

# Healthy Soil, Healthy Food, Healthy Communities

Healthy Soils Healthy Food Centres rebuilding  
Africa's food systems from the ground up



AF SA

## Healthy Soil, Healthy Food, Healthy Communities

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## The Alliance for Food Sovereignty in Africa

AFSA is the continent's largest civil society movement working to promote agroecology, food sovereignty and the rights of African communities. Bringing together farmers' organisations, consumer movements, women's groups, faith-based institutions, environmental networks and Indigenous peoples, AFSA champions African solutions that protect biodiversity, strengthen seed and land rights and build resilient, people-centred food systems. Through policy advocacy, knowledge generation, advancing agroecological practices, narrative change/communications, networking and movement-building, AFSA works to secure just, sustainable and culturally grounded food systems across Africa.

[www.afsafrica.org](http://www.afsafrica.org)

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## Foreword

Across Africa, soils are under increasing pressure, not simply from climate stress or overuse, but from the way our food systems have been shaped over time. Decades of policies and practices that prioritise external inputs, monocultures, and short-term productivity have gradually eroded the living foundations of agriculture. What we are witnessing is not just soil degradation; it is the result of a system that has disconnected farming from ecology, knowledge, and local control.

And yet, across the continent, a different reality is quietly taking shape. Farmers, researchers, and civil society organisations are demonstrating, often with very limited support, that restoring soil health is not only possible, but transformative. What is striking is that this transformation is not coming from imported technologies or top-down interventions. It is emerging from farmers' own experimentation, from the revival of ecological knowledge, and from collective learning processes that reconnect people to their land.

This publication brings together these experiences. It does not present agroecology as a set of techniques, but as a living practice grounded in relationships, between soil, food, people, and ecosystems. The Healthy Soil Healthy Food (HSHF) community reflects this approach. By bringing together partners, learning hubs, and farmer networks across countries, it creates spaces where knowledge is not delivered, but shared, contested, and built collectively.

There is something important happening here. When farmers experiment together, exchange knowledge, and observe results in their own contexts, solutions do not just spread, they take root. They adapt, evolve, and endure. This is fundamentally different from the dominant model of agricultural development, which often assumes that solutions must be transferred from outside.

What emerges from these experiences is a different understanding of soil health. It is not simply a technical issue. It is deeply political. Healthy soils depend on: who controls land, what farming systems are promoted, whose knowledge is valued, and what kind of food systems we are building.

In that sense, restoring soils is inseparable from restoring autonomy, rebuilding local economies, and reclaiming food systems.

The experiences documented here show that this is already happening. Across the HSHF centres, farmers are restoring soil ecosystems through agroecological practices, while at the same time strengthening their resilience, improving food diversity, and reducing dependency on external inputs.

These are not isolated success stories. They are part of a broader continental effort—still fragmented, still uneven, but growing.

What this publication ultimately shows is that the regeneration of Africa's soils is not just about better farming. It is about rethinking the system itself. It is about moving from extraction to regeneration, from dependency to autonomy, and from isolated interventions to collective action.

The question, then, is not whether we know how to restore soils. The question is whether we are willing to support and scale the processes that are already working, those rooted in farmers' knowledge, collective learning, and agroecological principles.

**Million Belay**  
*AFSA General Coordinator*



# Executive Summary

**A**cross Africa, soil degradation is trapping smallholder farmers in a familiar cycle: declining soil health, unstable yields and rising dependence on costly inputs.

This publication follows that crisis from the field, where agroecology centre leads describe erosion, acidity, nutrient loss and declining soil function, then traces why these patterns persist, including land pressure, residue removal, deforestation and policies that promote synthetic fertilisers as the default route to productivity.

The Alliance for Food Sovereignty in Africa (AFSA) launched the Healthy Soil Healthy Food (HSHF) initiative in 2021, in collaboration with the Seed and Knowledge Initiative, as a practical response built from the ground up. HSHF operates through a network of 16 community-based centres across 10 countries. They serve as training hubs, demonstration sites and farmer research spaces that generate evidence used in policy discussions.

The model integrates learning, experimentation and advocacy. Farmers test practices, observe results and share knowledge. This evidence then feeds into extension systems, research and policy.

Across countries, farmers report the same pattern: agroecology spreads

fastest when it reduces risk. Farmers adopt practices fastest when they use local materials, require little cash and deliver visible results. Centres consistently report that farmer-led learning outperforms conventional extension because trust, observation and peer exchange accelerate adoption and normalise local adaptation. Gains last where farmers and communities embed knowledge locally through farmer-trainers, community learning and sustained follow up.

A defining strength of HSHF is how farmer innovation and science reinforce each other. Farmers use accessible diagnostics, including observation, jar tests and community-adapted chromatography, then refine bio-input recipes through seasonal trials, as availability of ingredients shifts. This creates locally relevant evidence that strengthens credibility with institutions and supports policy engagement grounded in visible results, not abstract advocacy.

The publication profiles centre experiences from Burkina Faso, Kenya, Malawi, Senegal, Togo, Uganda, Zambia and Zimbabwe, alongside a wider map of HSHF centres, and concludes with practical recommendations. Governments are urged to prioritise soil ecosystem health, reform subsidies to avoid input dependency, strengthen extension

through partnerships with farmer-led centres and create enabling regulations for local bio-input production.

Research institutions are called to co-produce knowledge with farmers and translate findings into usable formats, while civil society networks and donors are encouraged to invest in long-term farmer-led learning systems, documentation and policy engagement, treating demonstration centres as public goods that generate evidence and help build resilience.

## About this publication

This publication draws on interviews conducted in December 2025 and January 2026 with representatives of 11 HSHF centres in 8 countries: Burkina Faso, Kenya, Malawi, Senegal, Togo, Uganda, Zambia and Zimbabwe and a review of available reports and website content. All content has been reviewed and approved by the centre representatives.

The intention of this publication is to highlight the innovative work being done in Africa to regenerate soils and to identify what is helping soil health knowledge spread and scale.

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## List of Acronyms

<b>AFIRD</b>	Agency for Integrated Rural Development
<b>AFSA</b>	Alliance for Food Sovereignty in Africa
<b>BIOGI</b>	Bio Gardening Innovations
<b>HSHF</b>	Healthy Soil Healthy Food (Initiative)
<b>KATC</b>	Kasisi Agricultural Training Centre
<b>OACK</b>	Organic Agriculture Centre of Kenya
<b>RODI</b>	Resources Oriented Development Initiatives
<b>RUCID</b>	Rural Community in Development
<b>SFHC</b>	Soils Food and Healthy Communities
<b>ToT</b>	Training-of-Trainers
<b>TSURO</b>	Towards Sustainable Use of Resources Organisation

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# Restoring Africa's Soils, Reclaiming Our Future



In Western Kenya, Ferdinand Wafula of Bio Gardening Innovations (BIOGI) watches once-fertile fields begin to crumble, rainwater run off the soil instead of sinking in and farmers spend more money on synthetic fertilisers to support yields but still harvest less. The problem, Ferdinand says, is that farmers have been taught that the modern way to farm is to add more and more synthetic fertilisers to keep exhausted soils producing year after year. The result: depleted, eroded and increasingly acidic soils.

Many smallholder farmers face this reality, even though challenges show up differently in different places. In some, soil is as dry as dust and cannot hold water. In others, it displays as fields that puddle, crust and then bake in the sun or gullies that appear after just one storm. Often, farmers experience soil challenges as unpredictability: yields go up and down and weak crops are unable to withstand stress or pests and diseases. As soils lose their organic matter and biological life, they lose their ability to retain water to feed plants over time. Fertility becomes fragile and farming a gamble.

Esther Lupafya of Soils Food and Healthy Communities (SFHC) in northern Malawi describes the same crisis unfolding: degradation driving soil infertility, monocropping and deforestation driving erosion. She explains the everyday pressures that are driving tree loss: collection of firewood and making of charcoal to meet energy needs and expanding farming fields. Combined, these activities leave soils exposed and vulnerable.

### The roots of this crisis

The roots of this crisis are not mysterious; they are structural. Where families once had space for fallows or shifting cultivation, farms have become smaller and cultivation more continuous and intensified. Samuel Nyanzi of Rural Community in Development (RUCID), Uganda notes that many farmers do not recognise that continuous cultivation has become a form of 'mining' the soil, rather than maintaining fertility through recycling. Crop residues that could return to the soil are often removed for livestock feed or fuel or burned. Tree cover and diverse vegetation

have been lost, reducing ground cover and accelerating erosion. At the same time, decades of policy and extension messaging have promoted synthetic inputs as the main route to productivity, shaping an agricultural culture that treats soil as a substrate to be fed, rather than a living system to be regenerated.

**Ferdinand's story is echoed in many places: farmers are not choosing dependency; they have been trained into it.**

Once dependency sets in, the cycle tightens. Synthetic fertilisers can deliver short-term gains, but they do not rebuild soil structure, organic matter or microbial life. When soils are biologically depleted, plants struggle to access nutrients and fertiliser responses can diminish. Eustace Sajjabi of the Agency for Integrated Rural Development (AFIRD), Uganda explains that nutrients may be present, yet without healthy microbial life they remain locked away. In eastern Zimbabwe, Elijah Chakandinakira of the Towards Sustainable Use of Resources Organisation (TSURO) Trust describes soil infertility as the base challenge across different landscapes, from steep slopes where erosion strips topsoil away to low-velde zones where sandy soils struggle to hold fertility.

At Kasisi Agricultural Training Centre (KATC) in Zambia, Father Claus Recktenwald underlines that many African soils are old, heavily leached and highly weathered. This makes it harder to maintain soil fertility. He points to climate change as an accelerant: later rains, heavier downpours and longer dry spells punish degraded soils first. In these conditions, input-dependent farming becomes increasingly risky and unaffordable, especially when support arrives late or global prices spike.

**This is why the soil crisis is not only agronomic, it is economic and it is political.** When farmers rely on imported fertilisers and pesticides, they are exposed to volatile markets and shifting supply chains. When extension systems are overstretched, farmers receive generic advice. This advice often does not match local soils. When subsidy programmes favour one pathway, they can lock farming deeper into dependency. Esther at SFHC in Malawi notes that many farmers understand synthetic fertilisers contribute to nutrient loss yet are trapped by limited alternatives.

**Across the continent, farmers know something is wrong. They see it in their fields and feel it in their harvests. What they are searching for is not another input, but a different way of working with the land, one that restores fertility without trapping them in rising costs, one that strengthens resilience rather than exhausting soils further.**

This is where agroecology enters, not as an ideal, but as a practical response many farmers recognise the moment that they see it working. Agroecology treats soil as a living system, rebuilding

organic matter, ground cover, microbial life and biodiversity. It works through methods farmers can learn, test and adapt, from composting and mulching to intercropping, cover crops, agroforestry, water harvesting and locally made bio-inputs. Samuel at RUCID in Uganda describes this in plain practice: '365 green cover', natural mulches and valuing weeds within the farm system rather than insisting on gardens that are 'very, very clean'. Agroecology reduces risk by lowering dependence on purchased inputs and improving the soil's ability to hold water and buffer climate shocks. Most importantly, it returns knowledge and agency to farmers.

### **Agroecology as a credible pathway**

This is the ground on which the Alliance for Food Sovereignty in Africa (AFSA) builds, advancing agroecology as a credible pathway to restore Africa's soils and reclaim our future. Healthy soils sit at the centre of this commitment. When soils are healthy they hold water, feed plants over time and support diverse crops.

Esther at SFHC describes healthy soils as a 'sponge', increasing water-holding capacity and reducing drought effects, while supporting filtration, purification and nutrient cycling. Healthy soils produce healthy food and healthy food sustains healthy communities.

Across villages and regions, through learning sites

and demonstration farms, a different model is taking root: one where farmers are practitioners, innovators and evidence builders. The work is practical and immediate, but it is also quietly political, because every compost heap, fermented drum and field trial is a step away from dependency and a step towards sovereignty.

**Before teaching techniques, we build agroecological consciousness. People must understand that this is not a fashion, but a commitment to life, health and sovereignty.**

**Jean-Charles Sossou, Association Eco Impact, Togo**

Agroecology's potential to solve soil-related challenges is not in doubt. The question is how it spreads fast enough, safely enough and widely enough in the real conditions farmers face, where one failed season can push a household deeper into debt. Farmers need places to see change, to try practices without carrying the risk alone and to learn from their peers.



In agroecology, farmers are treated as knowledge producers who test, adapt and build soil fertility using agroecological practices and locally available materials.

**Charles L. Tumuhe,  
AFSA, Uganda**



# The HSHF Initiative



**A** FSA launched the HSHF initiative in 2021 in collaboration with the Seed and Knowledge Initiative to disrupt the cycle of soil degradation and input dependency by putting farmers at the forefront of learning, experimentation and leadership. Working with 16 community-based centres in 10 African countries (see page 10), lead farmers and communities test agroecological practices in real conditions.

For Charles L. Tumuhe, the Land, Soil, and Agroecology Programme Coordinator, the starting point is clear: the soil crisis will not be solved by repeating input-dependent approaches that leave farmers carrying the costs of degraded land, rising prices and climate instability.

HSHF is a practical response built from the ground up, on farmers' own land. Farmers are treated as knowledge producers who build soil fertility, gaining confidence through results that neighbours can see. Ferdinand at BIOGI describes how farmers begin shifting when fertility stops being something that arrives in a bag and becomes something they can regenerate themselves.

This farmer-led practice is also how HSHF bridges from fields to institutions. Evidence from trials and demonstration sites is documented and carried into dialogue with extension services, research institutions and policymakers through field visits, consultations and public forums.

## The HSHF model

Instead of treating training, research and advocacy as separate activities, the HSHF model integrates them into one pathway: farmers test practices, observe results, share knowledge and generate evidence that drives wider uptake and policy

**Our role as civil society is to demonstrate what works and to present clear evidence to government, so these approaches can be adopted at scale and embedded in policy to improve soils and protect farmers' livelihoods.**

**Eustace Sajjabi,  
AFIRD, Uganda**

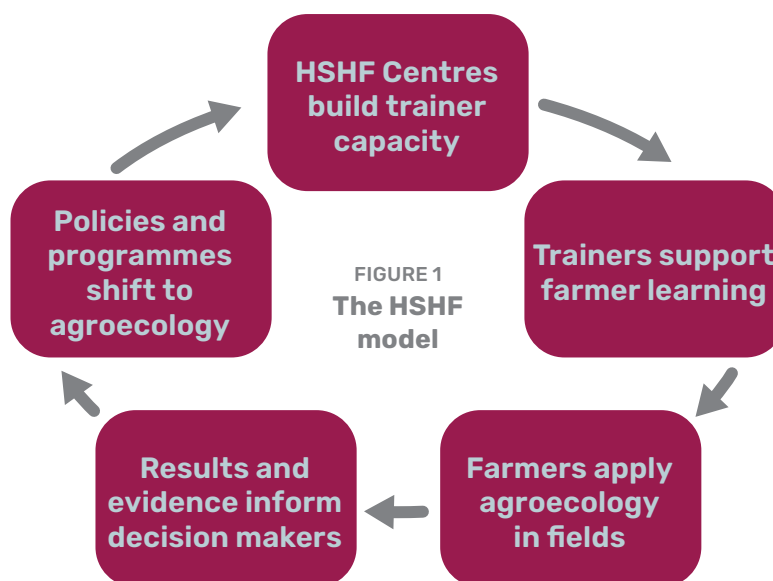
change (see Figure 1). By building on existing community structures, it reduces reliance on overstretched extension services and builds technical skills within communities, enabling both rapid adoption and credibility in policy spaces.

### A set of core, reinforcing methods

Across the network, centre leads describe the same pattern: farmers learn fastest when knowledge is embedded locally, made visible through practice and tested under real conditions, then carried into wider systems as credible evidence. These methods build on each other: training leads to adoption, adoption generates proof and proof drives influence.

### Training-of-trainers model

Training-of-trainers (ToT) starts by identifying trusted lead farmers and equipping them to lead learning in their own networks. At BIOGI, Ferdinand describes how learning spreads through farmer-to-farmer teaching, rebuilding confidence in alternatives to synthetic fertilisers.



Also in Kenya, Esther Bett at Resources Oriented Development Initiatives (RODI) describes a cascade model where community volunteer trainers work with multiple farmer groups, reaching hundreds with practical skills in bokashi and liquid biofertilisers. In Uganda, Eustace from AFIRD describes the ToT model as something that grows deeper over time through follow-up, with trained local champions continuing to apply, adapt and teach practices in their communities and in wider institutions such as schools and prisons. Esther from SFHC speaks to scaling practices by investing in local leadership training of their

cadre of Farmer Research Team members and Farmer Community Promoters.

### Look-and-learn exchanges

In Togo, Jean-Charles at Association Eco Impact describes learning sites and exchange visits that allow farmers to compare realities across communities, deepen peer support and strengthen collective problem-solving. In Kenya, David Karanja at Organic Agriculture Centre of Kenya (OACK) describes village-based practical training supported by demonstration plots, where farmers learn through observation and doing, not theory alone. At BIOGI, Ferdinand describes farmers converging on host farms to

observe, ask questions and compare practices. These visits transfer techniques while also strengthening cohesion and helping farmers recognise one another as resources, exchanging seeds, knowledge and even small services.

### Eco-sites and community demonstration plots

Samuel at RUCID in Uganda describes demo and trial sites where farmers test practices and, once they see benefits, scale them across their farms, showing how quickly practical proof can translate into broader adoption. OACK's village demonstration plots similarly enable peer learning beyond direct trainees, reinforcing that soil degradation can be reversed through ecological approaches. At BIOGI, lead farmers allocate part of their land for demonstration so learning can unfold over time, across multiple seasons. These sites become reference points not only for farmers but also for schools, visitors and decision-makers.

### Farmer-led trials and research networks

Across the HSHF network, one of the most powerful shifts is the way science and farmer knowledge meet each other in the field. In Malawi, Esther from SFHC describes building farmer understanding through the '3 Ms' framework – Microbiology, organic Matter and Minerals – and tracking change through observation, noting stunted crops and nutrient deficiencies before interventions, followed by improved crop growth and performance afterwards. In Togo, Association Eco Impact supports farmers to use simplified diagnostics such as jar tests and community-adapted chromatography, helping them interpret soil condition and track restoration rather than relying on generic recommendations.

Eustace of AFIRD explains the scientific logic behind bio-inputs and composting: fertility is not only about what is present in the soil, but what plants can access. In Zimbabwe, TSURO Trust combines farmer practice with soil testing and field trials so results can be documented and shared with government stakeholders. Across centres, farmers also adapt methods to local realities by substituting ingredients when inputs are scarce, adjusting recipes, refining fermentation timelines and comparing outcomes across seasons and ecological zones. This blend of lived knowledge, practical observation and biological understanding is what gives HSHF its credibility.

### Linking practice to policy

At TSURO Trust in Zimbabwe, Elijah describes how collaboration with government stakeholders is strengthened by evidence from farmers, including soil test results, field school trials and success stories. At BIOGI, Ferdinand talks to how eco-sites have attracted attention from agricultural decision-makers and how soil quality has been recognised through engagement with certifying institutions. At OACK, David links uptake to supportive policies and systems, arguing that extension gaps and subsidy imbalances shape farmer choices and that governments must provide farmers with sustainable alternatives.

Agricultural production in Africa is carried mainly by smallholder farmers. We need legislation that encourages farmers to produce their own biofertilisers, and government support programmes should invest in the inputs they need to do so.

**Father Claus Recktenwald,  
KATC, Zambia**

Zambia adds another dimension: regulation. KATC highlights the tension that can emerge when new and often expensive regulatory requirements are introduced without recognising smallholder realities. Alongside community discussions on the legal, technical and economic aspects of biofertilisers, KATC has also strengthened its case through evidence, including laboratory testing and confirmation that products met required standards.

Mariama Sonko from We are the Solution in Senegal notes that visible field results, revitalised soils, higher yields and reduced production costs demonstrate that agroecology can be economically and ecologically viable giving public institutions both the evidence and motivation to scale supportive frameworks.

### Linking practice to markets

Markets appear when farmers move from producing bio-inputs only for their own plots to producing for others. Esther from RODI notes that some trainees are supplying farmer groups and individual farmers on order and, in some cases, registering products under local names'. Esther also describes a farmer selling biogas slurry and youth earning fees by spraying farms using fermented fertilisers and bio-inoculants. Fara Igumisai at TSURO Trust describes production centres where farmers are producing and selling fertiliser, with demand gradually increasing, including interest from schools and businesspeople. Together, these examples show an emerging trend: when bio-input skills are embedded locally and production becomes reliable, markets begin to form, reducing dependency and supporting local rural economies.

### Popular biofertilisers and bio-inputs across the HSHF Centres

- **Bokashi.** A fermented solid fertiliser made from manure and locally available organic materials, used to build soil fertility and stimulate microbial activity.
- **Liquid manures from crop residues and biowaste.** Nutrient-rich liquids produced from crop residues and biodegradable waste, often through community processes that turn waste into fertiliser.
- **Bio-inoculants and native microorganisms.** Locally cultured microbial preparations used to enhance soil biology and improve nutrient cycling.
- **Fermented liquid fertilisers.** Liquid inputs made by fermenting manures, crop residues or organic waste, applied as soil drenches or foliar sprays to boost nutrient availability and biological life.
- **Compost (including thermocompost and vermicompost).** Decomposed organic matter used to rebuild soil structure and organic content, with vermicompost produced using earthworms for more concentrated fertility.
- **Plant extracts and botanical preparations.** Simple, locally sourced extracts used to support plant health and reduce pest and disease pressure.
- **Mineral and ash-based amendments.** Inputs incorporating ash and other locally available mineral sources to supplement soil nutrients and improve balance.

## Why the model works

The HSHF model is effective because it:

- Grounds learning in farmer experience and local knowledge systems and creates durable social learning structures that persist beyond projects.
- Reduces dependence on costly external inputs by building local skills.
- Accelerates adoption through visible demonstration and peer influence.
- Generates credible, locally relevant evidence for policy engagement and links soil restoration to livelihoods, markets and food sovereignty.

Together, these elements form a coherent system that enables farmers to restore soils, diversify production and build resilience, while shifting narratives and policies towards agroecology as a credible pathway for Africa's future.



## Inclusion of women and youth

Across centres, women and young people are positioned as farmers, trainers, innovators and local leaders in soil regeneration. This approach recognises that those most affected by soil degradation are often best placed to lead its restoration.

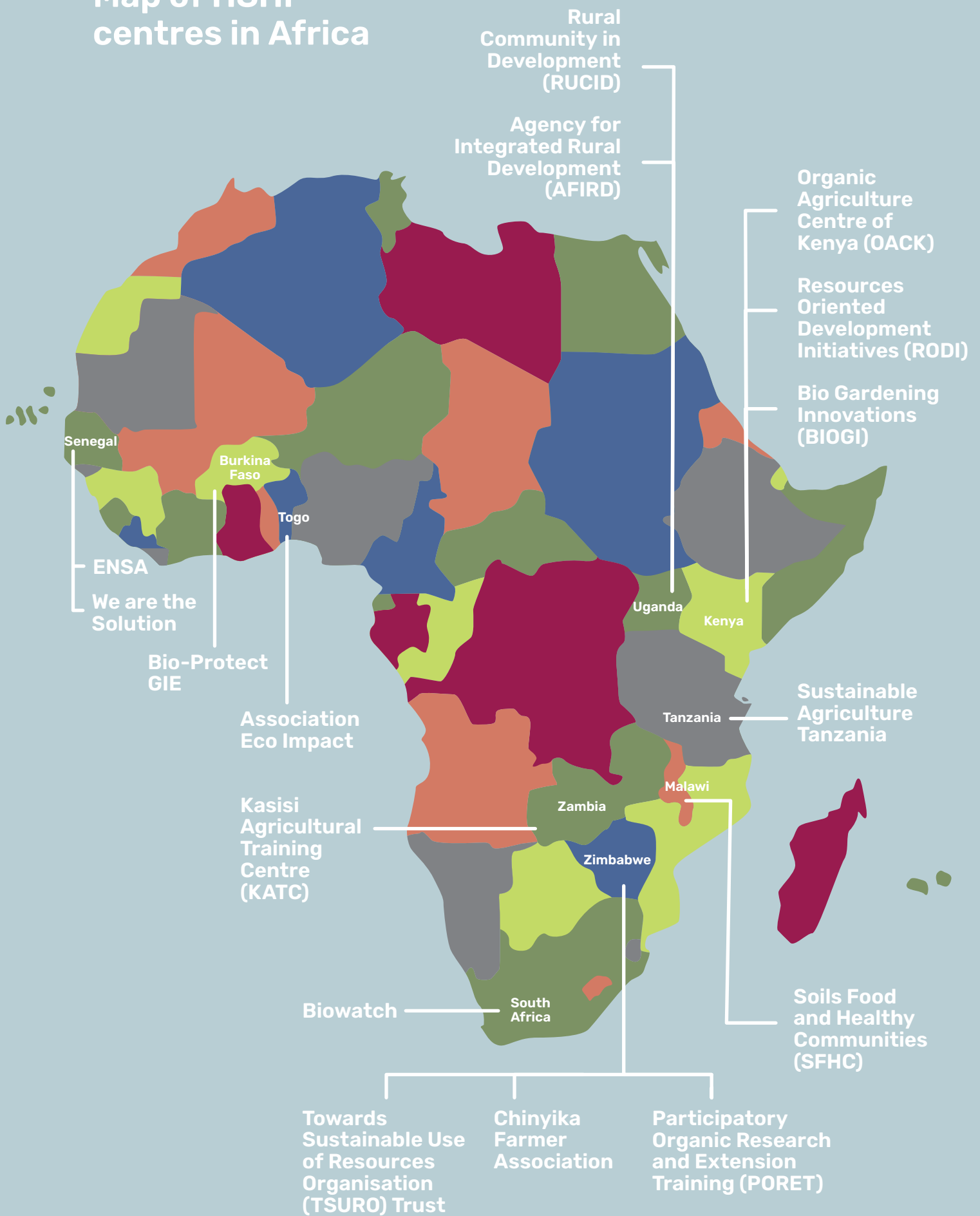
Claude from Bio-Protect GIE in Burkina Faso notes that women frequently cultivate the most degraded plots and carry primary responsibility for household food production and nutrition. In Malawi, SFHC adopts an affirmative approach that actively invites women and youth into training and leadership roles. RODI reports that around three quarters of participating community groups are women, while OACK similarly notes women form the majority of trainees due to their central role in food systems. At BIOGI, women are prioritised because they manage household food security and often head farms in contexts of rural-urban migration, while also holding practical knowledge of seed and crop diversity.

Youth inclusion is deliberate and shaped by context. Some centres note constraints such as insecure land access and the

long-term nature of interventions like tree planting. As a result, BIOGI notes that youth engagement is often most effective when embedded within family farms or linked to clear livelihood pathways. RUCID promotes specialised value-chain roles for young people. And RODI says that youth are more likely to stay engaged when income opportunities are clear. AFIRD works directly with youth groups and supports local champions who anchor learning in communities.

In Senegal, Mariama of We Are the Solution demonstrates how women-led agroecology accelerates both soil restoration and social transformation. Through cascade training models, women have become trainers and peer educators, spreading bio-input production and agroecological practices widely. Youth participation is similarly framed as leadership, with pilot farmers training hundreds more. Where women and young people are recognised as agents of innovation, soil health becomes inseparable from dignity, food security and long-term resilience.

# Map of HSHF centres in Africa



# HSHF Centre

## Bio-Protect GIE, Burkina Faso

**B**io-Protect GIE is a Burkina Faso-based organisation working to restore soil health and promote agroecological production systems. Through field-based training, action research and communication initiatives, Bio-Protect showcases how agroecological biofertilisers and plant protection products can boost soil health and productivity.

[www.bioprotect-b.com](http://www.bioprotect-b.com)

### Identity in the Network

An extremely productive farm-based organisation that produces government-approved bio-inputs, trains farmers how to use them and conducts ongoing research into improving soil health.

### Context & Soil Challenge

Rising temperatures and extreme heat are breaking down organic matter and weakening soil structure, while land clearing leaves land exposed to erosion and nutrient loss. Long-term promotion of synthetic inputs has shaped farming systems that depend heavily on chemical inputs, even as yields decline.

### Regenerating Soil Health in Burkina Faso

Working with producers, ministry officials and rural development actors, the organisation frames soil restoration as a broader challenge affecting farming systems. Farmers test agroecological practices under real conditions, comparing results and refining techniques season by season. Core practices include composting, bokashi, microorganism production, biofertilisers, biopesticides, soil conservation and assisted natural regeneration. Where needed, Bio-Protect provides organic inputs for sale or on credit through its production unit, helping lower some barriers to transition and support adoption.

### Uptake & Key Lessons

Composting, assisted natural regeneration and plant-based biopesticides made from neem, chilli and other local materials are widely embraced because they require minimal equipment and feel safer to use. Claude Arsène notes that farmers are more likely to adopt bio-inputs when they can see improvements in crop growth while spending less money on costly synthetic inputs. Uptake can slow where access to materials or tools is limited, underscoring the importance of pairing training with practical support.

### What Changed

Bio-Protect amplifies soil health awareness through interactive radio programmes, occasional television broadcasts and short training videos shared via social media. Women often cultivate the most degraded land and are therefore very aware of the decline of soil health. They are often the first to embrace bio-inputs. Youth participation is linked to enterprise development, with groups of young agricultural entrepreneurs providing organic treatment services, advisory support and marketing aggregation. Through initiatives such as Eco Paniers, farmers engaged in soil restoration access markets for agroecological produce.

### Evidence & Influence

Although soil health data collection can be costly, Bio-Protect integrates comparative monitoring within projects to build evidence from agroecological and conventional plots to support dialogue with public institutions and strengthens policy engagement. By combining farmer experimentation, communication strategies and collaboration with ministry officials and development actors, Bio-Protect helps raise soil health as both an agronomic and institutional concern.

### Call to Action

Address soil degradation at its roots by investing in farmer-led soil regeneration systems. Prioritise awareness, practical training and locally produced bio-inputs rather than deepening dependency on synthetic fertilisers. Strengthen collaboration between research institutes, ministries and community-based organisations so that

action research and field evidence inform policy. Support youth enterprise in agroecological service provision and ensure women farmers have access to training and decision-making spaces. Finally, recognise soil ecosystem health as foundational to food security, product quality and long-term resilience in Burkina Faso and across the Sahel.

Producers use the same quantities of fertiliser each year yet yields continue to decline. This shows us that soil vitality is being lost. Restoring that vitality requires rebuilding organic matter and biological life, not simply adding more chemicals.

**Claude Arsène,  
Bio-Protect GIE,  
Burkina Faso**



Bio-Protect GIE working to restore soil health in Burkina Faso. Credit: Bio-Protect GIE

# HSHF Centre

## Bio Gardening Innovations (BIOGI), Kenya

**B**IOGI is a Kenyan non-profit working with smallholder farmers in western Kenya to restore soil health, protect biodiversity and strengthen local food systems. Its training gardens and eco-sites promote permaculture, whole-farm planning and integrated crop-tree-livestock systems, alongside seed regeneration and biodiversity conservation.

[www.biogi.org](http://www.biogi.org)

### Identity in the Network

A practical training and demonstration hub that helps farmers build confidence in agroecology through long-term eco-sites, whole-farm design and locally made bio-inputs.

### Context & Soil Challenge

Long-term reliance on synthetic fertilisers has exhausted soils and increased acidity. Extension services continue to promote chemical inputs, leaving local knowledge undervalued and soil-rebuilding practices largely unsupported.

### Regenerating Soil Health in Kenya

BIOGI strengthens farmer-led soil regeneration by combining field-based training with demonstration over time. Lead farmers allocate portions of their land as learning sites, allowing farmers to see integrated approaches in action, including diverse cropping for nutrient cycling, water harvesting systems and practical whole-farm design. Alongside this, BIOGI supports farmers to make and use bio-inputs as part of a wider permaculture approach that prioritises recycling and diversity.

### Uptake & Key Lessons

Farmers adopt practices fastest when they build on familiar knowledge and use locally available resources. Where uptake is harder, Ferdinand notes it is often because key ingredients must be purchased, with molasses as an example, which can limit sustained biofertiliser production even when results are strong. Regular follow-ups, simple monitoring tools and soil tests helped BIOGI track progress, confirm improvements and strengthen farmer confidence in organic approaches.

### What Changed

BIOGI's peer learning model helps farmers learn from one another, not only from the organisation. The result is enhanced farmer confidence, soil health and yields, with farmers reporting improved beans and maize where bio-inputs and diversified systems were used over several seasons. Visible results, new knowledge and scientific validation help build trust in agroecological methods. As Ferdinand puts it, farmers are exchanging seeds, knowledge and even small services, supporting greater self-sufficiency and sharing of practices.

### Evidence & Influence

BIOGI's demonstration spaces also create a practical reference point for wider stakeholders, including county officials, helping visitors and decision-makers better understand agroecology in practice.

### Call to Action

What comes out of our fields and our kitchens matters. As non-communicable diseases rise and new health shocks emerge, the quality of our food and the health of our soils can no longer be treated as secondary. BIOGI's work shows that farmers can rebuild living soils and produce healthier food when they have practical support to learn, test and adapt agroecological methods.

Governments and academic institutions must recognise farmers as co-creators of knowledge, not end-users of advice. Invest in farmer-led training and demonstration sites, equip extension systems to support agroecology and back locally produced bio-inputs with research and enabling standards. Treat farmers as custodians of natural resources and partners in national strategies to reduce malnutrition, strengthen resilience and protect public health.

Farmers are now making their own resource connections – exchanging seeds, knowledge and even small services. They no longer see only the organisation as the resource; they see each other.

Ferdinand Wafula,  
BIOGI, Kenya



Field trials and demonstrations provide practical, local evidence of agroecological practice. Credit: BIOGI

# HSHF Centre Organic Agriculture Centre of Kenya (OACK), Kenya

**O**ACK is a non-profit public benefit organisation based in Kangari town, Kenya. Founded and registered in 2006, OACK emerged from a farmer-led trial initiative, with a mandate to educate and train disadvantaged small-scale farmers in sustainable organic agriculture. Its work centres on practical farmer education and long-term ecological stewardship.

[www.oak.or.ke](http://www.oak.or.ke)

## Identity in the Network

A farmer education hub focused on practical, village-based training and demonstration that helps communities move from input dependency towards locally rooted soil restoration.

## Context & Soil Challenge

David Karanja describes a severe soil health crisis in Kenya, with soils becoming highly acidic and organic matter levels falling, undermining moisture retention and soil biology. Erosion is compounding the damage, washing away fertile topsoil. These pressures are strongly linked to long-term

overuse of chemical fertilisers, reinforced by policy incentives that have historically favoured chemical inputs.

## Regenerating Soil Health in Kenya

OACK rebuilds farmer knowledge and skills around ecological soil management. Training focuses on composting, cover cropping, crop rotation and terracing to reduce erosion and restore soil structure, alongside growing emphasis on bio-inputs. Farmers are trained to produce solid and liquid organic fertilisers using locally available materials that are affordable and environmentally safe. The programme focuses on practical, local learning: organised farmer groups host village-based multi-day sessions supported by demonstration plots at the centre and within communities.

## Uptake & Key Lessons

Farmers adopt fastest when methods are simple, labour requirements are manageable and ingredients are locally available. Liquid bio-inputs are especially popular because they are easier to prepare

and apply and require fewer external inputs. More labour-intensive solid inputs can be harder for some farmers, particularly older participants. OACK emphasises context-specific training and repeated engagement, with follow-up visits and demonstrations helping farmers apply practices correctly over time.

## What Changed

OACK's work has strengthened awareness that soil degradation is not inevitable and can be reversed through ecological practices. Village demonstration plots have enabled peer learning and wider uptake beyond direct trainees. Women form the majority of participants, reflecting their central role in household food production and nutrition, and strengthened local capacity to produce organic inputs has reduced reliance on costly chemical fertilisers while helping build confidence in organic approaches.

## Evidence & Influence

OACK frames soil restoration as a collective responsibility, highlighting extension gaps and the need for stronger

public investment in farmer education. It also calls for subsidy reforms that support organic fertilisers alongside chemical ones, and highlights how consumer demand can influence farming practices and potentially shape policy priorities.

### Call to Action

Treat soil health as a public priority, not a private burden on smallholder farmers. Strengthen extension services and invest in village-based training and demonstration

so farmers have practical support to rebuild organic matter, reduce erosion and restore soil biology. Reform fertiliser incentives so organic options receive meaningful support alongside chemical inputs, and back local production of safe bio-inputs so farmers have real alternatives. Finally, harness consumer influence by promoting demand for food grown on healthy soils, creating a market signal that reinforces the transition.

Restoring our soils cannot be done by farmers alone. Government must strengthen extension services and create policies that support organic fertilisers alongside chemical ones. Consumers also have power – when they demand food grown on healthy soils, farmers and policymakers begin to change. Soil health requires a collective responsibility across farmers, government, civil society and donors.”

David Karanja,  
OACK, Kenya



Trialling different practices, including vertical gardening. Credit: OACK

# HSHF Centre

# Resources Oriented Development Initiatives (RODI), Kenya

**R**ODI is a Kenyan NGO whose mission is to promote human dignity through enhanced food security, health and crime prevention. It works across agroecology and food security, health and water, sanitation and hygiene (WASH), and social and legal justice, including programmes with schools, prisons, community groups, a refugee camp and police stations.

[www.rodikenya.org](http://www.rodikenya.org)

## Identity in the Network

A highly practical bio-input learning hub that strengthens farmer capacity to produce, adapt and apply fertilisers locally, while linking soil regeneration to health, nutrition and livelihood outcomes.

## Context & Soil Challenge

Soils have been degraded by long-term reliance on chemical fertilisers and hazardous pesticides, with low organic matter, weak biological life and poor water-holding capacity. Land pressure, over cultivation, removal of crop residues for livestock feed and limited manure push

farmers deeper into purchased inputs. Many farmers respond to declining yields by adding more fertiliser without diagnosing what soils actually need.

## Regenerating Soil Health in Kenya

RODI's core response is hands-on skills-building in soil restoration and biofertiliser production, anchored in its resource centre as a practical training site. There is a strong focus on vermicomposting, composting organic wastes, fermented fertilisers including liquid compost, bokashi, biochar and bio-inoculants, enabling farmers to produce and apply these inputs locally across a wide range of crops, including tea, coffee and bananas. RODI strengthens feasibility through decentralised training and group-based production. It also supports adaptation of recipes to local realities, such as using coffee-milling by-products or small amounts of brown sugar when molasses is too expensive.

## Uptake & Key Lessons

Uptake is strongest where farmers see visible benefits. Esther describes farmers applying biofertilisers across

food and cash crops and observing improved soil life, better moisture holding and stronger roots, with better crop performance under wind and rain. Some coffee cooperative managers have noticed farmers no longer coming to collect chemical fertilisers and pesticides, because farmers are producing their own inputs. Barriers are mainly practical. Some farmers struggle to source enough dry matter because residues are used for livestock feed, and materials such as charcoal dust can become expensive due to competition. Labour demands, especially turning bokashi for 10 to 14 days, can also constrain adoption, which is why group production matters.

## What Changed

RODI links soil regeneration to resilience, nutrition and livelihoods. Esther reports stronger roots and less lodging in maize after heavy rain and wind, earlier maturity and healthier grain, alongside a maize nutrition test showing improved nutritional quality compared to chemically grown maize. Peer learning has strengthened through around 30 community volunteer

trainers working with three to five groups each, reaching hundreds of people and supporting group production that shares labour and costs.

### Evidence & Influence

RODI frames soil ecosystem health as foundational to safe, healthy food for current and future generations, emphasising organic matter, trees, food forests and water infiltration as pathways to healing soils and rebuilding carbon and soil life. Esther calls for multi-level engagement, calls on parliamentarians, regional bodies and African Union representatives to advocate for agroecology, and stresses embedding agroecology education from early schooling through to universities.

### Call to Action

Treat degraded soils as a public health and food security priority, not a farmer problem. Invest in practical, community-based bio-

input training with follow-up support and group production models that reduce labour and cost barriers. Shift incentives by reforming subsidies to back biofertilisers and farmer-made biopesticides, not hazardous and costly chemicals. Strengthen registration, certification and education so safe local inputs can be trusted and scaled, and act decisively on toxic pesticide imports.

“Agroecology is the future of food production in Africa, and I call every leader who can bring this transformation to do it now.”

**Esther Bett,  
RODI, Kenya**



Sustainable crop and coffee production in Kenya. Credit: RODI

# HSHF Centre

## Soils Food and Healthy Communities (SFHC), Malawi

**S**FHC is a northern Malawi-based organisation supporting smallholder farmers to restore soil health, strengthen food security and build climate resilience through farmer-led agroecology. SFHC works through community-based structures, including Farmer Research Team members and Farmer Community Promoters, and uses demonstration plots as practical learning centres for training, experimentation and scaling.

[www.soilandfood.org](http://www.soilandfood.org)

### Identity in the Network

A decentralised learning model that turns soil restoration into hands-on community practice, using local promoters and demonstration plots to scale bio-input skills and strengthen farmer agency.

### Context & Soil Challenge

SFHC identifies soil infertility driven by soil degradation as a major constraint to food production and livelihoods. Esther links this to widespread erosion, accelerated by monocropping

and high deforestation rates, including tree cutting for firewood, charcoal production and expanding fields, which leaves soils exposed and increases nutrient loss. The impacts are immediate at household level. When crops grow on degraded soils with limited nutrient availability, yields fall, households harvest less for consumption, have little surplus to sell and struggle to produce diversified crops for healthier diets.

### Regenerating Soil Health in Malawi

SFHC anchors its soil fertility work in the '3 Ms' framework, Microbiology, organic Matter and Minerals, emphasising that microbiology is central to crop nutrition and to preventing and managing pests and diseases. Through practical training, farmers learn to produce and use locally feasible bio-inputs and soil amendments including 10-day fermented bokashi, Supermagro, native microbe reproduction and activation, biochar and activated biochar, alongside protective inputs such as Apichi and mineral brews. Facilitators deliver training directly in communities, farmers make the bio-inputs

during the sessions, apply them in their fields and continue producing them for their own farms.

### Uptake & Key Lessons

SFHC reports strong uptake of 10-day fermented bokashi because the tools and ingredients are easy to source, including biomass, ash, biochar, native microbes, yeast, soil and animal manure. Farmers increasingly recognise synthetic fertilisers as unaffordable and linked to nutrient loss, which further pushes adoption of compost and manure-based options. She highlights how small equipment gaps can block adoption of alternatives even where the knowledge is present.

### What Changed

Demonstration plots function as learning centres where Farmer Research Team members and Farmer Community Promoters train farmers and show the effects of different applications. Farmers participate directly in ridge construction, planting and field management, which helps reinforce learning through doing and improve recall of each step. SFHC tracks improvement primarily through observation. Esther notes that crops were

often stunted with visible nutrient deficiencies before interventions, and that after bio-input application, farmers report improved crop growth and performance, supported by farmer stories of change describing the benefits they observed from using biofertilisers.

**Evidence & Influence**

SFHC frames policy influence as a shared responsibility. Farmers and cooperatives need their experiences heard in appropriate forums, researchers and universities should guide innovation and document evidence for advocacy and government must translate learning into policy and implementation, including land and agriculture policy frameworks, land reforms and stronger extension services. SFHC also calls for coordinated national stakeholder approaches, stronger regional knowledge hubs and communities of

practice that connect organisations, institutions and farmers to share soil health knowledge.

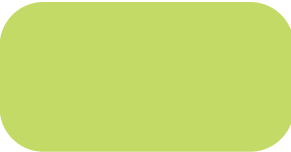
**Call to Action**

Fund the enabling conditions that make farmer-led soil regeneration durable. Resource decentralised training so facilitators can reach villages consistently and invest in demonstration plots as local learning infrastructure. Remove adoption bottlenecks by providing basic equipment where it is the limiting factor and strengthening extension services to reinforce farmer-led practice. Partner with universities to document evidence for advocacy, and back this with land reforms and agriculture policies that make soil restoration a national priority.

“  
**Healthy soils act as ‘sponges’, increasing water-holding capacity and reducing the effects of drought.**  
**Esther Lupafya, SFHC, Malawi**



SFHC uses innovative training techniques to disseminate knowledge. Credit: SFHC



# HSHF Centre

# We are the Solution (NSS), Senegal

**W**e are the Solution is a Pan-African movement rooted in rural women's leadership, promoting agroecology, food sovereignty and the rights of small-scale producers. With 175 000 members and supporters across West Africa, it focuses on sustainable peasant solutions that are economically profitable and socially and ecologically viable.

[www.wasafrica.org](http://www.wasafrica.org)

## Identity in the Network

A women-led agroecology learning hub that links soil restoration, farmer training and policy advocacy, demonstrating how grassroots leadership can regenerate soils while strengthening livelihoods and gender justice.

## Context & Soil Challenge

Communities face declining soil fertility, reduced yields and shrinking production space. Poor soil quality limits productivity and income, while erosion and intensive chemical input use weaken soils' ability to sequester carbon and regulate ecosystems. Farmers are under pressure not only to restore soil

health but to increase yields and generate profit in challenging market conditions. Without effective dissemination of agroecological knowledge, food security, nutrition and sustainability remain fragile.

## Regenerating Soil Health in West Africa

One of its centres in Casamance, Senegal showcases the vibrancy and extent of We are the Solution's work. With a clear focus on ecosystem restoration and community sustainability, the centre offers space for training and accommodation and practical work with the community ranges from bio-input production to restore soils to aquaculture, fish farming, beekeeping and community seedbanks to preserve traditional rice varieties.

## Uptake & Key Lessons

Farmers report revitalised soils, higher yields, improved product quality and reduced production costs. Practices most widely adopted are those that use locally available materials and deliver rapid, visible results, particularly basic bokashi, improved

compost and simple mineral or ash-based plant infusions. More complex inputs, such as Super Magro or hydrolysed humus teas requiring difficult-to-source ingredients, have proven harder to sustain. A key lesson is that agroecology must remain grounded in farmer knowledge and feasibility. Where techniques are accessible and demonstrably effective, adoption spreads organically through peer networks.

## What Changed

Farmer testimonies describe softer soils, return of earthworms and other living organisms and reduced disease pressure in nurseries treated with mineral and ash-based preparations. Beyond soil, agroecology has strengthened women's leadership and youth engagement, positioning them as pioneers of sustainable development and innovation. Local input production and farmer-to-farmer dissemination have reduced dependency on purchased chemicals while embedding ecological practice within community structures.

### Evidence & Influence

Mariama from We are the Solution emphasises that soil is a living ecosystem whose restoration is central to food production, climate regulation and environmental protection. She argues that much of Africa's arable land is degraded due to erosion, chemical intensification and drought, making agroecological transition urgent.

### Call to Action

Governments and the African Union must formally integrate agroecology into agricultural policy frameworks, subsidise bio-input production and research, strengthen gender-sensitive land policies and support smallholder training systems. Extension services, universities, farmer associations and the private sector all have a role in scaling soil ecosystem restoration.

Soil is first and foremost a living environment. When we restore its life, we restore food, climate balance and dignity for our communities."

**Mariama Sonko,  
We are the Solution,  
Senegal**



Working with communities to improve soils, nutrition and livelihoods. Credit: We are the Solution

# HSHF Centre

# Association

# Eco Impact, Togo

**A**ssociation Eco Impact is an agroecology organisation based in Togo, with activities extending into neighbouring countries in West Africa through peer exchange and training. Its work supports rural producers to reduce reliance on synthetic inputs. Association Eco Impact builds practical agroecology skills, promotes locally made bio-inputs and encourages farmer-led learning. It does this through a combination of field-based training, community follow up and enabling access to useful tools. This helps farmers understand their soils and strengthens local food and seed sovereignty.

[facebook.com/ecoimpacts](https://facebook.com/ecoimpacts)

## Identity in the Network

A decentralised learning hub that makes soil diagnosis and bio-input production teachable and replicable at community level, supporting farmer leadership and longer-term adoption.

## Context & Soil Challenge

Association Eco Impact describes a context of degrading soil health alongside heavy dependence on synthetic fertilisers and pesticides, creating risks for

human health, ecosystems and livelihoods. Soil conditions vary widely between regions, yet farmers often receive generic recommendations rather than locally grounded diagnosis and restoration guidance.

## Regenerating Soil Health in Togo

The organisation strengthens practical skills in agroecological soil diagnosis and restoration, beginning with simple, community-appropriate tools that help farmers read what is happening in their soils. This includes simplified jar tests and chromatography adapted for community use. Alongside diagnosis, Association Eco Impact supports locally made bio-inputs, including biofertilisers, bioprotectors and biostimulants, and promotes biochar to improve soil structure and contribute to wider restoration objectives. Training takes place within communities, supported by learning sites, farmer field schools and exchange visits that allow farmers to observe, compare and adapt practices in real conditions.

## Uptake & Key Lessons

Uptake has been strengthened through a cascade approach (à la carte), with a core group trained first and

then supported to train others. Jean-Charles notes how important it is to first understand what the soil needs before applying biofertilisers as different soils in different areas need different treatments. Peer learning spaces make adoption more feasible because farmers can compare realities across communities, troubleshoot together and refine methods over time.

## What Changed

Over time, farmers and trainers broadened the range of bio-inputs being produced and used. The decentralised approach strengthened local ownership, and some producers began turning organic input production and agroecological market gardening into livelihood opportunities, improving local availability of agroecological products and strengthening community resilience.

## Evidence & Influence

By providing training resources and demonstrating practical pathways for replacing synthetic inputs, Association Eco Impact has contributed to building the case for agroecology, food sovereignty and seed sovereignty as integrated priorities, supported through regional exchange platforms that build collective capacity and shared vision.

### Call to Action

Stop asking farmers to follow generic advice for soils that are anything but generic. Invest in community-based diagnostic and learning systems so farmers can assess soil condition, choose the right restoration pathway and prove results locally. Back decentralised training models that build farmer-trainers and strengthen peer exchange and support

the local production of bio-inputs and biochar so farmers can reduce reliance on hazardous synthetics without losing productivity. Finally, fund the learning platforms and regional networks that turn field practice into evidence and shift policy narratives towards agroecology, food sovereignty and seed sovereignty as one connected agenda.

Before we rush to add compost or any input, we begin with simple soil diagnostics. Using tools like jar tests and community-adapted chromatography, farmers can see what their soils are telling them and make restoration choices that fit their own conditions. That is how agroecology becomes practical, teachable and truly farmer-led."

**Jean-Charles Sossou, Association Eco Impact, Togo**



Practices are fit for context, skills levels and availability of ingredients. Credit: Association Eco Impact

# HSHF Centre

## Rural Community in Development (RUCID), Uganda

**R**UCID is a long-standing Ugandan organic farming training organisation that has promoted organic agriculture since 1994, with a sustained focus on soil fertility management and improvement. When AFSA rolled out the HSHF initiative, RUCID was selected as one of 15 centres in Uganda to champion the approach, strengthening its work through demonstration, training-of-trainers and locally adapted bio-input production.

[www.rucid.org](http://www.rucid.org)

### Identity in the Network

A training and demonstration centre that focuses on keeping soils biologically active through year-round cover and practical bio-input production, with strong farmer-to-farmer diffusion.

### Context & Soil Challenge

Samuel Nyanzi links today's soil fertility decline to the shift away from older farming patterns. Historically, communities used shifting cultivation and understood that continuous cultivation would cause fertility loss.

Population pressure has removed that option, and many farmers do not recognise that continuous cultivation is effectively 'mining' the soil rather than maintaining fertility through recycling.

### Regenerating Soil Health in Uganda

RUCID prioritises practices that keep soils covered and biologically active. Samuel describes promoting '365 green cover', using natural mulches and learning from how trees shed leaves to keep the ground protected. It also emphasises valuing weeds within the farm system rather than aiming for gardens that are 'very, very clean', as part of maintaining soil cover and resilience. Alongside this, RUCID supports locally adapted bio-input production, with farmers choosing options based on what materials are locally available and how quickly they need a usable product.

### Uptake & Key Lessons

Uptake varies by context, with farmers selecting options that are manageable, locally resourced and linked to clear benefits. Samuel highlights fermented biofertilisers that

can be ready within around a month as particularly attractive because the timeline feels achievable. He also notes that some practices are harder to adopt, such as making lactic acid bacteria, even when the process is considered simple, suggesting that unfamiliar materials and steps can affect uptake.

### What Changed

RUCID's approach spreads through observation and copying. Farmers visit others' farms, see practices in action and adopt what appears to work, supported by local experimentation through demo and trial sites. Samuel notes a practical reality: farmers often scale successful practices across their farms rather than keeping small trial plots for comparison, which strengthens adoption but makes clean data harder to generate.

### Evidence & Influence

Samuel emphasises that healthy soils and bio-inputs should be positioned not as isolated projects but as a coordinated movement capable of influencing governments. He also calls for enabling policies and laws,

certification frameworks for inputs, stronger research agendas and integration through education systems to normalise soil ecosystem health across institutions.

### Call to Action

Protecting soil ecosystem health must become a mainstream priority, not an optional add-on. Invest in year-round soil cover and farmer-led experimentation that rebuilds organic matter and biology and strengthen demonstration and learning sites so farmers can see results, adapt methods and

share what works. Support locally produced bio-inputs with practical guidance, research and certification pathways, and back youth participation through clear value-chain roles, from seed multiplication and seed dressing to biofertiliser production and processing. Above all, treat this as a shared agenda across civil society, government and education systems, so farmer knowledge and field evidence can shape policies that keep soils, livelihoods and food systems alive.

**We should not be working as separate projects, but as one initiative that becomes a movement. When we work together, generate evidence and promote these practices widely, we can influence governments to put policies in place that support healthy soils, organic inputs and agroecological systems."**

**Samuel Nyanzi,  
RUCID, Uganda**



Working across a diversity of contexts with appropriate training and practices. Credit: RUCID



# HSHF Centre

# Agency for Integrated Rural Development (AFIRD), Uganda

**A**FIRD was registered as an NGO in 1998 to promote integrated, community-led rural development across Uganda. It works with smallholder farmers, women, youth, school communities and marginalised groups, with its Permaculture Resource Centre serving as a production, training and demonstration hub.

[www.afirduganda.org](http://www.afirduganda.org)

## Identity in the Network

A practical learning hub that links soil biology, farmer experimentation and evidence-building, using a functioning centre to test, train and support wider uptake.

## Context & Soil Challenge

AFIRD frames the core challenge as nutrient availability in practice. In Eustace Sajjabi's view, nutrients may be present in the soil, but plants cannot access them when biological processes have been weakened.

## Regenerating Soil Health in Uganda

AFIRD focuses on soil and water conservation, including water harvesting to reduce erosion, alongside fertility enhancement through compost and good manures. It also prioritises biofertilisers and biopesticides, grounded in the understanding that microorganisms help unlock nutrients for plants. AFIRD develops and tests practices through its centre, then rolls them out once they are working, including with farmer groups and school communities.

## Uptake & Key Lessons

AFIRD notes that simpler practices spread more easily, particularly liquid manures and plant extracts, because the extraction process is simplified and may not require external inputs. More complex processes can stall where specialised equipment is needed, such as phosphate-related inputs requiring a two-stage process.

## What Changed

AFIRD strengthens peer learning through training-of-trainers once it has worked with farmer groups for a period and then continues follow-up with trained trainers to support them as local experts. It also extends training into wider community institutions, including prisons and schools, and prioritises women and youth engagement, targeting around 65% women and working directly with youth groups.

## Evidence & Influence

AFIRD frames policy influence as an extension of practice: civil society generates results that government can adopt at larger scale through policy. It stresses that the credibility of this case is strengthened when academia documents processes, analyses results and supports a stronger evidence base for advocacy, alongside practical collaboration with government actors during implementation.

### Call to Action

Invest in the systems that make soil regeneration reliable at scale. Strengthen and resource farmer learning centres so farmers, extension officers and schools can test and adopt bio-inputs and water-smart practices without carrying the risk alone. Build formal partnerships between

civil society, government and universities to document results, improve standards and unlock certification pathways that make agroecological inputs legitimate and investable. Treat women and youth not as beneficiaries, but as leaders in the transition, and fund the follow-up and local champion networks that turn training into lasting change.

It is important to identify and support local champions. If you can have a champion in the community, groups will be built around them."

**Eustace Sajjabi,  
AFIRD, Uganda**



Production of bioproducts and value addition.  
Credit: AFIRD

# HSHF Centre

# Kasisi Agricultural Training Centre (KATC), Zambia

**K**asisi Agricultural Training Centre is a long-established Jesuit institution outside Lusaka and a leading hub for organic and agroecological training in Zambia. Since the 1970s, it has worked with smallholder farmers to rebuild soil fertility, strengthen local food systems and reduce reliance on chemical inputs. Through its demonstration farm and training programmes, KATC combines practical field learning, research and extension to make agroecology accessible to farmers, extension workers and students.

[www.katczm.org](http://www.katczm.org)

## Identity in the Network

A training and advocacy anchor that connects farmer practice to policy change, highlighting what it will take for farmer-led biofertiliser production to be recognised, enabled and scaled.

## Context & Soil Challenge

KATC's perspective starts with the ecological realities of the continent. Many African soils are 'old' and heavily leached, and warm, humid conditions can accelerate biomass breakdown, making fertility harder to

maintain. Climate change then compounds the challenge, with later rains, higher temperatures, more extreme rainfall and longer droughts hitting degraded soils first. In this context, input-dependent farming is both risky and increasingly unaffordable, especially when chemical fertilisers are expensive or arrive late through support programmes.

## Regenerating Soil Health in Zambia

KATC argues that healthy soil ecosystems are the foundation for healthy food and resilient livelihoods, and that biofertilisers are a practical pathway for farmers to drive improvement more independently. The centre emphasises that biofertiliser work is knowledge-intensive: impacts can vary depending on how products are made, stored and applied, so long-term learning and hands-on experience are essential. KATC therefore positions training centres and extension systems as crucial platforms for rolling out practical knowledge, supported by researchers who establish stronger theoretical foundations and teach what works in local conditions.

## Uptake & Key Lessons

Farmers adopt biofertiliser practices most strongly once they see field results and can adapt recipes to local materials. Where molasses limits bokashi making, some farmers trial indigenous alternatives such as pawpaw and other plant sugars. Because ingredient changes affect outcomes, communities are running ongoing trials with different manures and plant materials over multiple seasons, building practical knowledge on preparation, consistency and effectiveness. The key lesson is that farmer-led experimentation, supported by regular exchange and reflection, is essential for refining biofertiliser use.

## What Changed

Farmers increasingly link healthy soils to stronger yields and more nutritious food. Communities report better crop performance where compost, green manures, crop rotation and biofertilisers are used. Biofertiliser units have become shared assets, enabling farmers to produce inputs, earn small incomes and train others. Women, elders and youth are active participants, with youth taking growing leadership

in experimentation and knowledge-sharing. Many communities continue the work independently through KATC learning networks and annual reflection meetings.

**Evidence & Influence**

KATC highlights the importance of movement-building and collective advocacy, where organisations share learning across pilots, identify what works and scale it into new areas. It argues that policymaking must safeguard natural resources, and that researchers and extension systems are central to translating evidence into practice at scale.

**Call to Action**

Reform policy and support programmes so they enable farmer-led biofertiliser production. Invest in the inputs farmers need to produce biofertilisers locally, not only in subsidised chemical fertiliser. Strengthen training centres and extension systems to deliver practical, evidence-based agroecology, and fund long-term, farmer research that tests what works over time and across conditions. Above all, treat soil ecosystem health as a strategic public good, because healthy soils are the foundation of nutrition, resilience and livelihoods.

Africa has a high potential for healthy food production, but that depends on healthy soil.”

**Father Claus Recktenwald, KATC, Zambia.**



Working through experimentation and revision to produce quality products. Credit: KATC

# HSHF Centre

## Towards Sustainable Use of Resources Organisation (TSURO) Trust, Zimbabwe

**T**SURO Trust is a community-based organisation founded in 2000 in eastern Zimbabwe to strengthen smallholder farmers' capacity to manage natural resources and livelihoods sustainably. Working through membership-based farmer groups, traditional leadership structures and local authorities, TSURO promotes agroecological farming systems rooted in collective responsibility, sound natural resource management and climate resilience.

[tsurotrust.org](http://tsurotrust.org)

### Identity in the Network

A centre that combines locally feasible bio-input production with farmer-led learning and evidence-building, then carries those results into government spaces to support wider uptake.

### Context & Soil Challenge

Elijah Chakandinakira describes soil infertility as the baseline challenge across TSURO's clusters. In mountainous areas, steep slopes drive erosion and the loss of topsoil. In some

communities, limited livestock reduces access to manure and organic matter. In low-veld zones, sandy soils are naturally low in fertility and often acidic, with pH-related constraints also reported across clusters. In some areas, farmers respond by overusing synthetic fertilisers, which does not resolve the underlying loss of soil life and structure.

### Regenerating Soil Health in Zimbabwe

TSURO strengthens farmer capacity to rebuild soil fertility using locally accessible practices and inputs. This includes training lead farmers and farmer action learning groups to produce organic fertilisers and biostimulants using available resources, then cascading learning into communities. The centre promotes bokashi and fermented liquid manures, alongside thermocompost, manure teas and vermicompost, with some work on native microbes. It also supports integrated land and livestock management, including overnight kraaling and field impaction where feasible, plus intercropping

and green manure and cover crops such as legumes, alongside agroforestry and nitrogen-fixing species. HSHF-linked support also enabled training and material inputs for production centres, including containers and basic ingredients needed for fermentation processes.

### Uptake & Key Lessons

Farmers adopt practices most readily where ingredients are available at household level and processes are relatively quick. Bokashi and fermented liquids have been widely adopted, especially where farmers can access cow dung, organic matter and household charcoal. Where molasses is scarce or costly, farmers are substituting sugar and seasonal fruit waste, including mango residues, as well as sugarcane by-products. Adoption constraints are practical and ecological: thermocompost can be difficult in drier areas where green material is limited, and manure access varies with livestock ownership. A consistent lesson is that new farmers still need dedicated training, and all groups benefit from follow-up support to maintain quality and consistency.

### What Changed

TSURO reports that healthier soils translate into better yields and stronger food security, with improved production also enabling farmers to sell surplus and strengthen livelihoods. Local production centres have emerged as shared assets, supporting both household use and, in some cases, sales, with growing interest from institutions such as schools and from local businesspeople.

### Evidence & Influence

TSURO links practice to policy by documenting farmer evidence, including soil testing and field-based trials, then sharing results with government stakeholders so approaches can be integrated into national programmes. The centre highlights the importance of extension services, curriculum inclusion for colleges and universities and stronger national policy alignment to scale what works, backed by platforms for knowledge exchange and documentation of farmer-led research.

### Call to Action

Fund what makes farmer-led soil regeneration possible at scale. Invest in extension capacity, practical training and the basic materials that enable community production centres to function reliably, so farmers can produce bio-inputs locally rather than defaulting to expensive synthetics. Strengthen soil testing and documentation pathways so field results become credible evidence in government planning and integrate organic soil amendments and soil ecosystem health into agricultural curricula so future extension staff can support these approaches. Finally, align national policy frameworks and incentives to recognise and scale proven soil fertility practices, while also supporting farmer-led innovation.

**We need to focus on soil ecosystems to secure good yields, enable farmers to sell produce and improve livelihoods."**

**Elijah Chakandinakira, TSURO Trust, Zimbabwe.**



Working across diverse ecological contexts to rebuild soil health. Credit: TSURO Trust

# Key Lessons from the HSHF Initiative



**A**cross the HSHF network, change lasts when farmers can see it, test it and own it. HSHF works because it treats learning, experimentation and evidence as one pathway, rooted in community practice, then carried into wider systems.

### **Agroecology spreads fastest when it reduces risk for farmers**

Low-cost methods such as composting, mulching, cover and locally made bio-inputs become a risk strategy first and an ideology second. Farmers take the leap when they see that healthier soil can hold water, buffer shocks and reduce dependence on bought inputs.

### **Farmer-led learning outperforms conventional extension**

Farmers shift faster when learning moves through trusted relationships. Training-of-trainers models, look-and-learn exchanges and demonstration plots work because they make results visible, practical and discussable. Over time, peer learning becomes the delivery system, not the project team.

### **Soil health gains are sustained when knowledge is embedded locally**

Where farmer-trainers were supported over time, and where learning lived in groups, plots and routines, practice continued beyond funding cycles. AFIRD's framing captures the dynamic: identify and support local champions, and groups will form around them, carrying knowledge into everyday decisions.

### **Women's leadership accelerates agroecological transition**

Centres describe affirmative approaches where women and youth are actively invited into training, and where inclusion deepens when they also hold decision-making and leadership roles. When women lead, soil restoration translates quickly into food availability, diet diversity and reduced costs.

### **Farmer-led experimentation strengthens both practice and policy credibility**

Farmers compare practices, observe crop response and refine recipes as conditions shift, building confidence because results

are repeatable and explainable. Evidence from trials and demonstration sites is documented and carried into dialogue with extension services, research institutions and policymakers.

### **Policy change follows practice, not the other way around**

Influence is strongest when decision-makers can see agroecology working under real conditions, not only in reports. Demonstration sites, farmer testimony and extension collaboration make outcomes legible, and they shift policy conversations from whether agroecology is credible to how it can be supported.

### **Policy pathways that work across the HSHF centres**

Effective policy influence starts with credible practice, where farmers test and refine soil health approaches in real conditions, then make results visible through demonstration sites and practical exchange. Influence strengthens when this visibility is paired with documentation and when outcomes are framed in terms of government priorities.

### **Rapid dissemination of farmer-led scientific methods**

Scientific soil health methods are introduced through practical demonstration, then adapted and shared through farmer networks. Bio-input production provides a key entry point, while training-of-trainers models, demonstration plots and peer exchanges accelerate dissemination and generate evidence that feeds into training and policy dialogue. Claude from Bio-Protect GIE highlights how radio, television and short social media videos extend learning beyond training sites. Experience from We Are the Solution in Senegal further shows how decentralised knowledge spreads rapidly. This enables agroecological methods to move beyond project sites, reducing dependence on external inputs while strengthening confidence in locally driven solutions.

# Recommendations for Stakeholders



**T**hese recommendations are drawn from the experiences and insights of the HSHF Centres and provide practical steps that key stakeholders can take to regenerate Africa's soils and build resilience to climate change and tackle urgent crises of hunger and poverty.

### **For governments and public institutions**

Make soil ecosystem health a national priority, not a farmer burden. Recognise agroecology and organic inputs as legitimate tools for soil restoration and climate resilience, and reflect this in agricultural strategies, budgets and delivery plans. Reform subsidy and support programmes so they do not lock farmers into chemical dependency, but instead back locally produced biofertilisers and biopesticides, alongside the basic equipment and materials that make farmer-led production viable.

Strengthen extension services by equipping officers with agroecology skills and partnering with farmer-led centres and demonstration sites to reach communities with practical learning and follow-up. Develop regulations and standards that enable smallholder production and local enterprise rather than pricing it out of reach, and address hazardous pesticide use through tighter controls, phased restrictions where needed and support for safer alternatives. Embed soil health and agroecology in agricultural college and university curricula so future extension and research systems are built around living soils.

### **For research institutions and academia**

Treat farmers as co-producers of knowledge and invest in field-based science that mirrors real conditions. Partner with farmer-led centres to document experimentation, track outcomes and validate what works across ecological zones, including practical

questions such as ingredient substitutions, fermentation consistency and application methods. Support applied research that values adaptation and context rather than one-size-fits-all prescriptions and contribute to credible evidence for policy pathways such as registration, certification and standards for organic inputs. Translate research into accessible formats that farmers and extension staff can use, and ensure learning is shared back into training, demonstration sites and policy dialogue, not only published in academic outlets.

### **For civil society and agroecology networks**

Build coordinated influence by linking practice to evidence to advocacy. Strengthen collaboration between centres and practice-focused organisations so lessons and proof points travel faster, and so policy engagement is backed by real examples that decision-makers can visit and understand. Invest in documentation, communication and governance literacy alongside agronomic expertise, so centres can capture results consistently, communicate them clearly and engage effectively with institutions.

### **For donors and development partners**

Fund the enabling conditions that make adoption durable. Prioritise long-term investment in farmer-led learning systems, not short project cycles, and support the full pathway from practice to evidence to policy. Resource decentralised training, demonstration infrastructure, follow-up and peer learning exchanges, and include modest equipment support where this is the barrier to uptake. Fund documentation, soil testing where appropriate and partnerships with research institutions. Treat demonstration centres as public goods that train farmers and extension officers, generate locally relevant evidence and inform policy, and resource them accordingly.

# Strengthening an Africa-Wide Movement for Living Soils





**H**SHF shows that farmer-led agroecology is not only effective, but transformative. Across diverse contexts, communities are reviving depleted soils, rebuilding food systems and scaling innovation through local knowledge and practical evidence. The foundations are in place, and now there is a need for deeper investment, stronger coordination and a shared commitment to sustaining and expanding what works. In practice, this means consolidating proven approaches, strengthening training models, deepening eco-sites and farmer research networks, and investing in bio-input production, soil testing and demonstration plots so quality and adoption continue to grow. Many centres plan to expand into new villages and districts, while keeping learning rooted in hands-on practice and peer exchange.

Policy engagement will be an increasing focus. As governments begin recognising agroecology in emerging frameworks, centres can provide grounded evidence, mobilise community voices and contribute to participation processes. Stronger alliances with civil society networks,

universities, laboratories and progressive policymakers will help embed agroecology into mainstream planning, with pathways emerging at regional and continental level.

Climate resilience remains central. As droughts, floods and unpredictable seasons intensify, healthy soils act as a buffer. Expanding practices such as mulching, cover cropping, intercropping, food forests and water harvesting will help protect crops and livelihoods, with women and youth leadership remaining essential to long-term resilience.

The future of HSHF depends on collaboration. Cross-country exchanges, shared learning and joint advocacy strengthen the movement and increase collective influence. Above all, this work is shaped by farmers. Their courage and innovation in soil care, seed saving, bio-input production and adaptation offers a practical blueprint for a regenerative African future. Healthy soils are not only an environmental concern; they are a foundation for sovereignty, dignity and wellbeing.



Regenerating Africa's soils is not only a technical challenge but a shared continental effort. When farmers experiment, exchange knowledge and learn together, agroecology solutions spread quickly and strengthen the resilience of communities and landscapes.

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