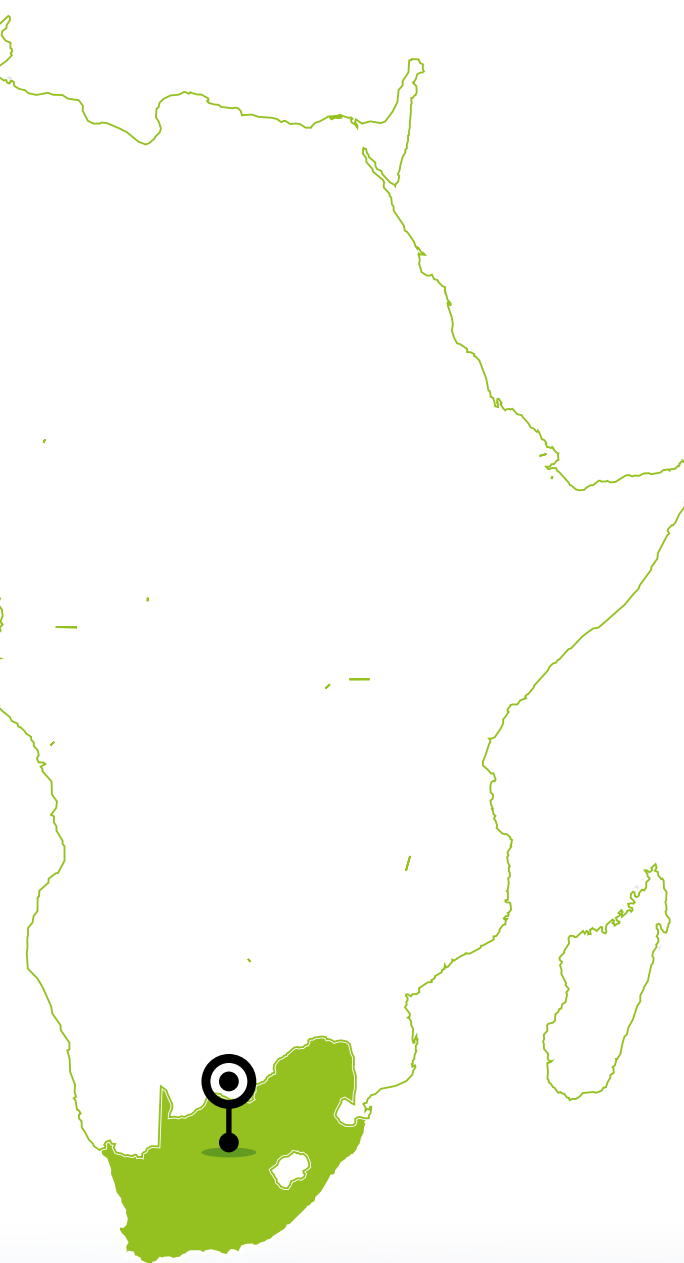
Baylor Children's Foundation

Story by SAOSO

South Africa

Heal the Planet Programme

This project, launched in 2022 and planned to continue until 2030, is a cross-cutting, systems-based program catalyzing the transformation of food systems through agroecology while simultaneously addressing the interlinked nexuses of water, waste, and energy. Deeply rooted in the Agroecology Principles and aligned with [Organic 3.0](#), the program takes an integrated approach to food sovereignty, ecosystem restoration, climate resilience and regenerative economics. Utilizing living systems design and biomimicry where possible, Heal the Planet is driven by the Rights of Mother Earth, local economic development, and contributing meaningfully to the Sustainable Development Goals (SDGs).



Organizations involved in this project include: [SAOSO Foundation](#), [Project Biome](#) and [Knowledge Hub for Organic in Southern Africa \(KHSA\)](#).

Country: Primarily **South Africa**, with regional outreach in **Namibia, Zimbabwe, and Zambia**.

Timeline: Pilot phase 2022–2024, followed by scaling phase 2025–2030.

Funding: The project is supported by **WWF** and other partners through **blended financing models** focused on scaling locally-led regenerative economies.

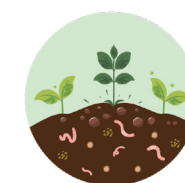
Mission: To develop an enabling environment for agroecology in Southern Africa by investing in community-led food systems, scaling Participatory Guarantee Systems (PGS), restoring ecosystems and aligning implementation with the SDGs, particularly those related to hunger, poverty, gender equality, climate action, sustainable communities, and life on land.

Context: South Africa's dualistic food system is among the most unequal globally. Smallholder and organic farmers are marginalized by the dominance of genetically-modified organisms (GMOs), a lack of agroecology policy recognition, and by the prevalence of state-supported industrial agriculture. Heal the Planet addresses this by shifting the narrative toward sustainable food systems rooted in rights-based, nature-positive approaches. PGS has emerged as a key mechanism for farmer recognition and integrity assurance, bridging organic and agroecology in a way that reflects African realities. Since the GIZ-supported Knowledge Hub for Organic in Southern Africa program, PGS uptake has grown rapidly, setting the foundation for further regional adoption.

Main Beneficiaries: Grassroots communities, smallholder and emerging farmers, youth and women, cooperative micro-enterprises, and local governance structures.

Collaborators: [SAOSO](#), [Project Biome](#), [WWF](#), [Sustainability Institute](#), [IFOAM Organics International](#), [GIZ](#), [1000 Landscapes for 1 Billion People](#), [Backstory](#), [Sustainable Agricultural Value Chain](#), [Knowledge Center for Organic Agriculture](#), [Knowledge Hub for Southern Africa \(KHSA\)](#), [Tamazight Creative Collective](#), Local municipalities and traditional leadership structures, and South African Food Lab.

Featured agroecology principles and elements:



Soil health



Connectivity



Co-creation of knowledge



Circular and solidarity economy



Economic diversification



Objectives

- Enable a Just Transition in the food system through agroecology and PGS.
- Regenerate ecosystems while supporting sustainable livelihoods.
- Strengthen regional solidarity and farmer-to-farmer systems for knowledge exchange.
- Amplify voices and innovations of rural communities and young people.

Heal the Planet builds **decentralized bioregional nodes** as platforms for change, starting with **household-level food sovereignty** and expanding to district and regional systems. Through **AgriHubs**, **EcoHubs**, and **Centers of Experience**, the strategy connects food, restoration, and livelihoods. Each node is a site of convergence that offers training, access to inputs, cooperative facilitation and project incubation, as well as drones and digital tools to support natural resource mapping and PGS verification.



Activities

- Establishment of **household gardens** and local food initiatives in partnership.
- Implementation of PGS, with over **500 certified farmers** in the pilot phase with Backstory/Prove platform.
- **Youth engagement at schools**, including **10 youth-focused agroecology workshops**.
- Support of **micro-businesses** focused on food systems, processing, and local green economy services.
- Development of **Centers of Experience** as regional training and policy incubation hubs.
- Creation of **AgriHubs** to manage cooperatives, facilitate operations and distribute inputs.
- Launching of **EcoHubs** for landscape restoration, biodiversity support, and youth mobilization.
- Use of **drone-based mapping** to assess natural resources and plan ecological restoration.
- Use of toolkits to facilitate Landscape Partnerships and regional food system development with partners such as 1000 Landscapes for 1 Billion People and Amped.

Outcomes and results

- 2400 household gardens improving local food security in 4 provinces in South Africa.
- Evidence of improved soil health, increased biodiversity, and restored community cohesion with 500 PGS farms.

- Economic empowerment through agroecological micro-business development.
- Youth leadership pathways emerging through training and PGS mentorship and the Biome Fellowship.
- Landscape partnerships facilitating landscape restoration at scale.
- Regional food system mapping and supply chain development for territorial markets.
- Trained youth extension officers and Heal the Planet champions.

Lessons learned

- Decentralized systems outperform centralized models in fragile rural economies.
- Community ownership of standards (via PGS) builds trust and improves compliance.
- Young people are eager for meaningful, land-based opportunities when supported with vision and mentorship.
- Systems thinking is essential for addressing the intersecting challenges of food, energy, water, and waste.
- Collaboration takes consistent effort and human interaction, in order to foster trust and transparency within the movement.



SAOSO



Limiting barriers

➤ Resource Constraints:

Challenge: Continued need for sufficient funding to deliver the programme at scale and build a strong business case through a blended financing model.

Mitigation: Develop a diversified funding approach combining philanthropic grants, impact investment, ESG-aligned instruments, and revenue-generating activities from agroecological value chains. Establish early proof-of-concept pilots to attract additional funders.

➤ Sector Dynamics:

Challenge: Competition between actors and differing understanding of agroecology (AE), regenerative, and organic agriculture practices.

Mitigation: Facilitate multi-stakeholder convenings, knowledge-sharing workshops, and provincial platforms to align actors on definitions, principles, and best practices. Promote collaboration through shared tools like PGS and the Bioregional Accelerator framework.



➤ Policy & Institutional Barriers:

Challenge: Inconsistent government recognition of AE/Organic farming; limited integration with Department of Agriculture policy and extension services.

Mitigation: Engage proactively with national and provincial policymakers, align programme activities with frameworks such as the Agroecology NAF, LandCare Policy, and Just Transition initiatives. Provide advocacy support to strengthen AE/Organic policy uptake and formal recognition.

➤ Technical Capacity Gaps:

Challenge: Farmers require technical support beyond current local capacity.

Mitigation: Expand training and mentorship through the Agroecology Academy, Farmer Field Schools, and the Biome Fellowship. Embed local technical facilitators within communities to provide ongoing support.

➤ Agricultural Value Chain Limitations:

Challenge: Weak agroecological markets, underdeveloped regional/local food systems, and limited supply chain infrastructure.

Mitigation: Develop market linkages via territorial/local markets, support AgriHubs and EcoHubs as demonstration sites, and pilot circular economy initiatives (e.g., biochar, regenerative processing). Leverage digital tools (e.g., Backstory PGS app) for traceability, certification, and market access.

Quotes

“Through Heal the Planet, we’ve seen agroecology come alive—not as an ideology, but as a living system. Our youth are reclaiming their future, one garden at a time.”

“This isn’t just about food—it’s about restoring ecosystems, reconnecting communities to land, and reimagining our economies around care, creativity, and regeneration.”

Matthew Purkis,
SAOSO Foundation and Project Biome.

Useful links

- [PGS in Southern Africa](#)
- [SAOSO Annual Report](#)
- [Farmer Stories and Profiles](#)

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Story by Natural Livestock Farming India, Uganda, the Netherlands, Ethiopia, Kenya



The Natural Livestock Farming integrated approach for livestock health

This project, initiated in 2014, aims at promoting ethnoveterinary medicine as an integrated part of the Natural Livestock Farming integrated approach for livestock health and responsible use of antibiotics and other chemical veterinary drugs in veterinary healthcare. This project is the fruit of an international collaboration, organizing the exchange of knowledge between India, the Netherlands, Ethiopia, Uganda, and Kenya for solving critical livestock health issues.



Some organizations involved in this project include: [Natural Farming Foundation](#) and [Institute of Transdisciplinary Health Sciences and Technology \(TDU\)](#), the [Ethiopian Society of Animal Production \(ESAP\)](#), [Platform Natuurlijke Veehouderij](#).

Country: India, Uganda, the Netherlands, Ethiopia, and Kenya.

Timeline: 2014–ongoing.

Mission: Natural Livestock Farming promotes an **effective bottom-up One Health approach:**

- **Healthy livestock:** Reduced disease and mortality, improved productivity, improved animal well-being.
- **Healthy people:** Higher food security, better income for farmers, less chemical residues in animal-sourced food, lower antibiotic resistance in human bacteria (AMR).
- **Healthy environment:** Reduced environmental pollution with chemicals, improved soil health, improved water quality, improved biodiversity.

Context: The project is implemented in India, Uganda, the Netherlands, Ethiopia, and Kenya, and currently focuses on dairy farming to address the sector's many challenges, such as: excessive crossbreeding with a high-producing cattle breed (Holstein Friesian), resulting in livestock un-adapted to local (environmental) conditions; the high incidence of disease, ticks and worms; the inappropriate use of antibiotics and other chemicals; the increasing ineffectiveness of antibiotics, dewormers and insecticides; food quality, livelihoods and biodiversity being affected; and the growing threat of mycotoxins in livestock feed with an economic loss greater than USD 5 billion/year in Africa.

Main beneficiaries: Livestock smallholder farmers and veterinarians.

Featured agroecology principles and elements:



Animal health



Co-creation
of knowledge



Soil health



Biodiversity



Culture and food
traditions

Objectives

- Effective combination of farmers' knowledge, western veterinary science, and Indian Ayurvedic science.
- Pilot projects, followed by a scale-up phase in both smallholder and large-scale livestock production.
- Proven effects (preventive and curative) in livestock health, milk quantity, and milk quality through lab validation.
- Adapted livestock education and government policies.
- Together an **integrated livestock health approach was developed, the so-called Natural Livestock Farming 5-layer strategy**. Use of medicinal plants, or ethnoveterinary practices are an integrated part of this strategy (Layer 3).

TOWARDS A WORLDWIDE PRODUCTION OF RESIDUE-FREE MILK!

1 IMPROVED ANIMAL & FARM MANAGEMENT

This is the basis of the NLF approach. Good feeding, clean water, control of parasites and infectious diseases, as well as manure management and soil fertility, not only reduces mortality but also improves productivity and wellbeing of livestock.

THE NATURAL LIVESTOCK FARMING 5-LAYERED STRATEGY

FARM INCOME

RESIDUE-FREE PRODUCTS

USE OF MEDICINAL PLANTS

STRATEGIC USE OF LOCAL BREEDS

IMPROVED ANIMAL & FARM MANAGEMENT

2 STRATEGIC USE OF LOCAL BREEDS

Increased genetic diversity through strategic use of local breeds, both within crossbreeding programs and local breed improvement, leads to more resilient livestock adapted to the local circumstances.

3 USE OF MEDICINAL PLANTS

Medicinal plants and other natural products – often referred to as Ethno Veterinary Practices – are an under-exploited resource for prevention and cure of livestock health problems, and of crucial importance for producing residue-free milk.

4 RESIDUE-FREE PRODUCTS

An effective quality control system, which detects the presence of antibiotic and other chemical residues, provide the basis for consumer confidence and consumption of locally produced milk.

5 FARM INCOME

The NLF 5-layer approach has shown to generate extra income for farmers due to increased health and productivity, reduce mortality, and reduced costs for livestock health care-while local production of medicinal plants can provide an extra source of income.

Activities

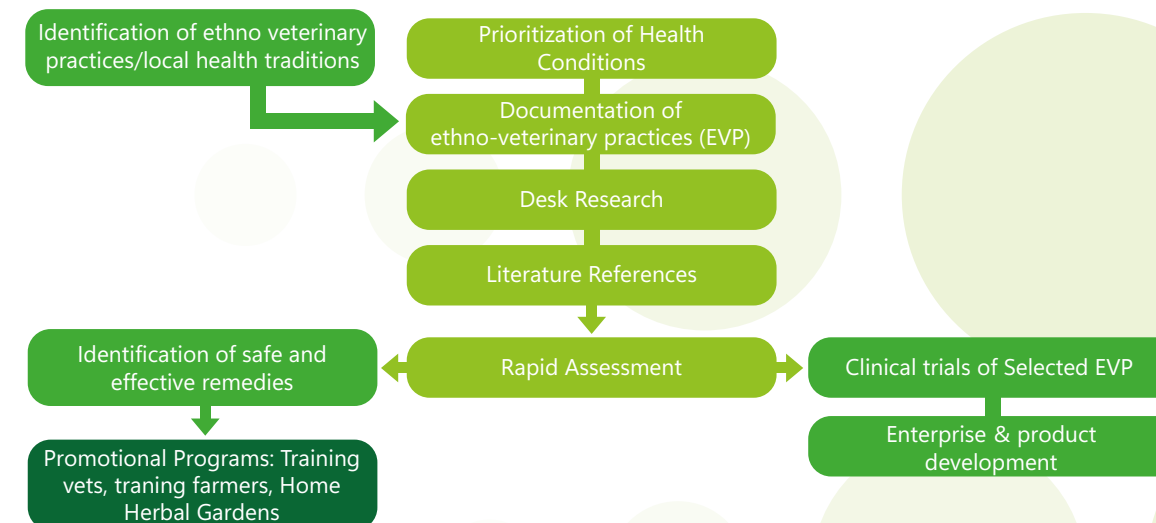
1. Activities in India (implemented by the Institute of Transdisciplinary Health Sciences and Technology):

India is the largest dairy producer in the world (21% of global dairy production), with 98% of production coming from small-scale dairy farmers with 2–5 cows each, the majority of whom are women.

India has a rich **ethnoveterinary health tradition rooted in (1) Codified systems** (Ayurveda, Siddha, Unani and Tibetan Medicine) that are based on the theory of physiological function, disease etiology and clinical practices, as well as **(2) Non-codified oral or folk traditions** which are as old as humankind. The country has a symbolic relationship with these codified systems, which are dynamic, innovative, and spread out among 4,639 ethnic communities all over India. These health practices, lifestyles, food habits, customs, and beliefs are specific to location and ethnic community, and one of the of the key challenges is to determine their effectiveness and contemporary relevance (Safety and Efficacy). Revalidating formulations used in these traditions, based on western pharmacology, is both a cross-cultural and trans-disciplinary exercise.

Ethnoveterinary practices (EVP) – specifically herbal formulations – are used in preventing and curing clinical conditions in livestock, thereby reducing drug residues in the milk and other food products of animal origin. Since 1998 NLF India, comprising the Trans-Disciplinary University (TDU) and GLOHMSIWA, have documented, assessed and promoted local health traditions (LHT), including herbal formulations and EVP, for the most important cattle diseases, including mastitis, diarrhea in calves, repeat breeding and Foot & Mouth Disease (FMD), following the steps presented below:

STEPS IN IMPLEMENTING STRATEGY OF ETHNO VETERINARY PRACTICES



- Document 441 herbal formulation for 51 conditions from 10 states and 25 locations.
- List 302 medicinal plants and 16 other materials used in the ethnoveterinary practices.
- Train over 3,134 veterinarians, 10,076 animal health workers and 30,000 dairy farmers.
- Produce EVP popularization brochures in 13 languages, together with the National Dairy Development Board (NDDB).
- Establish 613 demonstration sites across the country (TDU and NDDB data).
- Develop four herbal products: a product for mastitis, one for external parasites, immunity booster balls, and a wound oil.
- Advocacy work to ensure that ethnoveterinary practices are now acknowledged as part of National Agricultural Policy.
- Support for Natural Livestock Farming exchanges and projects in the Netherlands, Uganda, Ethiopia, Kenya, and India.



2. Activities in Uganda, implemented by Lake Mburo Farmers Cooperative Society and the South-East and North-East Uganda Development Action (SEANEBC)

Livestock in Uganda is kept mostly under grazing conditions and suffers from ticks that present high resistance to common insecticides.

- **Natural Livestock Farming operates two farmer-led projects** in the dry areas of South and Central Uganda. Their focus is on a combination of promoting ethnoveterinary practices, (including those for tick control), income diversification, selective breeding strategies, and natural fencing of grazing areas.
- The **Lake Mburo Farmers Cooperative Society (LMFCS)** in south-west Uganda promotes a range of practical actions, including the establishment of a milk cooler, the cooperative production of yogurt and butter by women, and its sale by young community members. All of this has attracted many farmers to join the cooperative.
- The **implementation of income diversification activities** also includes beekeeping and the planting of indigenous tree species (10,000 macadamia trees).
- The **implementation of a breeding project** with Fleckvieh insemination was started together with the National Genetic Resource Centre. An initiative to maintain the local Ankole breed, through re-stocking and constructing live fences, was also undertaken in the central Cattle Corridor.
- In 2025, the South-East and North-East Uganda Development Action joined Natural Livestock Farming in Uganda and started **a community dairy farming project for around 500 smallholder farmers**.

3. Activities in Ethiopia, implemented by the Ethiopian Society of Animal Production (ESAP)

- Between 2018 and 2020, **ESAP implemented a pilot project of the Natural Livestock Farming 5-layer strategy**, "Enhancing Safety and Quality of Milk in Ethiopia", with smallholder dairy producers in two peri-urban communities under the umbrella of the Applied Research Fund (ARF) of the Dutch government.
- **Experts from Natural Livestock Farming India provided a training course on the use of medicinal plants**, while experts from Natural Livestock Farming in the Netherlands guided training on laboratory skills, calf care, hoof trimming and housing.

4. Activities in the Netherlands, implemented by Platform Natuurlijke Veehouderij

Antibiotic use in Dutch dairy farming for mastitis control used to be high, especially dry cow treatment. Since 2014, in response to government legislation, antibiotic use in the dairy sector has reduced by 70%, including the replacement of antibiotics for dry cow treatment with herbal products. Moreover, farmers have started to use herbs in the grassland and cattle feed. This has posed a challenge due to a lack of knowledge amongst farmers and veterinarians on this topic. In the Netherlands, the Natural Livestock Farming 5-layer strategy is being adapted to large-scale dairy farming. In 2022, Dutch farmers were under enormous pressure due to EU environmental legislation put in place to tackle growing environmental

degradation. They suddenly found that their intensive dairy and livestock farming system was no longer in compliance with EU regulations. Since 2014, Natural Livestock Farming in the Netherlands has trained more farmers and veterinarians on the use of herbs in grasslands as well as the safe use of ready-made herbal products available on the market. An opportunity is also arising in carbon farming, in which herbal grassland can play a crucial role for improved soil fertility.

- Over 400 large-scale dairy farmers were trained on herbal grassland and the safe use of herbal products in large-scale dairy production.
- Courses are offered on the safe use of herbal remedies for veterinary practitioners.
- Stable Books on herbal remedies and livestock management were renewed and promoted for eight livestock species.
- In 2022, Natural Livestock Farming Netherlands served as networking partner in the Kennis op Maat (adapted knowledge) program on Herbal Products, coordinated by Wageningen University. Project phase 2 included spreading knowledge on the safety of herbal products in veterinary education and agricultural schools.
- The Natural Livestock Farming master course has been running for five years.

5. Activities in Kenya, implemented by Effective IPM Association (EIPMA)

- Natural Livestock Farming activities started in 2024 in Kenya.
- Since then, two presentations were made during Second East Africa Agroecology Conference in Nairobi (March 2025) and two successful Natural Livestock Farming demonstrations were conducted for farmers and conference participants with Effective IPM Association.



 Natural Livestock Farming



Outcomes and results

In India:

- Ethnoveterinary practices were adopted by the National Dairy Development Board (NDDB) in 2018.
- Since 2022, Natural Livestock Farming has been adopted in national agricultural policy.
- In 2024, ethnoveterinary practices were included in the Standard Veterinary Treatment Guidelines.
- 1,060,000 cases of 34 different disease conditions have been treated using EVM, showing an overall cure rate of 80% (NDDB data).
- Recovered animals produced an additional 7.3% of milk per day.
- An intervention impact study indicated an 87.78% reduction in antibiotic residue in milk produced within the study area after one year of training.
- An overall reduction of 91% on average was seen in the incidence of diseases: mastitis (84%), enteritis (98.2%), infertility (98.2.7%), pox-like diseases of the udder (100%).
- A reduced total amount of 79,832 veterinary service calls from farmers was seen in 2019–2020, as compared to 2017–2018 (NDDB data).
- Natural Livestock Farming practices have enabled healthier and more resilient animals.
- An increased awareness of ethnoveterinary methods has been noted among stakeholders.
- There is increased awareness about the risks of antibiotic residues in milk.
- Milk production and quality have improved.
- A reduced presence of antimicrobials and the associated residue has been found in the milk produced as well as the surrounding environment (bodies of water, soil and crops).
- There is less need for dewormers and acaricides.
- Improved environment and biodiversity has been observed.

In Ethiopia:

- 50% increase in milk quantity.
- 33% increase in farm income.
- 20% reduction in average costs for cattle health.
- 60% reduction in calf mortality.
- 8% reduction in antibiotic residues found in milk, 50% reduction in *E. coli*.
- Five universities collecting data on local practices with herbs.

- **Natural Livestock Farming approach included in the Ethiopian Government Livestock Strategy, March 2023.**
- Collaboration with Veterinarians without Borders: VSF France (AVSF) in southern Ethiopia.
- Memorandum of Understanding signed with Jigjiga University in 2025 to promote Natural Livestock Farming and ethnoveterinary practices in pastoralist societies.

In Uganda:

- Fast growing memberships.
- Young individuals involved in local sales of yogurt and butter.
- Improved farming income.
- Proposed project on NLF training and EVP (SENEABC).
- Makerere University (AFRISA School of Veterinary Science and Technology) involvement.
- Increase in enthusiasm and volume of cooperative membership – from 45 to 176.
- Growing community-level yogurt making (from 200 to 600 liters per week) by women, with transport carried out by two young marketeers to urban areas.
- Improved installations, with a water harvesting tank (20,000 liters) and concrete floor.

In Kenya:

- Major interest generated among farmers.
- Joint initiative planned with World Animal Protection (WAP).

In the Netherlands:

- 400 farmers and 50 veterinarians trained on herbal grasslands and the safe use of herbal products.
- Herbal grasslands re-introduced in over 10% of dairy farms.
- Natural milking project for farmers.
- Natural Livestock Farming course for veterinarians, starting in 2025.



Lessons learned

- A bottom-up approach to the antimicrobial resistance (AMR) crisis and regulations can help farmers to anticipate the implementation of more stringent policies on antibiotic use.
- Natural Livestock Farming supports smallholder farmers as well as large-scale farmers.
- Natural Livestock Farming also has the potential for upscaling within pastoralist communities.
- There is a link between local practices and laboratory validation of food quality.
- **Natural Livestock Farming and ethnoveterinary practices contribute positively to all of the 13 principles of Agroecology, but especially:**
 - **Animal health:** Effective livestock disease prevention and cure, reduced disease morbidity and mortality, better adaptation of livestock to their local environment, effective housing and feeding of livestock, higher productivity of livestock.
 - **Co-creation of knowledge:** Trans-disciplinary use and understanding of different knowledge systems, international exchange programs, farmers study groups (both local and international), data gathering and validation of local practices with laboratory quality control of livestock products.
 - **Soil Health:** Reduced levels of unwanted residues in manure, enhanced soil life and natural fertilizer through the use of manure composted from crop residues and animal dung.
 - **Biodiversity:** Revival and improvement of local livestock breeds, enhanced biodiversity through reduced use of insecticides, increase in the use of herbal grassland, re-establishment of natural fences, improved water quality due to reduced use of chemicals.

Limiting barriers

Veterinary education: To improve livestock health with minimum levels of chemicals, farmers need the support of veterinarians. However, formal veterinary education focuses mainly on diagnosing and curing livestock disease with chemical remedies rather than prevention, leading to a lack of understanding of the alternative approach based on increased livestock resilience and non-chemical ways of preventing and curing disease. This leaves concerned farmers without effective support from their veterinarians. Some veterinarians are bringing this approach into high level government, research and educational programs in order to boost awareness of it.

Farmer dependence on chemical remedies: Most farmers and livestock keepers have grown accustomed to using antibiotics, dewormers and insecticides for their livestock health, because in recent decades these have been promoted in livestock health programs at all levels. This means that awareness of the need to use fewer chemicals is very low. However, the need to control their use is growing due to increasing antimicrobial resistance (AMR), as well as worms becoming more resistant to dewormers, and ticks to acaricides. This demands a great effort at all levels, both from farmers and from other actors in the livestock sector.

Income of veterinarians and chemical industries: Throughout the world, veterinarians depend on the sales of chemical remedies for their income. This complicates the shift towards

preventive and non-chemical livestock health services. Moreover, chemical industries stimulate the sales of veterinary drugs and other chemicals at all possible levels, including by funding international veterinary associations.

Non-chemical approach requires integrated vision: To reduce the levels of chemicals in livestock production systems, animals need to be within an integrated agroecological production system. Most governments do not currently prioritise this development perspective. Moreover, livestock production needs to aim to optimise rather than maximise production – an approach that is currently inconceivable within conventional livestock development programs.

Livestock rarely features in agroecology programs: Though livestock is always integrated into agroecology activities at farm level, this is not the case at the levels of NGOs, research and education. This negatively affects the necessary development of knowledge and practices that are needed to integrate this approach at all levels.

Lack of research and funding: Dominant livestock research and development programs are focused on maximising rather than optimising productivity. This means that almost all research and funding has this focus. Only over the last decade has this gradually begun to change, in part due to the growing awareness of the dangers of antimicrobial resistance (AMR). However, the programs to change this essentially focus on food control systems (end of the chain), rather than preventing the use of chemicals in livestock production (at the start of the chain). This means funding is extremely limited for research into this approach.

Quotes

“I truly appreciate Natural Livestock Farming Foundation for being the bridge to transfer knowledge of the alternative natural remedies for mastitis (udder infection). I really am happy that we now have alternative medicine which is natural and easily available. It really is like first aid, especially for treating diarrhea in calves. It is great.”

Adey Melesse, researcher Ethiopian Institute of Agricultural Research, Addis Ababa (EIAR), collaborator NLF pilot in Ethiopia.

“The use of ethno veterinary practices in Kenya will bridge the gap between culture and science – as livestock keepers have practical remedies rooted in indigenous knowledge.”

Dr. Nehemiah Mehindo, director of EIPMA (Effective Integrated Pest Management), NLF partner in Kenya – after NLF demonstration April 2025.



“The Natural Livestock Farming elective master course has given me an idealistic yet realistic glimpse into what the agricultural sector could look like in the future. It has given me the tools to support farmers who embrace change and to safeguard animal health and welfare in the process.”

Yoni Veldhuis, 5th year veterinary student
at Veterinary University Utrecht, The Netherlands.

“Future veterinarians need to be able to think about the ways to promote sustainable agriculture, understand mineral cycles in the soil, how to feed cows without excess protein and how to increase productive life expectancy of dairy cattle. In the end it is all about healthy livestock – the basis of veterinary care.”

Sanne Carp van Dijken, Dutch veterinarian, after presentation on NLF master course during meeting Dier en Kruid (Animals and Herbs), September 2025.

Useful links

- [Natural Livestock Farming Foundation](#)
- [Natural Livestock Farming in India – Trans Disciplinary University \(TDU\):](#)
- [Natural Livestock Farming in Ethiopia – Ethiopian Society of Animal Production \(ESAP\)](#)
- [Natural Livestock Farming in Netherlands – Platform Natuurlijke Veehouderij](#)
- [Natural Livestock Farming in Uganda](#)
- [Natural Livestock Farming in Kenya – Effective IPM Association](#)

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Natural Livestock Farming



Story by Organic Karnali Nepal

Organic Karnali: Building Resilience Through Agroecology

This project, led by the grassroots NGO Himalayan Permaculture Center (HPC), started in 2023 and is located in the Karnali Province of Nepal, where the HPC has been working since 2011. In this province – which has Nepal’s lowest population density and is home to some of the country’s poorest and most marginalized populations – the project works to collaboratively design and create resilient, abundant communities with ecological, social and economic sustainability through agroecology. It is essentially a scale-up phase (called Phase 5), following four phases over twelve years developing the HPC’s own capacity, as well as approaches and techniques designed with the aim of, amongst other things, increasing and diversifying domestic farm productivity, reducing costs, and regenerating local ecologies and economies.



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Some organizations involved in this project include: [Himalayan Permaculture Centre \(HPC\)](#), local governments and national NGOs such as [Social Work Institute](#), [Almost Heaven Farms](#), and [Welthungerhilfe](#).

Country: Nepal (Karnali province).

Timeline: June 2023 – May 2028.

Funding: The project’s overall budget is EUR 1 million overall. Investments from local governments have already been received, and the Himalayan Permaculture Center is currently looking for additional funding options.

Context: Karnali is one of the poorest provinces in Nepal, and for this reason it has been selected by the HPC as a target, in particular the most remote regions at the highest altitudes. Within this area, low castes and women are the HPC’s priority target. Despite its high levels of poverty, Karnali Province has good natural resources and a wealth of biodiversity. Its agricultural production is very varied, and includes banana, rice, maize, millet, wheat, barley, potato, apple, walnut, citrus and avocado. Different altitudes and ecotones have different types of production. The HPC has been setting up demonstration centers in the region for decades. One of its most important and effective tools is the Farmer’s Handbook, originally written in Nepalese and also [available in English](#).

Mission: The project’s mission is to collaboratively design and create resilient, abundant communities with ecological, social and economic sustainability (permaculture as a way of designing agroecology as a future). Through dynamic and innovative programming, communities will be able to meet their own water, food, health, and energy needs, becoming not only sustainable but truly regenerative, joining the global effort to create ecological, social, and economic abundance.

Main beneficiaries: Marginalized population from lower castes, mainly women.

Featured agroecology principles and elements:



Co-creation
of knowledge



Connectivity



Input reduction



Biodiversity



Synergy



Objectives

After 30 years of applying integrated rural development, the HPC's members have identified the following objectives as the most effective ways to build resilient and abundant communities:

- **Scale up and spread best-practice methods and approaches of integrated, agroecological farming:** provide demonstration of and training in a range of technologies and approaches that increase domestic farm and household productivity.
- **Create regenerative livelihoods:** facilitate the establishment and operation of social enterprises and ethical business models based on agroecological abundance, which develop rural enterprises and income-generating activities to improve local household and community economies.

Activities



Planned activities for objective 1:

- Establish and operate 20 new demonstration and training farms in Karnali Province (5 in year 1; 10 in year 2; 5 in year 3).
- Establish associated farmers' training programs in Agroecology, women's health and practical schools' classes (including design of school land).
- Develop farmers' Agroecology Academy to train 75 "barefoot consultants" (farmer-trainers/designers).

Planned activities for objective 2:

- Develop cottage industries based on agroecologically-produced foods and edible oils, medicinal herbs, soaps, textiles, and biofertilizers.
- Support cooperatives to attain organic certification.
- Provide business literacy training to facilitate market access.

These activities need to be supported by **effective governance** and **social and economic policies** that ensure their widespread application.

Outcomes and results

In its first year, the HPC initiated activities in 6 of the 10 districts of Karnali Province, comprising 9 municipalities, including 5 from the Green Evolution project, which is incorporated into Phase 5 activities. Outcomes include:

- **4 new demonstration and learning centers** (called Resource Centers) designed and established using permaculture principles and design process, where agroecology

methods and approaches act as demonstrations for farmers' training. A further two existing Resource Centers developed since 2018 are supporting these roles. To date, over 700 fruit, fodder and multi-purpose trees, shrubs and grasses have been established at the new Resource Centers.

- **The Resource Centers** have also begun distribution of over **3,000 seedlings** of fruit, fodder and multi-purpose trees, shrubs and grass, which were grown in their own nurseries, to local farmers, primarily for agroforestry and orchard planting.
- **Farmers' training programs** run in different formats. The formats are:
 - 5-day integrated farming systems training courses at Resource Centers.
 - 3-day integrated training courses which take place *in situ* in villages.
 - Short technical training courses (1–3 hours) at Resource Centers and in villages on single topics. These include seed saving, nursery establishment and operation, biofertilizers and composting, Sustainable Rice Intensification, agroforestry, fruit tree grafting, orchard establishment, and so on.

In total, to date, **383 different training courses** have been provided to over **2,100 farmers (73% of them women)**.

- **10 new barefoot consultants (BCs)** are undergoing capacity-building training, including a permaculture design course, training of trainers, and apprenticing with experienced staff and barefoot consultants.
- **Cottage-industry biofertilizer factory being established** with local government support.
- **Seedbanks were established** in 2 municipalities.
- **Street theater** aims to raise awareness of youth rights and agroecology.



Lessons learned

As the project is in the early stages, it is focusing on providing demonstrations, establishing training programs, and beginning capacity building of new BCs, in addition to establishing collaborative relationships with local municipality governments. For this reason, details of crop diversification and yield changes are not yet available, but they will be closely monitored and reported as soon as possible. Metrics being measured include soil organic matter, crop diversity, yield, time saved and economic benefits.

- The key strategies of prioritizing demonstrations and training are seen to be most effective, especially when performed by local barefoot consultants.
- Agroforestry seems to be the most important medium to long-term technique (significant benefits after 1–2 years).
- Smokeless, fuel-efficient home-built stoves and biofertilizers have so far been the most effective short-term technique (significant benefits within 1 year) for improving health, firewood collection and use, fertility management and pest control.
- Municipal governments are keen to be involved, and have significant funds available for investment.



Limiting barriers

The challenges facing HPC and its implementation of Phase 5 are:

- Municipality funds are either not forthcoming or are delayed. This is compounded by HPC's own lack of knowledge and experience of the process of applying for municipality funding. In Dolpa district, for instance, a delay in municipality funding has led to a lack of fences and water. This means the HPC site has been grazed by livestock and dried out.
- HPC is attempting to register its academy in order to allow skilled farm-level trainer-designers (BCs) to receive official accreditation. However, registering the academy at both the provincial and national levels is proving very complex, and will require a budget outside the scope of Phase 5 funding.
- Administration burden of multiple partners means that field staff (and BCs) have to spend more time on office work and less in the field.
- Increased out-migration of young people means there is a lack of qualified BCs.
- Implementation of the schools' program – which involves teaching practical agroecology classes in schools and establishing demonstration gardens and school land design – will be delayed due to teachers' strike.



Quotes

“Before the permaculture program we didn't know about beekeeping, or how to catch and use waste water, or how to grow trees. Now we have bees, and with all our fodder and firewood needs being met close to the house, we hardly need to go to the forest at all. We have lots of fresh vegetables and fruits to eat, and the bees keep us healthy. There are so many benefits, all linked to agroecology and design of our homestead.”

Mrs. Ganga Pun, Sal Kharkha village.

“I stopped using chemical fertilisers 2 years ago, and now farm organically. One agroecology method I have used on my (rice) paddy has been collecting urine, diluting with water, and using that instead of urea fertiliser, it has improved the productivity of my rice, and there is less pest damage as well.”

Mr. Pathe Khadka, Matela village.

Useful links

- Farmers' handbook: learning resource which will be used in Karnali project and has previously been used in other HPC's projects: [FHB Volumes & Chapters | My Site 8292](#). It was first written in Nepalese (printed and available in Nepali language) and then translated into English as a free online resource.
- [Video presentation of the HPC \(by Lush prize\)](#)



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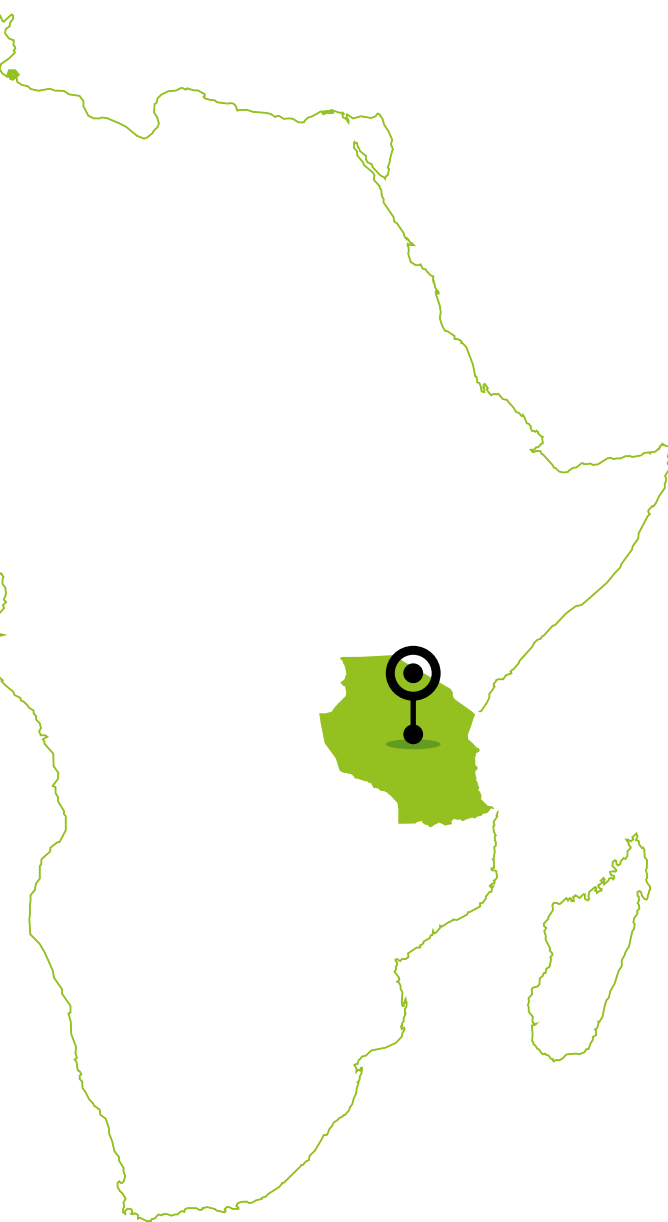
The Himalayan Permacultural Center



Story by CARI Tanzania

Project Kilimo Endelevu Arusha

This project, implemented between February 2022 and May 2025, supported family farms and contributed to a sustainable food system based on agroecology and sustainable land management as well as to the nutritional sovereignty of the Arusha region in Northern Tanzania. This impact was made possible through activities around agroecological practices, marketing of agroecological products, the support of stakeholders, and advocacy directed towards local policymakers.



Some organizations involved in this project include: [Centre d'Actions et de Réalisations Internationales \(CARI\)](#), [Iles de Paix \(IDP\)](#), [RECODA](#) and [MVIWAARUSHA](#).

Country: Tanzania (Arusha Region).

Timeline: February 2022 – May 2025.

Funding: Coopération Belge (DGD), Iles de Paix, Agence Française de Développement (AFD), Mirova Foundation, and Région Occitanie.

Mission: The project supports the resilience of populations by contributing to a sustainable food system based on agroecology and sustainable land management in the Arusha Region (Northern Tanzania).

Context: Tanzania is experiencing high levels of food insecurity, particularly affecting rural populations. At the same time, severe environmental constraints are threatening farming systems throughout the country. The Arusha region is especially affected by these challenges, as it is regularly declared a "food deficit region" due to episodes of drought. In the rural district of Arusha, almost all of the land is occupied by human activity, resulting in the overexploitation of natural resources. Deforestation leads to severe erosion during heavy rains, and to the degradation of farmland. In a context of demographic growth, smallholder farms are confronted with the challenge of securing their food supply and income with limited resources. Despite the proximity of the urban town of Arusha, farmers are finding it difficult to generate sufficient income from the sale of their produce. In addition to their limited power to set prices, there is a lack of recognition of the quality of their agroecological products. The quality and safety of fruits, vegetables and other food products is given insufficient consideration by consumers, restaurants and market vendors. At the local level, elected representatives are aware of the challenges of sustainable production and healthy eating, but they delegate the implementation of development actions to the private sector without questioning the potential value created for the territory or their role and legitimacy of action as pilots of these territories. At the national level, the adoption of policies to promote sustainable food systems remains weak, partly due to the compartmentalization of environmental and agricultural issues.

Main beneficiaries: 1,500 smallholder farmers, small businesses such as restaurants and fruit and vegetable vendors, local government representatives and extension officers, and 200 members of regional and national sustainable farming and agroecology networks.

Main agroecology principles and elements featured:



Economic diversification



Connectivity



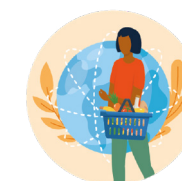
Input reduction



Responsible governance



Participation



Circular and solidarity economy



Co-creation of knowledge





Objectives

- To improve food and nutritional security, as well as economic viability of small-scale farmers through sustainable land management and agroecological intensification.
- To change the institutional and social environment to facilitate the deployment of sustainable land management and agroecological intensification through multi-stakeholder dialogue, sensitization and advocacy.

Activities

Support for the agroecological transition and promotion of sustainable land management:

- **Practices and techniques tailored to farmers' needs were introduced, offering multiple benefits.** The farmers organized themselves in 21 groups (from ten villages) with more than 700 small-scale farmers, whereby they collectively chose the agroecological production techniques they would be trained in. These techniques involve improving soil management, manufacturing biopesticides, integrating vegetable and fruit crops, revitalization of farmers' local seed systems, and so on. Training was conducted in each group, with demonstrations set up on collective plots. Group members met every week to share what they have learned, and toward the end of the project, 18 new groups were set up in 9 new villages with the support of lead spreading farmers. The project has thus reached and supported close to 1,500 farmers, over 70% of them women.
- To diversify production systems, the project also supported **the establishment of livestock farming** (chickens, pigs and goats), generating economic benefits (sale of animals and their by-products), social benefits (improved nutrition, collaboration and experience sharing among beneficiary farmers) and environmental benefits (availability of manure). The introduction of poultry farming is particularly suited to the interests and knowledge of women.
- **To ensure wide dissemination of agroecological and land restoration practices,** the project strengthened local expertise by training over 300 agroecological champions, lead technical farmers and spreading farmers, who play a role in demonstrating and providing technical support to their peers. Technical training has also benefited local extension services, thereby establishing locally embedded expertise.
- **Land restoration techniques** were identified based on assessments and discussions with village leaders and farmer groups. These are indigenous techniques (Fanya Juu and Fanya Chini terraces) adapted to the restoration of sloping land. These techniques are effective in limiting erosion and improving water conservation in the soil. When combined with agroecological production techniques, they show initial results in improved soil health through increased soil fertility and productivity, reduced erosion and better water infiltration into the soil. Land restoration techniques are disseminated in the villages by "environmental champions". These are farmers who were trained and are equipped to train other farmers. In all, 220 hectares of farmland and grazing land were restored using Fanya Juu and Fanya Chini terraces, with farmers managing the natural regeneration. The project also supported the development of six tree nurseries, managed by farmers, and supported reforestation campaigns with over 100,000 trees planted.

Support in marketing and raising awareness around agroecological products:

- **To improve post-harvest management and grain storage,** the project organized demonstrations of practices and techniques adapted to family farms. Storage tests enabled farmers to assess the effectiveness of the proposed techniques (airtight bags and tanks) and estimate their reproducibility – airtight bags are more accessible in terms of price and availability in shops. The organization of demonstrations and technical training sessions was also supported by farmer groups. Furthermore, the project enabled the establishment of collective storage options for seeds via farmer-managed seed banks.
- **To improve the marketing of agroecological products,** the project trained and provided support to 58 small market businesses, including restaurants, market vendors and street vendors. They were trained on food safety and nutrition, and they received equipment to improve the visibility of agroecological products. They were also put in contact with the farmers supported by the project. Members of several farmer groups were also supported by the project to collectively sell their fruit and vegetables at organic markets and farmer fairs.
- **To ensure the quality of production** and improve the differentiation between conventional and agroecological products, the project began supporting farmer groups in certification through a participatory guarantee system. This PGS is based on East Africa Organic Products Standards and is associated with the brand Kilimo Hai. The PGS allows farmers to organize in groups and ensure compliance with production standards through peer assessment.

Support for territorial development and the mobilization of stakeholders in a sustainable food system:

- The project contributed **to local multi-stakeholder platforms** – the Arusha Collaborators Forum on Agroecology (ACAF) and the Arusha Sustainable Food Systems Platform (ASFSP) – with a view to creating synergies between local actors around a sustainable food system. These platforms meet regularly to share experiences on topics of common interest. The project has helped to broaden their thematic scope by bringing in new topics, such as agroecology, farmer-managed seed systems, and post-harvest management, to name a few.
- **To foster the mobilization and commitment of local authorities,** the project engaged with village leaders and representatives from the rural district of Arusha. They were involved in field activities (assessment, training and demonstrations), which helped to strengthen their knowledge of agroecology and sustainable land management. In the city of Arusha, the project has raised awareness among elected officials and local stakeholders about sustainable food systems and deepened discussions on waste management, sparking genuine interest among stakeholders.
- The project has set up a pilot initiative to **facilitate territorial consultation** at the village level (Losikito), drawing on methodological approaches and tools developed by CARI in the Sahel. A series of consultation meetings in the village, involving village authorities, has led to the development of a village development plan based on a shared vision. The stakeholders in Losikito have taken ownership of this development plan and are now able to present it.



Sensitization and advocacy to mobilize the public opinion and transform political frameworks:

- A variety of **awareness-raising activities** were conducted, targeting rural producers and urban consumers. Schoolchildren were educated about environmental protection, sustainable farming and healthy eating. Schools were also supported in setting up vegetable plots, as they are a powerful channel for introducing techniques and convincing parents to adopt new practices in terms of agriculture and nutrition. Farmer groups received training and demonstrations on cooking, and lead technical farmers received advanced training on nutrition. Finally, the project allowed the partners to organize radio campaigns as well as several farming and healthy food fairs in the city of Arusha to better inform consumers.
- **The project supported several pre-existing or emerging advocacy movements in Tanzania.** It contributed to the civil society working group on agroecology, whose actions led the national government to adopt a national strategy for organic and ecological agriculture in 2023. The project also supported the SHIWAKUTA platform, created in 2020, which brings together regional farmer organizations in Tanzania and is led by MVIWAARUSHA. The project enabled this platform to strengthen its structure and governance through the development of administrative manuals and the organization of general assemblies. The platform also adopted and helped implement a five-year advocacy strategy, including the training of members, a review of policy frameworks, the development of position papers, meetings with political leaders, and so on.
- The project also enabled partners to **expand their advocacy efforts to new themes**, particularly the challenges of combating desertification. CARI shared its experience and knowledge on desertification and the UNCCD framework. The partners organized two national meetings to prepare for collective advocacy work on desertification, and participated in the Désertif'actions summit in 2022 and the UNCCD COP16 in 2024.

Outcomes and results

- Many changes are already taking place at the farmer level. Farmers are starting to diversify their production, both in terms of livestock and crops, and are adopting agroecological farming practices (cover crops, increased use of manure, composting, etc.). These practices help reduce some of their production costs while contributing to the diversification of their food and income sources and positively impacting their cash flow. TAPE-based farm monitoring shows positive changes in supported farms via their Characterization of the Agroecological Transition (CAET) scores.
- On farmlands, the combination of land restoration with Fanya Juu and Fanya Chini terraces and agroecological practices (forage grass, minimal soil disturbance, soil cover, use of manure, etc.) are starting to show improvement in soil health through increased soil fertility and productivity, reduced erosion, and improved water infiltration into the soil.
- Farmers directly involved in the project have improved their access to quality food in terms of both volume and diversity, thereby saving money and improving their diet. They have also gained a better understanding of the importance of a healthy and diverse diet, as well as improving their post-harvest management practices around storage, processing, and other tasks. The majority of farmers now sell their surplus at the village level, and the most advanced farmer groups are all reaching new markets in the Arusha region, in

both organic and conventional markets. The sellers and restaurants supported by the project are aware of the importance of agroecological products. They spread the word about these products and thus increase their sales.

- Local stakeholders (including local authorities) and social dynamics are increasingly supportive of a sustainable food system. The project has enabled local extension officers to learn new techniques and approaches to agroecology and soil restoration.

Lessons learned

- **The project's approach to intervention is based on a comprehensive view of the food system and has made it possible to take action simultaneously in several sectors** (natural resources, agricultural production, value chains, etc.), **at several geographical scales** (plots, villages, towns, regions, countries) **and with different actors who are part of the food system network** (farmers, local and national authorities, small businesses, citizen consumers, civil society networks, etc.). The implementation of this systemic approach was facilitated by the distribution of activities among the four partners in such a way as to combine their expertise in a complementary manner.
- **The implementation of the project was facilitated by a high level of buy-in from beneficiaries and stakeholders in the Arusha region**, who not only benefited from the project but also contributed to its implementation and dissemination. This buy-in is fostered by a partnership with three organizations that have been established in the Arusha region for several years. As such, they have a solid foundation and are recognized by local stakeholders.



- **The adoption of new techniques by farmers was made possible through membership in farmers' groups.** These groups are training spaces and allow peer-to-peer exchange. They allow farmers to deploy solidarity chains to exchange knowledge and material contributions (seeds, seedlings, animals, etc.) Furthermore, as a farmers' organization, MVIWAARUSHA has close ties with individual farmers, which has also facilitated their involvement in the project.
- The project attained a high rate of participation among women. The farmers' groups that were set up were made up of 70% women on average, exceeding initial ambitions. This was facilitated by the consideration of the specific needs of women in the training programs. For example, the introduction of poultry farming corresponded to interests and knowledge held by women. The schedules for meetings and training sessions were also adapted to accommodate their domestic responsibilities. **This significant rate of participation by women was also encouraged by the socio-cultural context.** Women already play a central role in small-scale agriculture and household food security. They are the keepers of traditional farming knowledge, seed saving, and nutritional decisions within households. These existing roles made it culturally acceptable and even easy to continue engaging with Kilimo Endelevu project activities.

Limiting barriers

- The capital and labor intensiveness of some techniques (such as Fanya Juu and Fanya Chini terraces, water-harvesting reservoirs) was discussed with farmers and needs to be further assessed and controlled.
- Among the areas of intervention selected, CARI introduced a new approach to mobilising and collaborating with local authorities, targeting the emergence of multi-stakeholder dialogue around a shared vision and the collective creation of development plans. This approach was new to the partners and required more time than initially anticipated in order to build up their capacities. As a result, the project's ambitions regarding the facilitation of consultation at the village level and its intervention strategy were revised, and in the end only two villages were targeted for a pilot intervention. This made it possible to establish favorable conditions for scaling up during the next phase of the project.
- There is still not enough market differentiation between agroecological and conventional products. Consequently, farmers are not able to sell their products at a higher price. On the other hand, the growth of a specific market segment for agroecological products will remain highly dependent on farmers' production capacity, which will increase slowly.

Useful links

- [Kilimo Endelevu Arusha Project](#)
- [Project's news](#)

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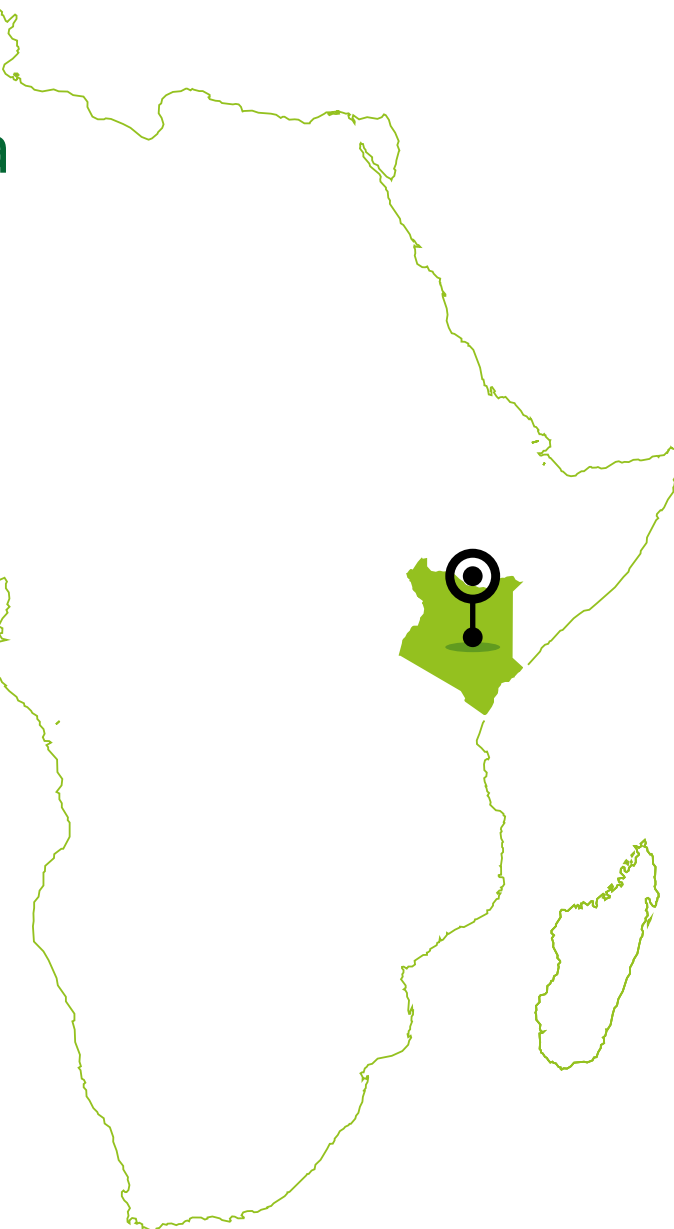
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Story by PELUM Kenya

Promoting on-farm diversification through watershed management

The project, which began in 2017, implements watershed management practices to promote on-farm diversification and generate revenues for small-scale farmers, especially tea producers, while addressing climate change and droughts in Kenya's Kiambu and Murang'a counties, home to the Murang'a Aberdares and Riparian Forests. The project is led by a consortium, which was created to boost collaboration among partners, leverage expertise of different partners (some have strengths in water management, others in bio-inputs, and so on), improve impact on advocacy work and build on the different partners' strengths.



PELUM Kenya

Some organizations involved in this project include: [Participatory Ecological Land Use Management \(PELUM\) Kenya](#), Institute for Culture and Ecology (ICE), Resources Oriented Development Initiatives (RODI), Organic Agriculture Center Kenya (OACK), Community Sustainable Development Empowerment Programme (COSDEP), and Organization of sustainable ecological agriculture practitioners (SACDEP) Kenya.

Country: Kenya (Kiambu and Murang'a counties).

Timeline: The project started in 2017 and is still running. The first implementation period was from 2017 to 2019 under the Food Security and Livelihoods Programme (FOSELI). The second implementation period was from 2019 to 2021 under the Integrated Watershed Management for Diverse Farming Enterprises (IWAMA-DIFE I) Programme. The third implementation period was from 2022 to 2023 under (IWAMA DIFE II). The fourth and current implementation started in 2024 under the Aberdares Watershed Management (AWMP) Programme and its ending in December 2025.

Funding: As of 2017 until now, the total project cost is 330,000 British Pounds (385,000 Euros), funded by the UK-based [Tudor Trust](#).

Mission: The aim is to positively impact farmers' lives through the uptake of agroecological practices.

Context: The project is being implemented in the landslide-prone **Murang'a Aberdares** and **Riparian Forests**. The area also suffers from the impact of climate change and droughts. The Aberdare Ecosystem is divided into five distinct zones (High Use Zone, Low Use Zone, Wilderness Activity Zone, Multiple Use Zone and Influence Zone), which categorize the area's different desired and legally acceptable land uses. These land uses include tourism, biodiversity protection, and forestry and its associated uses, such as livestock grazing and plantation establishment. Aberdare Forest Reserve plays a critical role in Kenya's water catchment functions, as it is one of the country's five main "water towers". It is the main water catchment area for the Sasumua and Ndakaini dams, which provide water (both surface and subterranean) to Nairobi city and nearby towns of Thika, Nyeri, Naivasha, Nyahururu among others. Given the area's fertile soils and reliable rainfall, communities currently living adjacent to the Aberdare Forest Reserve are mainly farmers and producers. Farming is thus the main economic activity in the adjacent communities around the ecosystem. The farming practices are both large and small-scale, and land ownership is mainly freehold (private ownership). The main cash crops include tea, coffee, wheat, horticulture and floriculture. Other land uses include livestock, wildlife tourism, forestry, fishing, urbanization and human settlements. The main uses of water within the catchments are domestic, irrigation, hydropower generation, industrial, fisheries and ecological services.

Main beneficiaries: Small-scale farmers, especially tea producers.

Main agroecology principles and elements featured:



Economic diversification



Input reduction



Responsible governance



Circular and solidarity economy



Biodiversity



Co-creation of knowledge



Cultural and food traditions



Objectives

- To increase the food and nutritional security of small-scale tea farmers in Kiambu and Murang'a through agroecological practices, diversified on-farm enterprises and established market outlets.
- To promote conservation, rehabilitation and protection of the riparian areas and sustainable watershed management within the target project area.
- To advocate for the implementation of policies, legislation and programs that strengthen the protection and management of watersheds and ecosystems.

Activities

The activities target organic green and black tea plantations, and focus on several key Agroecology Principles/Elements, including:

- **Economic diversification:** Some farmers use the economic benefits of tea production to buy food, so the objective was to incentivize them to produce food and raise animals by themselves (rabbits, cows, beekeeping, agroforestry, crops such as sweet potatoes, manure).
- **Input reduction:** Most of the tea farmers added a lot of external inputs such as fertilizers. This project encourages them to produce natural bio-inputs themselves (such as Biokashi or fertilizers made from eggshells, rock dust and cow dung).
- **Biodiversity and climate action:** Partnerships were established with schools to plant trees (through COSDEP and OACK) and set up beehives. This effort led to a noteworthy increase in tree cover, involving the planting of nearly 100,000 indigenous trees, giant bamboo seedlings, and hass avocado fruit trees in riparian areas. Moreover, cover crops specifically designed to mitigate soil erosion, such as vetiver grass, were provided. Vetiver grass proved to be an effective solution, firmly holding the soil together and preventing it from being washed away by rain. Women have also been trained to cook while saving energy costs, through better management of wood, for instance. Farmers were supported to set up water pans to harvest water for the plantation.
- **Circular and solidarity economy:** After COVID, local organic farmers markets have been created in Githumu, Kirwara and other counties to re-localize consumption. This allows farmers to sell in different markets and have shorter value chains. Efforts were also made to ensure that indigenous food products are recognized by the local community.
- **Co-creation of knowledge on cultural and food traditions:** A great deal of capacity building activities, through peer-to-peer learning exchanges and farm visits, were organized. This also includes cooking training, as the project organizers realized that farmers were not cooking what they were producing.
- **Responsible governance:** Murang'a County is the first county in Kenya to have developed a policy on agroecology. Several events were organized to raise awareness on agroecology: a representative from the Ministry of Agriculture was invited to plant a tree during an event held in the Aberdares forest, and farm visits were held between farmers and Murang'a County decision-makers from the Grow Biointensive Agriculture Center of Kenya. Training manuals and a curriculum on ecological agriculture have also been created.

Outcomes and results

The project reached **2,700 households** in Kiambu and Murang'a counties. Based on the **Phase Two End-Term Evaluation**, among the **150 sampled households**, the following outcomes were reported:

- **73.2%** reported improved incomes through diversified income-generating activities.
- **30.9%** benefited from enhanced marketing opportunities for their farm produce.
- **68.6%** strengthened their resilience to climate change through adoption of agroecological practices.
- **30.4%** gained improved access to potable water for household and farming use.
- **50.5%** increased their participation in community forums and decision-making processes.

In this final phase, the project has supported four county governments in the development and finalization of four conservation policies: Murang'a County has already finalized and adopted Riparian Land Conservation and Alien and Invasive Species Management Policies. In addition, Nyandarua County is at the late stages of formulating a Natural Resources Management (NRM) Policy, Kiambu County is finalizing an Agroecology Policy, and Nyeri County is advancing a Riparian Land Conservation Policy.

Lessons learned

- Having a **Joint-Programme implementation enhances synergy, and builds on the strengths** of various organizations.
- **Farmers learn best through their peers.** Supporting farmer-to-farmer learning and experience/knowledge exchange has proved to make the initiatives easier to adopt. Examples include the activities held jointly with FOSELI partners, such as exposure learning visits, training on small livestock and marketing, and exhibitions.
- **The involvement of various stakeholders and duty bearers is a key driver for successful advocacy work.** These figures were hard to convince at first, but having seen the project's initial results, they became a key driving force in creating the Agroecology Act and Policy.
- Knowledge dissemination on agroecological farming practices has positively **impacted nutrition, health and the environment.**
- Adoption of organic fertilizers minimizes reliance on chemical inputs and improves soil fertility, leading to **higher yields and increased incomes.**
- Ecosystem conservation, particularly watershed management, has resulted in less intensive farming in riparian areas, **reducing soil erosion and pollution.**
- The project has facilitated the creation of **organic markets**, contributing to increased household income through the sale of surplus diversified crops. Farmers, supported in income-generating enterprises like beekeeping and poultry farming, achieved product quality and consistency to meet market demands.
- The project has **strengthened communities' capacity for lobbying and advocacy.**



- The project has contributed to improved access to highly nutritive food resources, resulting in **better food and nutrition security** for target households, **healthier diets**, and reduced malnutrition.
- The cultivation of hass avocado fruit trees and other tree species has aided in soil erosion control, and contributed to improved food, nutrition and income security.

Limiting barriers

- **The landscape in the Murang'a Riparian areas** had to be restored, as there are a lot of landslides. This was done using vetiver grass and bamboo trees.
- **Climate change** affects the integration of water harvesting, watershed, and conservation.
- **Time management** amongst the tea farmers is critical, as they have a tight schedule for picking tea and taking it to the factories. To ensure their full participation, the implementation team have to keep up with and adapt to the tea farmers' timings and schedules.

Useful links

- [Integrated Watershed Management for Diverse Farming Enterprises \(IWAMA-DIFE\) Programme, Project Evaluation Report, 2022](#)
- [FOSELI, Project Report, 2017–2019](#)



Contact

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Quotes

“Despite the continuous rains, we have not witnessed a single landslide because of the mitigation measures we’ve implemented, thanks to SACDEP and PELUM Kenya,” said Lucy Wanjiru. “Murang’a is a slopy land, very prone to landslides and mudslides, but with the planting of cover crops, bamboo along the riparian areas and on the slopy farms, as well as the fruit trees like avocados provided by SACDEP, the soil has become more stable. These measures are giving us a long-term solution to the erosion challenges that have plagued our community for years.”

Lucy Wanjiru.

“I decided to diversify by cultivating herbs and spices on just a quarter-acre of my land,” said Samuel Maina, a farmer in Kangari. “The financial returns have been remarkable – much higher than what I could earn from a much larger area under coffee. For many of us, subdivision of land has left only small and uneconomical parcels under tea and coffee, so we must diversify into higher-value crops. Growing herbs like chia, basil, fennel, thyme, rosemary, tarragon, mint, and oregano has truly become a thriving enterprise for me and other farmers in Kangari.”

Samuel Maina, farmer in Kangari.

“Although I was initially skeptical, I soon became a staunch advocate for organic fertilizers after witnessing the remarkable turnaround on our farm,” Mary’s husband said. “The increased yields were so significant that we expanded our coffee plantation from just 86 bushes to an impressive 300, driven by the promise of high returns and sustainable farming practices. This marked a big shift from our reliance on commercial fertilizers for over 15 years, which had never delivered the results we hoped for.”



Story by Proyechar Sin Fronteras Colombia

From the land to the table: agroecology and solidarity against food insecurity

This project, launched in 2020, aims at improving the resilience of smallholder producers and vulnerable urban populations through agroecological supply chains in the region of Bogotá, Colombia.



Proyechar Sin Fronteras (PSF)

Some organizations involved in this project include: Proyechar Sin Fronteras (PSF), Agroecological Markets Network of Bogotá Region (RMABR), UniMinuto University, local leaders from the Tocaimita, Bella Flor and Egipto neighborhoods, and local family farmers.

Mission: One of Proyechar Sin Fronteras' key programs is the delivery of solidarity food baskets around Bogotá, which serve as a bridge between rural agroecological family farmers and urban communities facing food insecurity. This program is rooted in agroecology and solidarity, seeking to connect agroecological family farmers and vulnerable urban communities through solidarity-based food systems that foster access to healthy, culturally appropriate, and environmentally sustainable food. This initiative is part of Proyechar Sin Fronteras' broader, interconnected strategy to promote food justice and agroecological transitions across both rural and urban territories.

Country: Colombia (Bogotá region).

Timeline: The initiative began during the COVID-19 pandemic and has been active from 2020 to the present.

Funding: It has received funding at different stages, through multiple projects and from various sources, including GIZ, Palladium Group, Initiative Teilen, individual donors and private sector partners. The total budget is approximately USD 40,000.

Context: Colombia has one of the highest numbers of internally displaced people in the world, with over 5.8 million individuals forced to migrate due to armed conflict, land dispossession, and socio-environmental pressures. Bogotá, as the main point of arrival, hosts more than 360,000 displaced persons. Many settle in informal urban neighborhoods marked by precarious housing, unemployment, and limited access to essential services such as potable water, healthcare, and nutritious food. These urban settlements face persistent structural food insecurity. While food is physically available in the city, it is often inaccessible for low-income families due to high prices, lack of infrastructure, and dependence on ultra-processed foods. The COVID-19 pandemic further deepened these inequalities, exposing the fragility of conventional food systems. In response, Proyechar Sin Fronteras developed a strategy that brings together agroecological family farmers and vulnerable urban populations.

Main beneficiaries: Urban families in vulnerable conditions, particularly women-led households, migrants, and internally displaced people. Additionally, as the program is connected to other ongoing initiatives within the organization, agroecological family farmers, whose produce was purchased to assemble the baskets, are also beneficiaries.

Main agroecology principles and elements featured:



Social values and diet



Connectivity



Cultural and food traditions



Circular and solidarity economy



Human and social values



Input reduction



Fairness



Objectives

- To improve food security and access to healthy, nutritious food for vulnerable urban populations by promoting solidarity-based distribution, nutrition education, and local food systems in the Bogotá region, while simultaneously strengthening agroecological production among family farmers.

Activities

Supporting agroecology production and certification:

- Implementing a Participatory Guarantee System (PGS) for family farmers.
- Providing capacity-building on agroecological practices, such as soil analysis and the use of bio-inputs.
- Developing a commercial strategy for family farmers and the Sembrando Confianza market.

Enhancing urban solidarity to reach the most vulnerable:

- Distributing solidary food baskets to the local community in neighborhoods of high vulnerability.
- Responding to COVID-19 and structural food insecurity by giving people access to food.
- Sourcing all baskets from local agroecological farmers.

Promoting nutritional food and education:

- Organizing nutrition workshops in different urban communities.
- Collaborating with a nutritionist and a traditional cook to lead cooking sessions focused on using native and traditional crops.
- Promoting a healthy and balanced diet rooted in agroecology.
- Activating the taste memory using local and ancestral foods from the Andean region.
- Sharing affordable, nutritious, and culturally relevant home-cooking recipes.
- Encouraging participants to recognize the origin of food ingredients, how to access them, and how to prepare them in accessible and sustainable ways.

Mobilizing communities through urban gardening:

- Activating and transforming unused urban spaces into community gardens to reunite neighbors around a shared agroecological project and strengthen community trust and ownership.
- Fostering collective trust, ownership, and long-term commitment to agroecological practices in the urban context.

Outcomes and results

- 60 agroecological family farmers supported across 14 municipalities.
- PGS certification obtained by 100% of participating farmers, reinforcing trust and quality assurance for consumers.
- A new commercial strategy for the market, leading to a 200% increase in clients and 49% in sales.
- Implementation of a profit-sharing model: 70% to farmers, 30% to the Sembrando Confianza market.
- 1,542 solidarity baskets distributed, reaching 6,168 people, leading to greater access to food and an answer to structural food insecurity.
- Nutrition workshops in four different urban communities.
- One new community garden, and three existing gardens strengthened through community involvement.

Lessons learned

This initiative contributed key insights for integrating food assistance and agroecology into urban and rural food systems:

- **Food assistance and agroecology can reinforce each other.** In contexts where food sovereignty is not yet feasible, solidarity-based actions can foster food security while supporting agroecological values.
- **Solidarity baskets are more than aid.** They generated reliable demand for local produce, strengthened urban-rural links, and reinforced short supply chains.
- **Nutrition education must be contextually grounded.** Nutrition is not just about calories – it must highlight local and regional ingredients, cultural knowledge, and the right to access healthy food regardless of income.
- **Accessibility is a systemic issue.** Agroecological food must not remain a privilege. Inclusive models must combine production, distribution, and education to reach those most affected by structural inequality.
- **Complexity is not a weakness, it's a strength.** Agroecology projects can embrace complexity as it is not only about producing differently but also distributing fairly.

Limiting barriers

- **Logistical and coordination challenges:** The delivery of food baskets and the scheduling of workshops required intense coordination between rural and urban participants. Vulnerable communities often depend on daily informal labor for survival, limiting their availability to participate in extended activities.
- **Access to land and public support:** In urban areas, limited availability of secure land and a lack of municipal support constrained the scaling-up of community gardens and urban agroecology.

Quotes

“The food baskets strengthened our community’s food sovereignty efforts. Access to chemical-free food is not common for vulnerable families, low-income households, and recyclers. On top of that, it’s a huge plus to be able to support local agroecological farmers through this process.” – San Cristóbal.

“The food deliveries provided short-term relief for many families, especially those who survive through informal street vending and other precarious sources of daily income. Access to fresh, and especially agroecological, food is extremely rare in these contexts.” – Belén.

Useful links

- [Instagram Post](#)
- [Article on Solidarity Markets \(in Spanish\)](#)
- [Instagram Post](#)

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Story by CEFROHT Uganda

Promoting agroecology through legal, institutional and policy frameworks within East Africa

CEFROHT has implemented this project using a multi-dimensional, human-rights based partnership strategy that combines legal advocacy, policy reform, institutional capacity building, community empowerment and market support approaches to strengthen agroecology promotion. The aim is to ensure that agroecology becomes a viable, scalable and sustainable model for resilient food systems in East Africa.



CEFROHT

Some of the organizations involved in the project are: [CEFROHT](#), [Food and Agriculture Organization \(FAO\)](#), [Alliance for Food Sovereignty in Africa \(AFSA\)](#), [Slow Food Uganda](#), [Eastern and Southern African Farmers' Forum \(ESAFF-Uganda\)](#).

Timeline: 2024–2027.

Country: Uganda and other Eastern African countries.

Funding: Overall budget is 83,247.22 Euros funded by DKA Austria and BOTH Ends

Mission: To support comprehensive legal, Institutional and policy frameworks that promote agroecology, seed equity, and food and nutrition security in the East Africa region.

Context: Uganda, like the rest of the East Africa region, is experiencing an influx of industrial agricultural practices – including GMOs, monoculture systems and chemical-intensive farming – which undermine traditional food systems, biodiversity, and seed sovereignty. This threatens the livelihoods of millions of smallholder farmers; an estimated 62 million people are food-insecure in East Africa.

Agroecology offers a holistic approach to agriculture and a sustainable solution to the above challenges, prioritizing climate resilience, soil health, biodiversity conservation, food security, social justice, and human well-being.

Although there are efforts from civil society and some governments within the Eastern African Community to promote agroecology, they may amount to nothing, as industrial agriculture practices are being introduced in the region with very weak legal, institutional and policy frameworks. This means there are no safeguards against biodiversity loss, bio-piracy, and the subjugation of rural people and economies.

Furthermore, the Eastern African Community has not yet fully integrated agroecology into its trade framework. Today, it is challenging for farmers to export their produce smoothly due to the lack of universal standards and member states' uneven recognition of agroecological certifications. Smallholder farmers face obstacles such as complicated customs procedures and expensive transportation costs, which restrict their access to regional markets, despite the growing demand for sustainably produced goods.

All Eastern African Community partner states agreed to be bound under the Eastern African Community Treaty. Any law that is made and passed at this level supersedes national and municipal laws.

This means there is a need for civil society to bridge this gap before industrial agriculture interests push through their own law or policy at this higher level. However, a law with institutional understanding at the East African level could be extremely beneficial in promoting agroecology, seed sovereignty, trade at a regional scale, and the adaptation to climate change.

Main beneficiaries: Local governments, the most vulnerable and affected small holder farmers, East African Community (EAC) Secretariat, East African Legislative Assembly (EALA), CSO partners working on Agroecology in East Africa, Agroecology Movements, academia.

Main principles and elements featured:



Social values and diets



Human and social values



Fairness



Governance



Participation



Objectives

- To build and strengthen the capacity of the EALA, EAC Secretariat and EAC cabinet ministers in agroecology, with a view to enacting a comprehensive regional policy on agroecology.
- To strengthen institutional frameworks for promotion of agroecology at the East African level.
- To promote seed equity and sovereignty in East Africa by challenging policies that promote GMOs in the East African Court of Justice.
- To provide legal justification for the inclusion of human rights-based approaches and people-centered frameworks in the EAC Seed and Plant Varieties Bill that protect indigenous seed varieties, with specific provisions on Farmer Managed Seed Systems (FMSS).
- To promote biodiversity and seed sovereignty in East Africa by challenging policies that promote GMOs and the East African crude oil pipeline (EACOP) in the East African Court of Justice.



Activities

- In 2024, working with the FAO, CEFROHT **held a capacity building session** with the EALA Agriculture, Tourism and Natural Resources (ATNR) Committee, **which culminated in a Resolution** recognizing agroecology as a strategic priority for formulating sustainable policies in agriculture, tourism and natural resource management across the east African region to support the development of an EAC regional framework on agroecology.
- **Bilateral capacity building meetings** were held with the EAC Secretariat and EALA members to strengthen their understanding of agroecology, and to develop a clear roadmap for an EAC Agroecology Policy and Law.
- CEFROHT **joined the 2nd Agroecology Conference in Nairobi**, where it also hosted a side event and presented papers. These highlighted the urgent need to support formulation of a common agroecology framework law or policy that will shape policy discussions at the EAC level, and the role of women and young people in advancing agroecology, focusing on inclusive policy and legal frameworks. The papers are available [here](#) and [here](#).
- Together with Both ENDS, BIBA-Kenya, SEATINI and other partners, CEFROHT **organized a side event on embedding Agroecology in trade policy** at regional forums, calling for AfCFTA reforms to protect farmers, seed sovereignty and certification of agroecology products.
- CEFROHT worked with EALA members to pass a motion to **develop a Regional Model Policy on Agroecology** and regional detailed agroecology report, highlighting the need for legal reforms to protect smallholder farmers and promote climate-resilient food systems, advancing political support within the EAC.
- Following the EALA motion, the FAO was engaged to further the formulation processes of developing an EAC framework law or policy on agroecology.

- Work was undertaken to **educate smallholder farmers in social accountability and advocacy skills**, enabling them to demand reforms and hold leaders accountable for their inaction, or to lobby for local government support for agroecology.
- **The Agroecology Legal Network for Africa (ALENAF) was launched.** This is a legal hub for agroecology, and a pan-African initiative uniting lawyers, legal scholars, civil society and farmer groups to use the law to defend agroecology, food sovereignty and ecological justice. Read more about the ALENAF [here](#). There is also a video of the launch, available to watch [here](#), and information on how to join [here](#).
- Work has been done to **empower farmers** to organize and hold community barazas (meetings), where they have engaged duty bearers on agroecology needs in the areas of seeds, organic agrochemicals, markets and irrigation.
- Farmers have been supported through **Agroecology Learning Centers**, which are incubation hubs for sustainable farming, eco-enterprise and legal literacy. At the Centers, farmers have transitioned from conventional to agroecological farming while learning their rights and engaging local governments on their obligations.
- We have **filed ten public interest litigation cases** since 2023, two of them in the East African Court of Justice, all in pursuit of the right to adequate food. These include:
 - [A case](#) in the East African Court of Justice against the Kenyan government. The case concerns a GMO and the government's actions of lifting a ban on cultivating and importing genetically modified food and seeds in the republic of Kenya.
 - [A case](#) concerning the EACOP, against the governments of Uganda and Tanzania, and the East African Community. This case challenges the construction of the EACOP project, arguing that the project violates various provisions of the East African Community Treaty and the Protocol for Sustainable Development of the Lake Victoria Basin, as well as human rights and environmental considerations.
 - Another case has been filed with the Uganda High court to ban the use, sale and importation of glyphosate-based chemicals in Uganda, and to properly regulate agricultural chemicals that violate the constitutional rights to health, life, adequate food, and a clean environment.
- We **provided legal representation** in the GMO and EACOP cases at the East African Court of Justice, including the EACOP hearing that took place on 24 February 2025 in Rwanda.
- We believe in the right to land as a cardinal principle for agroecology promotion. We have **filed and handled 511 pro-bono cases**, which were resolved both in court and through non-contentious community-based mechanisms, promoting land security as a foundation for agroecology by reinforcing the intricate link between land rights and food security.



Outcomes and results

- The [EALA has officially recognized agroecology](#) as a strategic priority for sustainable policies in agriculture, tourism, and natural resource management across East Africa.
- A motion was passed at the EALA calling for the development of a Regional Model Policy on Agroecology, laying the foundation for harmonized legal and policy frameworks, a major step toward sustainable farming and food security in the EAC. Read the motion [here](#).



- The EALA-ATNR committee presented a detailed agroecology report to the floor of the Assembly, highlighting the need for legal reforms to protect smallholder farmers and promote climate-resilient food systems. Together, the aforementioned motion and the report pave the way for a unified regional policy on agroecology. Read the report [here](#).
- CEFROHT in a working partnership with the FAO, EAC Secretariat and the EALA-ATNR committee, developed a roadmap for an EAC framework law and policy on Agroecology.
- CEFROHT established and launched the ALENAF, a pan African legal network uniting lawyers, civil society, scholars and farmer groups to defend agroecology, food sovereignty and ecological justice. This has become a hub for advocacy, knowledge-sharing and litigation support across Africa.
- CEFROHT has hosted and participated in regional conferences and side events, producing papers and reports highlighting agroecology's role in food security, climate resilience, and gender-inclusive policy.
- CEFROHT has advocated for embedding agroecology into regional trade frameworks, including AfCFTA reforms for seed sovereignty and certification of agroecology products.
- Work has been done to build farmers' capacity in social accountability, advocacy, and rights-based approaches, enabling them to influence local and regional policies.
 - Agroecology Entrepreneurial Community of Practice has been established, enabling farmers to transition from conventional to sustainable agroecological farming. This works on several levels:
 - Agroecology Learning Centers, territorial markets and strong local government collaboration allow farmers to receive training, organic inputs, access to levy-free premium markets and product branding support.
 - Local governments mobilize farmer groups into Savings and Credit Cooperatives, and facilitate access to Parish Development Model funds and low-interest loans.
 - Supportive bylaws create an inclusive governance framework that scales agroecology as a viable economic model and strengthens sustainable agri-food systems.
- CEFROHT has engaged in strategic meetings with three local government leaders, the Uganda Local Government Association (an umbrella organization for all local governments in Uganda) and the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) on partnerships to promote Agroecology and ensure governance, accountability, and the law are respected. These meetings identified bylaws, ordinances and community support as key tools in the promotion of agroecology and commitment to working together.
- CEFROHT has signed a Memorandum of Understanding (MoU) with different district local governments to enact bylaws that promote agroecology, support model farmers, and integrate agroecology into the Parish Development Model (PDM).
- The Executive Director of CEFROHT, Dr. Kabanda David, won this year's annual Food Systems Award organized by the Ministry of Agriculture and FAO in recognition of CEFROHT's work towards a just and sustainable food system in Uganda. This highlights the impactful work CEFROHT is doing to promote the right to adequate food and build a sustainable food system in Uganda.

- Since the beginning of CEFROHT's work, 20 out of 25 legal cases have been won. These were land rights cases from the communities that we have litigated using the Human Rights Enforcement Act Cap 12, and they contributed to 511 legal victories.
- Support is currently being provided to 3050 farmers.
- 1384 people have attended Community Engagements.
- 500 Local leaders are currently involved in CEFROHT activities.
- CEFHOT has 511 legal victories in favor of vulnerable women.

Lessons learned

- Strong local governance frameworks, such as district bylaws, are critical for scaling agroecology.
- There is a need for African countries to participate in the drafting of world trade policies. We recommend a complete review of the Protocol of Free Trade Areas and the Rules of Origin in view of alignment of African interests.
- Integrating agroecology into trade and investment policy discussions, especially under the AfCFTA, ensures protection for smallholder farmers. Empowering women and youth as agroecology champions enhances resilience, community adoption and citizen agency.
- Promotion of agroecology needs a multisectoral approach. Its incorporation into law and policy legally obligates governments to protect and promote agroecology and protect smallholder farmers' interests.

Limiting barriers

- Industrial industry interference: industrial agriculture actors directly or indirectly interfere in policy making processes through industrial agriculture narratives, as well as by lobbying policy makers, issuing legal threats, and sponsoring research to counter farmer action-research.
- Many small-scale farmers are women. They are the most exposed to issues regarding the right to food and land rights.
- Limited awareness of agroecology and how it relates to food and nutrition security among policy makers.

Quotes

“We are planning to harmonize regional agroecology policies, advocate for agroecology-related research and training investments, and improve market access for organic products.”

Hon. Uwumukiza Francoise, the former chairperson of the Agriculture Tourism and Natural resources committee of EALA.

Together, we must position ourselves to influence EAC and African Union policy processes that advance agroecology and protect the rights of smallholder farmers.”

Hon. Gideon Gaptan Thoar, Chairperson of the Agriculture Tourism and Natural Resources committee of EALA.

“Together with like-minded partners, we must sustain the good work and momentum to shape policies that advance agroecology and secure resilient food systems in Africa.”

Dr. David Mudavi, Executive Director of Biovision Africa Trust.

Useful links

- [Press release about the Resolution](#)
- [Resolution](#)
- [Report of the Committee on Agriculture Tourism and Natural Resources on the capacity building seminar on agroecology](#)
- [CEFROHT's video 'The Magic of Agroecology Farming'](#)
- [Article on CEFROHT Executive Director Dr. Kabanda David Wins National Food Systems Award](#)



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Story by WAIBI Indonesia

Co-creation of regenerative agriculture and agroecology for inmates’ “Garden of Hope”: Therapeutic healing horticulture and initiating regenerative food systems

This long-term project, implemented in Indonesia over the past 15 years, focuses on agroecological practices, therapeutic gardening for inmates, and regenerative food systems. The project uses [the Theory U approach](#) to enable inmates to develop an open mind, open heart, and open will. Theory U was developed by Peter Sange and Otto Scharmer and blends systems-based thinking, innovation, and leading change, with awareness practices. It allows us to update our mental and organizational operating systems in order to effect change. As a therapeutic approach, agroecology implemented in the practice of horticulture can be a transformative way for inmates to benefit from Theory U.

Some organizations involved in this project include: [Indonesia Biru Lestari Initiative Foundation](#) (Yayasan Inisatif Indonesia Biru Lestari), known as WAIBI; the Directorate General of Correction, Ministry of Immigration and Corrections; Agricultural Human Resources Development and Counseling Agency, Ministry of Agriculture; Food and Agriculture Organization (FAO); United Nations Environment Programme (UNEP); Global Alliance for Improved Nutrition (GAIN); and Sarikat Buruh Muslimin Indonesia (Sarbumusi).

Country: Indonesia.

Timeline: 2014–ongoing.

Mission: Overseeing the formulation of local nutritious food provision policy through regenerative food systems; evidence-based recommendations by WAIBI to help the government formulate healthy food provision policy; helping former correctional inmates to return to regular social function as a community; maintaining and preserving the environment around prisons and in the outside world.

Funding: Bank of Indonesia and open donation.

Context: In Indonesia, 89.5% of agricultural land is in unsustainable conditions, with low land productivity and low levels of organic carbon in the soil due to large use of chemical pesticides and fertilizers. Most of the project’s agricultural production consists of various vegetables and fruits, using a variety of colors (for example green, red, and bicolor amaranths) and sensory input (different shapes, flavors, etc.) to stimulate the senses of the inmate gardeners, who work barefoot to establish direct contact between the body and soil.

In terms of politics, National Law No. 22/2019 mentions that agricultural practices in Indonesia shall be based on an agroecosystems approach to conservation agriculture and follow the principle of the importance of maintaining healthy soil. Thus, practices such as regenerative agriculture, natural farming and organic farming have been adopted as best practices in the agriculture sector. In addition, at the regional level, there is an on-going initiative to develop ASEAN guidelines for the agroecology transition, which aims in turn at promoting the development of national agroecology strategies in ASEAN countries.

Main beneficiaries: farmers, inmates (with drugs issues) and trainers in agroecology or regenerative agriculture.

Main featured agroecology principles and elements:



Participation



Governance



Cocreation of knowledge



Human and social values





Objectives

- To develop nationwide demonstration plots for agroecological practices.
- To mainstream agroecology as common practice and a viable alternative through training modules and handbooks for farmers.
- To influence policy change through long-term development planning (2025–2045) to persuade the government to commit to agroecology in Indonesia.
- To optimize the effective use of green open spaces in correctional institutions, mapping the potential of local resources in order to produce healthy, high-quality, and safe food resources for consumption.
- To foster personal development by enabling mental health recovery and soul searching among inmates through horticultural therapy (Horticultural Healing Therapy).
- To help inmates gain knowledge and skills in the field of integrated agriculture and urban farming, including hydroponics, aquaponics, vertical farming, and so on.



Activities

This project is composed of 3 different themes: Agroecological practices, therapeutic gardening for inmates, and food systems.

These themes were approached through capacity building, policy change and partnership, all under the motto “find happiness together and make others happy.”

- **Facilitating dialogue to develop a prototype for Indonesian agroecology:** WAIBI invites and facilitates interactions between government representatives (from the Ministry of Agriculture, Directorate General of Correction, Ministry of Immigration and Corrections and Ministry of Development Planning) and NGOs, such as Akademi Rakyat Mandiri Pangan (ARMP), FAO, and the Self Learning Institute.
- **Developing 8 training modules on regenerative agriculture and agroecology in partnership with the Ministry of Agriculture:** The modules consist of: (1) Agroecology Principles in Farming (2) The Landscape Approach in Regenerative Agriculture; (3) Keeping External Inputs Low and Biological and Organic Inputs; (4) Integrated Pest Management; (5) Integrated Poly-farming and Agroforestry; (6) Post-harvest and Economic Added Value; (7) Farmer Organization, Cooperatives and Entrepreneurship; (8) Regenerative Agriculture and Food Systems.
- **Developing 4 demonstration plots:** These sites promote the self-production of natural fertilizers to substitute MPK with plant-based fertilizers.
- **Providing farmers with training:** Farmers are trained on how they can make organic fertilizer themselves at a low cost, as there are no incentives available from the Ministry in this regard.
- **Implementing a Memorandum of Understanding:** This is done in collaboration with the Directorate General of Corrections from the Ministry of Justice to encourage inclusiveness and social reintegration of former inmates within agribusiness development.

This memorandum aims to secure collaborative work between the government and WAIBI, including access to government infrastructure – such as venues, tools, and funding – in order to support the program.

- **Training new trainers:** Training sessions on regenerative agriculture are organized in two correctional institutions to make the training of inmates in gardening more sustainable.
- **Conducting technical consultations for agribusinesses:** As a follow up to the trainings, WAIBI provides consultation to trainees at the prison in Kendal on how to implement farming practices so that they can develop a farming business when they are released from prison.
- **Providing Horticultural Healing Therapy activities:** Such activities include mindfulness, silent meditation, positive thinking through t'ai chi and yoga, but also focus group discussions and capacity development activities. Training in agroecology and regenerative agriculture is also provided to inmates in order to reduce levels of aggression and equip them with skills and prospects for the future. In one correction unit the mindfulness training sessions last three days, but inmates are encouraged to continue practicing mindfulness independently.

Outcomes and results



- 390 inmates from 13 prisons and detention centers joined the NAPI Berkebun program from 2018 to 2021. This therapeutic approach to horticulture has only been implemented in one such center in Jakarta.
- In 2025, 8 training modules were developed and approved by the Ministry of Agriculture.
- **A policy framework was developed for sustainable agriculture: Law 22/2019.** This law acts on a long-term development planning approach, lasting **from 2025 to 2045**, to mainstream agroecological practices for 80% of all family farmers in Indonesia. Article 13 states that land use for agriculture cultivation shall be carried out with an agroecosystem approach.
- 22 participants took part in technical consultations.
- Levels of aggression among inmates have been reduced by 30%.
- Recruitment of one participant, a former inmate with the strongest level of achievement in the “changing mindset” training, who has now been working as trainer assistant for five years.

Lessons learned

- More impact can be made with the involvement of multiple stakeholders and government support. WAIBI started from one prison center and expanded to 13 centers in 2021. This was made possible not only due to the involvement of the Ministry of Correction, but also the involvement of the Ministry of Agriculture and Ministry of Development Planning in helping to mainstream the practice into policy.



- Mindfulness (open heart, open mind) is very important as a therapeutic approach, throughout the training and during any session, to bring heart and mind together. Mindfulness helps the process to have a deeper impact on the person and appeal to their emotional, inner side. This is also important in changing the person's behavior, especially in the case of inmates. Strong collaboration between the brain and the heart is crucial in changing behaviors.
- Horticultural Healing Therapy reduces stress and boosts capacity. By healing the inmate's inner emotional side, their conscience is empowered to make the right choices to heal themselves and their families. Calmness helps them to think clearly and to decide what is best for them and their loved ones, including growing food for their families when they are released from prison.
- To transform our food system we also need to transform our mentality. This was an important lesson learned from the inmates, who overcome food insecurity by realizing the importance of self-reliance and food production in their own garden. This can begin to happen when they find inner calm and change their mentality.

Limiting barriers

- Law 22/2019 on sustainable agriculture has not yet been implemented.
- It is difficult to raise awareness among the correctional institutional community regarding the benefits of gardening for inmates.
- It can be challenging to spread this initiative nationally and find prisons throughout Indonesia that are willing to commit to the cause.
- It is also difficult to change the mentality of both inmates and people on the outside.

Useful links

- [WAIBI website: https://waibi.id/](https://waibi.id/)
- [Inmates gardening](#)
- [Oscar's testimony \(video\)](#)

Quote

“The gardening program with WAIBI encouraged me to spend more time with plants. Usually, when I am close to plants, I feel calmer, and it seems that my problems are easier to overcome.”

Oscar Noprianto.

Oscar (35) is one of the participants in the horticultural therapy learning program, featuring agroecology. Oscar served an eight-year sentence in Rutan Cipinang for drug abuse. Now he has become a motivator for his fellow inmates to start organic gardens without the use of synthetic chemicals, and through this they have become healthier, both physically and mentally. The mental health benefits of gardening have encouraged Oscar to stay away from drugs and become a calmer person. In the past, even slight anxiety would lead him to abuse drugs. Now, his anxiety is gone, and if he does encounter any minor problems, he can easily solve them through gardening.

“Gardening makes me more mindful and calm, so that I can see problems more clearly,” he said.

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WAIBI

Story by the government of Catalonia Spain

Sustainable Agriculture Program (PAS) in Catalonia

Launched in 2019, the Sustainable Agricultural Program (PAS) promotes sustainable agricultural practices and highlights the work of agricultural and livestock farms that face new challenges in terms of sustainability. Using objective and quantitative methodology, this production model evaluates, classifies and recognizes Catalan farms according to their level of sustainability in three main areas: environmental, social, and economic.



Some organizations involved in this project include: The Government of Catalonia (Generalitat Catalunya) and the Department of Agriculture, Livestock, Fisheries, and Food. The Government of Catalonia actively promotes agroecology through significant projects with the Department of Agri-Food Production and the Institute of Agri-Food Research and Technology (IRTA).

Timeline: Launched early 2019 and currently in its initial implementation phase, this project has no defined completion date. Rather, its purpose is to endure in the long term and to evolve progressively, as advances in technical knowledge allow for further development, with the overarching aim of fostering an increasingly sustainable agricultural sector.

Funding: Thus far the project has been funded through the Government of Catalonia's own resources, with an estimated value of over EUR 12 million to date.

Mission: The Sustainable Agriculture Program (PAS) supports a transition to sustainable agricultural practices that protect the environment, boost local economies, and improve the quality of life in rural areas. This project aligns with the Catalonia Food Strategy as well as with the Law 16/2017 against climate change.

Context: Catalonia has a diverse agrifood sector, characterized by small and medium-sized family farms producing fruits, vineyards, olive trees, nuts, cereals, and cattle. In 2021, the agrifood sector contributed to 19.7% of Catalonia's GDP, and in 2024 Catalonia became Spain's leading exporter of food and beverages for the fourth consecutive year ([Government of Catalonia](#)). In Catalonia, there are 45,363 agricultural holdings (2024 data), covering 742,150 hectares. Of these, 83.25% follow conventional farming practices, 9.16% organic production, and 7.59% integrated production. In 2025, integrated production has grown significantly, recording a 15% increase compared with 2024, thereby consolidating its role as a growing model within the Catalan agricultural sector. Integrated production and organic farming are two voluntary systems of certification, endorsed by the Department of Agriculture, Livestock, Fisheries and Food, which allow products to be identified with specific labels³. In terms of **livestock farming**, most of the farms (94.3%) follow a conventional model, while organic production remains very limited (5.7%). **Cultivated biodiversity has been a key objective of our department since 2011.** We started working on this objective by bringing together organizations that were carrying out actions for cultivated biodiversity. This collaboration allowed us to identify new resources for preservation. Nowadays, we are not only continuing to identify and conserve new resources but also working to increase biodiversity on Catalan farms in order to align with the European Union's biodiversity conservation strategies, such as the Farm to Fork strategy. This work is carried out through the Cultivated Biodiversity Action Plan, which aims to promote the recovery, conservation, use, dissemination and commercialization of local varieties of produce in Catalonia.

Finally, **Catalonia has a second agricultural initiative, the Plan for the Development of Organic Production (PAE)**, covering the period from January 2024 to December 2027. This initiative aims to promote organic production and consumption, particularly of local products, in line with the European Organic Action Plan. The plan benefits all those involved in the organic value chain, as well as consumers, by stimulating the demand for organic products,

3. Integrated production is regulated at the national and regional levels, whereas organic farming is regulated at the European Union level. These certified systems promote environmentally sustainable practices, but they do not quantify sustainability. For this reason, the Department is promoting the Sustainable Agricultural Program, which encourages practices based on the three pillars of sustainability: environmental, social, and economic. This initiative provides the agricultural sector with digital tools to help quantify sustainability and will offer a public certification that will allow products from sustainable farms to be identified with a dedicated logo.



encouraging conversion to organic production, and strengthening the sector's value chain. It also aims to increase the contribution of ecological production to food system sustainability and environmental conservation.

Main beneficiaries: Farmers and cooperatives.

Main agroecology principles and elements featured:



Connectivity



Circular and solidarity economy



Economic diversification



Participation



Co-creation of knowledge

Objectives

The Sustainable Agriculture Program has 8 goals, inspired by the principles of agroecology:

- Ensure that the food chain has a neutral or positive environmental impact.
- Ensure food security, nutrition, and public health.
- Preserve the affordability of food.
- Establish a transparent public protocol to assess the sustainability of agricultural operations in Catalonia.
- Increase the visibility of efforts made by farmers and ranchers.
- Support farms in transitioning to agroecology principles.
- Contribute to making Catalan farms economically viable.
- Increase the quality of life for people working in rural areas.

Activities

The implementation of the Sustainable Agricultural Program (PAS) is conceived as a voluntary, flexible process, tailored to meet the reality of each farm. The goal is to enable a realistic and effective transition towards a more sustainable model – without imposing obligations, but rather providing tools and support to make it possible. The process unfolds in several phases:

- **Self-assessment and digital tools:** Any farm can assess its level of sustainability using the digital tools provided by the PAS system. These tools allow for an objective and accessible self-evaluation of production. Farms with higher sustainability levels may voluntarily apply for a public certification that recognises their commitment.

- **Initial assessment:** An initial diagnosis is carried out to evaluate the farm's current situation in terms of environmental, economic, and social sustainability. This serves as a starting point for defining improvement goals for the farm.
- **Application of indicators and criteria:** A transparent public protocol is used, based on measurable indicators to assess the degree of sustainability on a given farm. These may include aspects such as efficient water use, waste management, biodiversity, animal welfare, among others.
- **Technical support:** Farms receive technical and training support to implement improvements and adapt to sustainability criteria. Knowledge exchange and best practices among professionals in the sector are encouraged.
- **Certification and product valorization:** Farms that complete the certification process can differentiate their products and highlight that they come from a sustainable agricultural operation. This certification is voluntary and represents both recognition and reward for well-executed work. It also serves to communicate this added value to consumers and society at large. Moreover, it is compatible with other public certifications, such as organic farming, and efforts will be made to create synergies that facilitate the management and recognition of good practices.

This implementation model aims to be a useful and transformative tool, recognizing good practices and helping to advance towards a more resilient, competitive, and territorially committed agricultural sector. PAS not only seeks to certify good practices but to drive a positive shared transformation across the entire sector.

Outcomes and results

Some Catalan farmers have been able to quantify the level of sustainability of their farms thanks to the Sustainability Calculator, a digital tool developed by the Department of Agriculture, Livestock, Fisheries, and Food and IRTA. **In 2023, a total of 1,012 farms used the Sustainability Calculator.**

Of these:

- 41.7% were conventional farms,
- 40.12% were certified under Integrated Production (IP),
- 15.02% were certified under Organic Farming (OF),
- and 3.16% operated under both certification systems (IP and OF).

In 2025, the number of farms participating in the project increased to 3,505.

Of these:

- 56.5% are conventional farms,
- 30% are certified under Integrated Production (IP),
- 13% are certified under Organic Farming (OF),
- and 0.5% operate under both certification systems.



Lessons learned

- Public programs or policies such as the PAS in Catalonia are important tools to promote the agroecological transition as a solution to the broken food system.
- Sustainable production contributes to building a global society with more respect for resources and people, while giving a voice to local farmers to create a more sustainable world in the future.
- Sustainable production enables collaboration with food producers to gradually implement sustainable practices. It also gives visibility to the efforts of farmers, thanks to regular monitoring and support throughout the transition process.
- Sustainability is a process, not a fixed goal. PAS understands sustainability as a progressive and shared journey, where each farm can advance from its own starting point, with the resources and conditions it has at its disposal.
- The agricultural sector must lead its own future. If decisions are not made locally, they will be imposed by external powers. PAS is a tool for exercising sovereignty and adapting production models to the reality of each territory.
- Sustainability must integrate environmental, economic, and social dimensions. PAS not only aims to reduce environmental impact but also to ensure the economic viability of farms and improve the quality of life for those who work in agriculture.
- Collaboration is key to transformation. PAS promotes alliances between farmers, public administration, research institutions, and civil society. This collaborative network is essential to move towards a more resilient and fair agricultural model.
- Real data improves public policy. The PAS evaluation system generates useful data to design more efficient, evidence-based policies tailored to fit the needs of each territory.
- PAS proposes a methodology that is transferable to other regions.
- PAS dignifies the farming profession and enhances its social recognition. Making the efforts of sustainable farms visible helps to shift public perception and build a positive and shared narrative.
- Innovation must be connected to the field. PAS facilitates applied and participatory research focused on solving real problems on farms and promotes the transfer of useful and transformative knowledge.
- Voluntary certification is a tool for product valorization. It allows sustainable products to be differentiated, opens new marketing channels, and strengthens consumer trust.
- PAS is applicable to all production systems. Whether involved in conventional, integrated, or organic farming, all farms can use PAS to assess their sustainability level and progress in continuous improvement.

Limiting barriers

- Digital fracture: Some farmers still face difficulties accessing or using digital tools, which can limit the use of the Sustainability Calculator and other digital resources linked to PAS.
- Lack of mobile coverage in rural areas: Limited connectivity in certain agricultural zones of Catalonia makes it difficult to access digital tools and receive online technical support.
- Higher costs of implementing sustainable practices: Some farms may face financial barriers when adopting sustainable practices, especially if no specific support or subsidies are available to offset the initial investment.
- Generational renewal: The lack of young people entering the agricultural sector can hinder the continuity and adoption of innovative models like PAS, particularly in family-run farms.

Quote

“PAS promotes responsible agricultural practices and provides a sustainability calculation tool applicable to any production system. For this reason, it integrates perfectly with the philosophy and needs of our company.”

Ernest Mas, Technical Manager at Verdcamp Fruits.

Useful links

- [Sustainable Agriculture Programme](#)

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Conclusion

This publication sheds light on 10 cases implemented by our members on the ground, in various countries on various continents. From Asia, to Africa, Europe and Latin America, these stories demonstrate how the principles and elements of agroecology can be implemented and how agroecology contributes to the transformation of food systems towards sustainability, food security, health, and fairness.

These cases highlight the need for strong partnerships and collaborations among local stakeholders and policymakers to ensure the uptake of agroecological practices by all. It shows how crucial it is to foster connections among farmers themselves (via peer-to-peer learning) and between farmers and consumers (via innovative labelling and identification mechanisms, such as PGS) to ensure buy-in among farmers and trust among consumers.

Finally, these cases also prove the holistic nature of agroecology and the diverse impacts it can have on environmental and human health (mental health included), on access to nutritious diets and the combat against malnutrition, on local economic growth, sustainable livelihoods, and on connections between local stakeholders to build partnerships.

In light of this, this second edition of Agroecology in Action: Stories from the Ground underscores the relevance of promoting agroecology as a holistic and transformative approach towards creating and maintaining resilient, equitable, and healthy food systems in the years to come.

Annexes

List of organizations

[Baylor Children's Foundation – Malawi](#): A not-for-profit organization working in partnership with the Malawi Government in the Health Sector. Baylor Foundation Malawi is the implementing partner of the Texas Children's Global Health Network in Malawi. The Network was created by BIPAI in 1999 to catalyze pediatric and family HIV care and treatment and health professional training.

[CEFROHT](#): Is an indigenous not-for-profit legal advocacy and action-research organization based in Uganda, which uses a human rights-based approach to promote adequate food and adequate living. They use legal tools to ensure the realization of land rights, food security, food safety and nutrition, livelihood rights, environmental health, and mainstreaming a food systems approach.

[South Africa Organic Sector Organization \(SAOSO Foundation\)](#): The national sector body for organic agriculture in South Africa, driving the agroecology and Participator Guarantee System movement.

[Project Biome](#): A project based in South Africa and committed to rewilding, regeneration, and reconnecting humans to nature through decentralized systems transformation and bioregional ecosystem design.

[Knowledge Hub for Organic in Southern Africa \(KHSA\)](#): A platform initiated via a GIZ-funded program promoting knowledge on organic agriculture in South Africa.

[Natural Farming Foundation](#): An organization with offices in the Netherlands, Uganda, Ethiopia and India, promoting research and knowledge on Natural Livestock Farming.

[Institute of Transdisciplinary Health Sciences and Technology \(TDU\)](#): A research institute based in India, undertaking research on ethno-veterinarian methods and natural livestock farming.

[The Ethiopian Society of Animal Production \(ESAP\)](#): An organization based in Ethiopia, made up of over 500 livestock professionals.

[The Platform Natuurlijke Veehouderij](#): An independent entity registered in the Netherlands, which collaborates with the Louis Bolk Institute, Veterinary Knowledge Centre (VKON) and Wageningen Food Safety Research to promote research and knowledge on Natural Livestock Farming.

[The Effective IPM Association](#): An organization based in Kenya, which promotes Integrated Pest Management methods on demonstration plots.

[The Himalayan Permaculture Centre \(HPC\)](#): A grassroots NGO focusing on remote, poor or resource-depleted farming communities in Surkhet & Humla districts of Western Nepal, and especially on marginalized populations in these areas. The HPC uses low-tech appropriate technologies to increase domestic farm productivity by reducing costs of labor, as well as improving access to funding and other external resources while improving farm diversity, resilience, health, education and livelihoods.

[Social Work Institute](#): Established in 1987 to foster young leaders and social workers in Nepal. Their core areas include training, integrated community development networks and advocacy, and they envision a just and inclusive society in Nepal. In 2022, they discussed and formulated a Strategy on Agroecology, with the aim to build on existing and emerging alternative agricultural practices to strengthen agroecology.

[Almost Heaven Farms](#): A permaculture research and development social enterprise based in eastern Nepal. It is led by Zachary Barton, who researches, demonstrates and trains local farmers and international visitors in permaculture design, soil health and ecological restoration ([see video](#)).

[Welthungerhilfe](#): A German NGO combating hunger in various countries around the world.

[The Centre d'Actions et de Réalisations Internationales \(CARI\)](#): A French association for international solidarity, which has been active since 1998 in combating desertification in the Sahara and Sahel regions. Led by pioneers in agroecology, CARI is committed to safeguarding the nurturing heritage of arid and fragile environments. CARI promotes a sustainable agricultural model (agroecology, family farming) as a solution to land degradation in arid zones, in rural areas of three main types: oasis regions, semi-arid zones in dry Africa, and Mediterranean climate areas of France.

[Iles de Paix \(IDP\)](#): A Belgian NGO, created in the 1960s, whose interventions aim to enable populations to pursue their own sustainable development process independently and with dignity. IDP promotes food systems that guarantee the right to food for all, without compromising the economic, social and environmental foundations that will ensure food and nutritional security for future generations. To this end, IDP supports the adoption of efficient and affordable techniques and technologies by small-scale farmers and small businesses.

[RECODA](#): A Tanzanian NGO created in 2000, whose mission is to bridge the technology gap in agricultural development by building the capacity of grassroots organizations and providing advisory support to farmers. RECODA supports farmers' organizations in their production (conservation agriculture, agricultural diversification), storage, processing and marketing activities. The NGO has built up solid expertise in strengthening the resilience and food security of family farms, so much so that after more than 20 years of action in all regions of Tanzania, RECODA is recognized as a leading NGO in rural development.

[MVIWAARUSHA](#): A farmers' organization active since 2010, made up of small-holder farmers (herders, farmers, beekeepers and fishermen) from Arusha Region, in Northern Tanzania. It currently has 13,945 members (8,611 of them women) organized in village and district groups. MVIWAARUSHA aims to promote the economic development of small farmers through support for the production, processing and marketing of agricultural produce. It also supports its members' advocacy on issues that concern them. It is gaining increasing recognition as a vocal advocate for farmers and herders on the public and political stage.

[Participatory Ecological Land Use Management \(PELUM\) Kenya](#): A national network of 60 member-organizations operating in 47 counties, its vision is “empowered, prosperous and healthy communities in Kenya.” It works to promote agroecological principles and management practices for improved livelihoods among small-scale farmers and pastoral livestock farmers in the country.

[Proyectar Sin Fronteras \(PSF\)](#): A French-Colombian nonprofit organization working since 2007 to improve the quality of life of vulnerable communities in the regions of Cundinamarca and Boyacá, in Colombia. PSF promotes agroecological transitions, food sovereignty and environmental education, and is an active member of the Agroecological Markets Network of Bogotá Region, a collective space where they co-developed a Participatory Guarantee System (PGS) to recognize and support local agroecological family farmers. Since 2012, PSF has operated a market called Sembrando Confianza, offering agroecological products from smallholder farming families with home delivery across Bogotá. In 2025, this market merged with another local initiative known as La Canasta (The Basket), expanding its reach and consolidating its efforts to promote short supply chains and fair trade. This strengthens ethical trade relationships, environmental stewardship, and access to fresh, healthy, agroecological food.

[The Indonesia Biru Lestari Initiative Foundation \(Yayasan Inisatif Indonesia Biru Lestari, known as WAIBI\)](#): A non-profit organization founded in 2014, which focuses on global issues and their impact on the environmental and social conditions that lead towards Sustainable Development. WAIBI promotes a circular economy approach, urban farming practices in communities and resilience-based awareness. WAIBI is the leading organization in regenerative food system transformation in Indonesia through its promotion of agroecological practices and agrobiodiversity.

[The Government of Catalonia \(Generalitat de Catalunya\)](#): The Catalan regional government’s Department of Agriculture, Livestock, Fisheries, and Food. It actively promotes agroecology through significant projects with the Department of Agri-Food Production and the Institute of Agri-Food Research and Technology (IRTA).





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