

# The footprints of transformation

Networking for a greener Africa.



Success stories, best practices and lessons learnt in Agroecology from the PENELI IV Programme

2025



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## Foreword from the PELUM Kenya country coordinator



PENELI (Promoting Ecological Land Use Management and Networking for Livelihoods Improvement) is a programme funded by Bread for the World (BftW) and Swedish Society for Nature Conservation (SSNC). PELUM Kenya has previously implemented three phases of the PENELI programme and is currently implementing its fourth phase which runs from July 2021 to December 2026. The programme is implemented in the four PELUM Kenya Networking zones: Nairobi and Central, Rift and Western, Lower Eastern and Coast, and Upper Eastern and Northern Region.

The focus areas for PENELI IV Programme are: Advocacy and Policy Influencing; Agroenterprise & Market Development; Climate Change & Sustainable Natural Resources Management, Institutional Development, and Gender Mainstreaming in the network.

The PENELI IV programme represents a remarkable chapter in the journey towards sustainable livelihoods and agroecology in Kenya. As we reflect on the stories of resilience, innovation, and community transformation captured in this publication, it is clear that the principles of agroecology hold immense potential to address the pressing challenges of food insecurity, climate change, and environmental degradation.

At its core, PENELI IV has sought to empower communities through practical knowledge, innovative solutions, and collective action. These efforts have revitalized agricultural practices, improved food security, and enhanced the socio-economic well-being of smallholder farmers and pastoralists across Kenya. By championing for agroecological principles, the programme has not only promoted sustainable agricultural practices but has also strengthened the connection between food production, nutrition, and environmental stewardship.

The vibrant stories shared here are a testament to the enduring power of collaboration. Through the dedication of PELUM Kenya, its member organizations, and the unwavering spirit of smallholder farmers and pastoralists, PENELIIV has cultivated a rich ecosystem of partnerships that amplify the voices of rural communities and place their aspirations at the centre of transformative development.

As you read through this publication, you will encounter inspiring narratives of smallholder farmers and pastoralists turning small plots into thriving hubs of productivity, women groups spearheading agroecology initiatives, and communities leveraging indigenous knowledge to adapt to climate change. These stories reflect the essence of PENELI IV, a programme rooted in hope, resilience, and the shared vision of a healthier, more sustainable future for all.

It is my hope that the lessons and successes documented here will serve as a guiding light for policymakers, practitioners, and communities alike, reaffirming the importance of investing in agroecology and fostering inclusive development.

To everyone who has been part of this journey smallholder farmers, pastoralists, trainers, partners, and advocates. I extend my heartfelt gratitude. Your unwavering commitment to transforming lives through sustainable agriculture continues to inspire and create ripples of change across Kenya and beyond.

With great pride and optimism.

— Ms. Rosinah Mbenya

# **Executive Summary**

Land is one of the key assets in Kenya's investment landscape, which is in sync with the country's many Economic Surveys that annually report that agriculture contributes to the Gross Domestic Product (GDP), averaging 25 percent. Agriculture is the single largest sector recording this commanding contribution to the economy; it should, therefore, be the apple of Kenya's eye.

However, it is increasingly becoming apparent that land use in Kenya has innumerable gaps, which fissures require deliberate interventions. One of the major interventions is training land users, key among them farmers, to get it right since land sizes are becoming smaller due to the increasing population. It is worse with the pain of climate change.

That is the reason initiatives such as those by the Participatory Ecological Land Use Management (PELUM) Kenya is leaving an indelible mark in the life of smallholder farmers, pastoralists, and small-business owners who are firing on all cylinders to innovate (through value addition), break-even and expand their establishments in the search for glory in the era of joblessness.

In this publication, PELUM Kenya's interventions are sprouting with stories of success in the areas the organization is partnering with its members, other Non-Governmental Organizations (NGOs), Civil Society Organizations (CSOs), Community Based Organizations (CBOs), small-scale farmers, pastoralists and fisherfolks in water supply, agroecology, and enterprise. PELUM's footprints are becoming near-permanent, partly with the funding and training it is offering various groups identified above.

Smallholder farmers and pastoralists that are networking with PELUM Kenya (indirectly) and through the MOs (directly) to improve their livelihoods are reporting first- hand how their yields have blossomed, and the enterprises have thrived through value addition, giving them a healthy stream of nutritional value in the search for food security.

They are praising the benefits of different agroecological practices that are giving them a major role in the war against climate change. For example, the use of compost manure, they say, is nourishing not just the crops but also the soil that feeds human beings for many years with better and tastier crops than what chemical fertilizers offer.

They are reporting a turnaround due to agroecological initiatives that see spaces used well. Above all, young people who are in school are also benefiting through practical classes with the organizations that are embracing organic farming, adding value, and campaigning for climate change resilience





# The purpose and objectives of PENELI IV programme

The PENELIIV Programme was conceived to address the urgent need for sustainable and inclusive agricultural development in Kenya, targeting smallholder farmers and pastoralists. Its primary goal is to enhance resilient livelihoods through agroecological practices and environmental practices, aligning with agroecological principles to combat challenges such as declining soil fertility, resource scarcity, and climate change impacts among smallholder farmers and pastoralists in Kenya.

Focusing on five thematic areas - advocacy and policy influence; agro-enterprise and market development; climate change adaptation and sustainable natural resource management; institutional development; and gender mainstreaming - the programme seeks to:

- To strengthen PELUM Kenya network to advocate for integration of agroecology in policy as an effective strategy for food security and resilience building.
- To enhance agro-enterprise initiatives among smallholder farmers and pastoralist for increased household incomes and adoption of agro- ecological practices.
- To enhance resilience of smallholder farmers and pastoralists on effects of climate change and environmental degradation.

- The governance, management and operations of PELUM network institutions are functioning and delivering services effectively.
- Gender mainstreaming in Network.

Key drivers of PENELI IV include improving food and nutrition security through the cultivation of indigenous and organic crops, promoting sustainable farming techniques like composting and water harvesting, and building resilient communities through collective approaches to farming and value addition. Additionally, the programme emphasizes climate adaptation strategies, such conservation agriculture and agroforestry, while fostering local economies through innovative value chains. By engaging in policy advocacy, PENELI IV creates an enabling environment for agroecology, amplifying the voices of smallholder farmers.

Through this comprehensive approach, the PENELI IV Programme exemplifies transformative change, empowering communities with the knowledge, resources, networks required and for sustainable development and resilience in the face of environmental challenges.

PELUM Kenya's support through NIA was a gamechanger for us. It gave us the kickstart we needed to venture into value addition — Agnes Bene

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# Value addition

# Women tap value addition to turn Kajiado County into a land of milk and happiness

The Journey of the Maasai Kajiado Women Dairy Cooperative Society



Agnes Bene is a happy entrepreneur who knows the sources of her fortunes. "PELUM Kenya's support through Neigbours Initiative Alliance (NIA) was a game changer for us. It gave us the kickstart we needed to venture into value addition," says Bene, the chairperson of the Maasai Kajiado Women Dairy Cooperative Society.

This cooperative, a testament to the resilience and ingenuity of the group members who are pastoralists, is redefining milk production in Kajiado county. Through strategic partnerships, particularly with NIA and PELUM Kenya, the cooperative has evolved from a simple milk collection centre to a beacon of economic transformation.

Formed in 2008 and registered in 2011, the society was initially composed of seven (7) women groups from various locations including Ololeilai 1 in Bisil, Olelai 2 in Mile Tisa, Nareto from Mile 46, Ilkpirashin Bullside, Oleleshua in KajiadoTown, Oletarakwai from Dalalekutuk Longosua in Enkorika and Osotua in Kajiado East.

Faced with many challenges, including market access and fresh milk going bad, the women decided to pool resources. They bulked their milk for sale to major processors like New Kenya Cooperative Creameries (KCC) and Brookside Dairies. However, droughts and milk glut during the rainy season resulted in significant losses, threatening their livelihoods.

Recognizing the challenges, NIA, an NGO working with pastoralist communities, stepped in with training and technical support.

NIA, also a member of PELUM Kenya for over fifteen (15) years, focuses on agroecology,

value addition, and sustainable livelihoods. In 2023, under the PENELI IV programme, PELUM Kenya sub-granted Kes 130,000 through NIA to support the cooperative. This funding enabled the cooperative to acquire cultures, a deep freezer, and containers to produce sour milk and yoghurt, and branded products that are doing well.

"Before, milk was just milk," shares Jane, NIA's programme manager. "Now, with value addition, these women are turning milk into high-value products that curb losses and boost incomes". NIA's interventions extended to training of women in pasture management, silage-making, and milk handling hygiene. The pastoralists were equipped with milk cans and brush cutters and taught how to construct hay houses, ensuring steady milk production even during dry spells.

However, hurdles abound, including certification from the Kenya Bureau of Standards (KEBS) that delays market entry, and limited funding. Yet, these obstacles did not deter the women. "There is no little money," Bene reflects. "It is about how you use it." The funds were used well and this motivated them to continue enhancing their visibility in different forums, including participation in the first national agroecology symposium in November 2024 as exhibitors in Nairobi where the cooperative won an award.

The transformation within the community is deep. "Before, women hawked milk in plastic containers, but it went bad before noon," says Jane Saruni, the cooperative's vice chairperson. With proper training and infrastructure, milk now stays fresh longer, and hygiene standards have improved. Women have transitioned from relying on men for financial needs to building iron-sheet homes and educating their children. The cooperative also teaches financial literacy, with members now using mobile money and bank accounts for transactions.

The cooperative started with 500 members, which has grown to 3,000, and collects up to 5,000 liters of milk daily, even during droughts. The women's ability to adopt agroecological practices such as paddocking, growing drought tolerant crops and embracing kitchen gardens has further strengthened their resilience.



"We have trained our members to use locally available resources like organic fertilizers, to sustain their farms," Says Matampash, NIA's Executive Director.

Agroecology has been the cornerstone of NIA's training. By implementing sustainable practices, the women who are majorly pastoralists are now diversifying their livelihoods.

Many now grow legumes alongside fodder crops, providing food and income for their households. "When the man moves with cattle during droughts, the women are left with a few milking cows supported by paddocked fodder," Jane says. This ensures continuous milk production for the processing plant.

As Miriam, the cooperative's treasurer aptly puts it that "when we empower women, we empower entire communities." Through the collaborative efforts of NIA, PELUMKenya, and the women themselves, this cooperative has not only transformed milk production in Kajiado county but also redefined the role of women in pastoralist communities. A story of resilience, innovation, and the far reaching impact of agroecology and value addition.



Agnes Bene and Miriam Pushati happily shows their milk products



# Cultivating change:

How agroecology and aloe vera empower Laikipia women Nabulu Mukuri Group using agroecology and innovation to build a sustainable future

In the heart of Laikipia county, a group of 25 women from a pastoralist community in Mutiriria village is sowing the seeds of transformation for their community and future.

Nabulu Mukuri Women group affiliated to Laikipia Permaculture Centre (LPC) is turning aloe vera into more than just a plant - a symbol of resilience, sustainability, and hope. Since its formation in 2019, the group has used agroecology and innovation to turn the plant into a thriving source of livelihood, creating a ripple effect of empowerment across the village.

What started as a small project of kitchen gardening and crafting aloe vera-based cosmetics like lotions, shampoos, and soaps has blossomed into a vibrant, self-sustaining enterprise after partnering with PELUM Kenya through LPC. The women have embraced sustainable farming practices, eco-friendly techniques, and entrepreneurship. They are now experts in aloe vera soap production, with their products gaining attention in local and regional markets.

Despite the challenges of water scarcity and the seasonal drought, the group members have remained resilient. Their ability to adapt, learn, and share knowledge has not only ensured food security and income but has also sparked a wave of empowerment touching the community.

Carolyne, the group's chairperson explains: "We are into kitchen gardening and creating cosmetics like lotions, shampoo, and aloe soap from the aloe vera plant."

The group began with a simple goal of empowering women. "Most women are the ones who take care of their families, so we decided to start contributing Kes 500 from each member. After six (6) months, members are paid back. Then we joined LPC, where we learned about kitchen gardening," says Leboo.





When the group was introduced to PELUM Kenya, the partnership provided invaluable training in agroecology, including how to make organic fertilizer, practice intercropping and develop other sustainable farming methods.

"These trainings brought huge changes in our farming practices," says Leboo. "We learned how to add value to the aloe vera that grows naturally in our area. We now produce various by-products like soap, lotions, and shampoos. I've become an expert in making soaps!"

In 2021, PELUM Kenya provided mobile phones to access videos on agricultural practices from countries like Ghana, Tanzania, and Congo. This resource has significantly expanded their knowledge and expertise.

Josphine, another member of the group says that PELUM Kenya introduced table banking, good record keeping, and how to practice intercropping. "I even travelled to Tharaka-Nithi with PELUM and learned so much that I passed on the knowledge to my fellow members," says Kasoo. "We now make our own herbicides from pepper, ginger, or aloe vera. I make sure my fellow members practice what I have taught them."

Despite the progress, challenges like water scarcity remain a major hurdle. "Water is a big issue in our community. We need training in water harvesting, especially for small dams," Kasoo urges. Market linkages is another headache. "We do not have a steady market. We sell at ranches, shows, and exhibitions, hoping to attract more customers."

They sell soap at between Kes 50 and Ked 100 while their lotions, depending on size, go between Kes 200 to Kes400.

Apart from aloe vera, they grow maize, vegetables, and potatoes, but they are burning the midnight oil on how to expand, secure reliable markets while appealing for further support from the county government and other funding bodies.





"We plan to expand our aloe vera farm and have already bought half an acre for more production. We have also planted trees. We have approached the county government for help with our value addition project, and we are hoping to receive the Uwezo Fund," says Leboo.

Before their partnership with PELUM, Leboo says, "Getting food was difficult, but with kitchen gardening and the money we earn from selling soap, we can now provide for our families."

Francis, the Community Liaison Officer at LPC, and the group's facilitator, says, "PELUM's support has been a game changer. Nabulu Mukuri Women Group received a grant to start kitchen gardening and aloe vera value addition. It's inspiring to see how these women have transformed knowledge into empowerment."

The Kes 300,000 grant was distributed to several groups for various causes, such as beekeeping, but Nabulu Mukuri focused primarily on cosmetic production.

Leyiangire explains: "Our organization is dedicated to ensuring alternative livelihoods

for our member groups, including soapmaking and beekeeping. We are also educating them on soil and water conservation"

"Aloe vera value addition enterprise is one of our greatest success stories at LPC. The Nabulu Mukuri women have made significant strides in producing soaps, shampoos and lotions, all of which have been certified by the Kenya Bureau of Standards," Leyiangire adds.

LPC, he notes, is committed to training the Laikipia County community in alternative livelihoods and promoting environmental conservation through agroecology. They are currently working with 16 groups across three sub-counties: Laikipia West, Laikipia East, and Laikipia North and have plans to expand into other counties such as Samburu and Isiolo.

On PELUM, Leyiangire says "we have been able to exchange ideas and gain insights into how to better promote our projects, which include improving resilience to climate change."

He concludes: "We are deeply grateful for the support, as we have seen tangible changes in revenue, grants for our projects, and improved food security. PELUM has brought significant change to our communities and our country."



## Banking on pig farm for tidy sum, sustainable agribusiness



Saving money to distribute is the idea that brought together more than twenty (20) residents under Kwihangira self help group formed two (2) years ago. The smallholder farmers based in Kiunvu. Gatanga constituency, had a common vision of distributing the cash haul at the end of every cycle. They did save for one year and each member got their share according to saving strength and commitment. Soon, the idea morphed into a better idea when the membership partnered with Youth Action in Rural Development (YARD).

PELUM Kenya's promoting ecological land use management for networking and livelihood improvement (PENELI IV) programme partners with the group through YARD to establish a group venture, whereby the group identified pig farming as the business project to pursue in transforming their livelihoods and families. It got off the ground with three mature soars (female pigs), 24 bags of feeds, and a group member's farm to build a piggery from where they would also be trained. They registered a successful launch and rolled up sleeves for hard work, eyes on growth and transformation. "Due to diseases that we did not foresee, one pig succumbed; however, we felt encouraged when the other two delivered 22 piglets," said David Mwangi, the chairman of Kwihangira self-help group.

Each member got a piglet in a distribution plan while the rest were sold to supplement the buying of feeds, one of the most expensive cost elements in livestock keeping.

Started one and a half years ago, the project has surmounted teething problems and now they have six soars that will be birthing soon, giving hope for a healthy increase to Kwihang'ira.

Josephine, a member, says the farm has strengthened their financial muscle from Kes 42,000 to Kes 80,000 that members borrow through table banking. "Our income has improved at the household level, and our livelihoods are also getting better. Through the money generated in the pig farming, I have been able to pay school fees for my grandson, who has just completed high school," said Mr. Mwangi.

Having learned the ropes within the 18 months of the business, the group of twenty (20) is ditching the commercial feeds to make its own feeds by mixing polan, maize germ, and fish meal, producing what both the mature pigs and their little ones can use.



Kwihangira team has chosen pig manure for kitchen garden and other small farms where they plant vegetables for family use. However, when manure is plenty, they sell in the neighborhood, creating a culture of sustainable organic farming.

Erratic weather ranks among the leading challenges in agribusiness, and the farmers are losing sleep during the cold seasons when the pigs are hard-hit due to wet conditions that force relocation to create room for piggery repairs.

To mitigate risks, the group is investing in climate change training and benchmarking to maneuver growth using best practices. So far, pig farmers from Nyeri county have toured their piggery in the quest of firming up benchmarking.

On PELUM Kenya's support through YARD, the project is looking up as the membership seeks more opportunities to share experiences that can be instrumental in growing the venture. Pigs thrive in clean environments where feeds and water met high standards while the animals should be sheltered from direct wind and cold.

Since feed prices have been rising in Kenya, innovative farmers have ventured into own production to break even, achieve sustainability, and rise from the ground.

In a fast-disrupted world where sectors and businesses are going against the heavy technological winds of change, the group's leadership is banking on continuous capacity building, marketing, and value addition to get pig farming right and impact lives positively in the community.





# Agroforestry and environmental conservation

Seeds of success: How Kaloleni farmers are tapping agroforestry for transformation

Josephine of Mbooni Kithoni, Makueni county, embodies resilience and transformation. Her journey, alongside a group of twenty (20) Kaloleni smallholder women farmers showcases the profound impact of the support by the Utooni provided Development Organization (UDO) in collaboration with PELUM Kenya. Through training, resources, and collaboration, Josephine, a mother of four, and her group have not only uplifted their livelihoods but also inspired their community.

Kaloleni smallholder farmers group was formed in 2021 with a vision to usher women into sustainable agriculture. Initially focused on small-scale farming and savings, the group's collaboration with UDO in 2023 marked a turning point. "We were introduced to tree planting and vegetable farming," recalls "UDO also trained Josephine. us in agroecology, conservation agriculture, and animal husbandry."

conservation agriculture, and animal husbandry."

This transformation was driven by PELUM Kenya's grant of Kes 140,000 to UDO that enabled the group to establish tree nurseries and kitchen gardens. "PELUM Kenya, through UDO, provided seeds for kale, spinach, amaranth, and black nightshade. They also supplied 8,900 seedling bags to support our tree nursery efforts," she explains.

#### Thriving through innovation

Armed with training and resources, Kaloleni Farmers got 20 vegetable seedlings each and the group established a nursery for indigenous and fruit trees. Josephine and her peers used techniques such as row planting, crop spacing, and the use of Zai pits (small, water-harvesting pits dug to capture rainwater and concentrate nutrients, enhancing crop growth in arid and semi-arid regions to conserve water.)





The vegetable and tree nurseries have become a key source of income. The group sold fruit tree seedlings for Kes 50 each and other varieties for Kes 30. "We started with 500 seedlings," says Josephine. "By March 2024, we were selling seedlings and reinvesting in our nursery. Our monthly income ranges between Kes 4,000 and Kes 5,000."

The benefits have extended beyond financial gains. "Before, we bought vegetables from the market, which often contained harmful chemicals," Josephine explains. "Now, we grow our own vegetables organically. UDO trained us



crops like coriander and onions. Our families eat healthy meals, and we no longer experience stomach aches."

With increased income, the group members have invested in water tanks, goats, and chickens. Josephine emphasizes the importance of water storage: "Fetching water from the river, two kilometers away, was exhausting. With tanks, we save time and energy while ensuring our seedlings flourish."

#### Leading by example

As a lead farmer, Josephine trains other smallholder farmers in her community on conservation agriculture, tree planting, and vegetable farming. "I have seen the difference these practices make," she shares. "We used to harvest five (5) bags of maize and one (1) bag of beans. With Zai pits and proper spacing, we now harvest 22 bags of maize and five (5) bags of beans on average."

Josephine has diversified her activities to include poultry and beekeeping. Starting with Twenty (20) chickens, she now sells eggs and meat, creating additional income streams. "The knowledge we have gained from UDO and PELUM Kenya has changed our lives."

Despite their progress, challenges remain. Access to quality seeds and consistent water supply are a headache, but Josephine says the group has "come from far, but quality seeds and sufficient water are critical to sustaining our projects." Josephine and the Kaloleni smallholder farmers' story reflects the transformative power of grassroots initiatives. UDO works with over 100 groups across Machakos, Makueni, and Kibwezi, and is spreading agroecological practices and promoting environmental conservation to many groups.

Josephine explains Kaloleni Farmers' determination: "The training and resources have helped us feed our families, pay school fees, and improve our environment. We have learned that starting small can lead to big changes. With continued support, we can achieve even more."

The farmers' journey reveals the potential of sustainable development supported with the right tools and knowledge and firmed up using collaboration and innovation.





# Farmers growing, thriving against dryland odds in Tharaka



Led by local organizations like the Tharaka Children and Women Welfare Programme (TCWWP), a group of smallholder farmers is on a journey of transformation by adopting innovative agroecological practices.

Through the power of community, indigenous knowledge and strategic partnerships, the team is turning adversity into opportunity, ensuring food security and sustainable livelihoods in one of Kenya's most challenging environments.

In the scorching arid plains of Tharaka Nithi county where rains are rare, smallholder farmers face the daunting challenge of cultivating enough crops to feed their families. Yet, amid this harsh environment, the farmers are determined about turning their fortunes around.

Eric, a project manager at TCWWP says his organization has become a beacon of hope for smallholder farmers in the dry region. "We empower smallholder farmers with

techniques that enable them to farm in these arid areas," he explains, noting the vital role PELUM Kenya plays in providing capacity building and practical support. This collaboration has given rise to innovative practices such as agroecology, water conservation through rainwater harvesting and use of indigenous knowledge.

One success story is that of Helen Gatii, a smallholder farmer who, with the help of these practices, now enjoys three harvests in a year. Using water pans, compost and farmyard manure, she grows a wide variety of crops including pigeon peas, maize, cowpeas and green grams on a small piece of land. *"Her success isn't just about increasing her yield; it's about strengthening food security for her family and the broader community,"* he says.

Buteti explains that TCWWP guides smallholder farmers on different techniques about dryland farming with support from PELUM. "We also expose farmers to exhibitions and training sessions, helping reduce the knowledge gap in the community. We encourage farmers to embrace cultivation of indigenous crops as they are better adapted to this region and require fewer inputs compared to other crops," Buteti adds.

"We have also introduced water pans to help farmers improve their production. This has ensured that some farmers, despite the dry conditions, are still able to grow and thrive," Buteti notes.

Because of the huge gains, he urges PELUM Kenya to expand outreach to support more smallholder farmers since they are "eager to adopt these technologies, and through TCWWP, we are grateful for the ongoing partnerships and would like to see more support for small-scale farmers."

"I got the water pan through the support of TCWWP, and this has enabled me to grow crops throughout the year despite the dry conditions," says Gatii, who has also been trained in composting that has enhanced productivity.



"We also expose farmers to exhibitions and training sessions, helping reduce the knowledge gap in the community. We encourage them to embrace indigenous crops, as they are better adapted to this region and require fewer inputs compared to other crops" Buteti adds.

"I grow various types of crops, including pigeon peas, maize, cowpeas and green grams. My farm has seen significant improvement" she adds. Additionally, Gatii grows mangoes and oranges, which she sells for profit.







Julia Kamene, a member of the Kamatungu Mothers group in Tharaka south, has benefited from tree nursery training. She grows and sells tree seedlings, giving her income for paying school fees and supporting her family in various other ways. "I also grow maize using conservation agriculture, and the yields have been much better than when I was using conventional methods," Kamene says.

She grows a variety of tree seedlings, including fruits and medicinal trees. Her nursery includes bamboo, neem trees, and fruit trees such as tamarind and grafted mangoes. Seedling prices range from Kes 30 to Kes 100 depending on the tree type and benefits.

She praises PELUM Kenya and TCWWP training, which has helped her to improve her financial situation. "Thanks to the training I have received, I am able to support my family and invest in a healthier, chemical-free future," Kamene adds.

### Water is life Rising from scarcity, thirst to increased earning

Patricia knows only too well what it means to lack the all-important commodity that policy papers promise without success: Water.

"PELUM Kenya and Inades Formation Kenya (IFK) has made it easier for us by bringing water closer to our homes," says Nduku, a farmer from Katangi sub-county, Machakos county. Her life and that of her community have been transformed through the rehabilitation of an earth dam that offers an interrupted supply, giving them hope.

A mother of five (5) and grandmother of four (4), Patricia and her husband Josphat began their journey through farming. On their four (4) acre farm, they grow maize, beans, green grams, and vegetables, including traditional African vegetables, kales, capsicum, and tomatoes, but this has been back-breaking due to lack of water. Nduku recalls how she and others walked for five (5) kilometers to Athi river to collect water, often using donkeys or carrying it on their backs using jerrycans. Some residents used motorbikes, but the means of transportation depended on one's financial ability. Even then, water collected was limited to drinking and cooking, but it could not support farming.

These challenges made life difficult. As she waited for maize to mature, Nduku wove baskets to supplement her income, completing two in two (2) weeks, earning a meagre Kes 200 for buying vegetables.

The turning point came when PELUM Kenya, through IFK, intervened. They desilted and expanded an abandoned earth dam, ensuring it could store sufficient water for the community.





Located only half a kilometer from Nduku's home, the dam is a vital resource, changing the way the community lives and farms.

With water readily available, she embraced kitchen gardening, dedicating half an acre to

growing vegetables. "With water closer to our home, we can now have a kitchen garden where I grow my vegetables instead of buying," she says.

PELUM Kenya also trained her and 30 other members of the middle Mwitasyano Water Resource Users Association (WRUA). The training sessions in Matuu covered water conservation, kitchen gardening, and planting trees. Equipped with these skills, Nduku started using seedbeds to prepare seedlings, planting during the rainy seasons, and harvesting continuously from January to April of 2024.

She sells them at Kes 300 weekly, translating into a monthly income of between Kes 4,000 to Kes 5,000, making a major stride from the Kes 200 a month she earned from basket weaving.

Her success story has inspired many in the neighborhood, who have started their own kitchen gardens, while others buy seedlings from Nduku at Kes 20 for a bundle of 10 pieces. This additional income has put her on the path to financial stability.





The middle Mwitasyano WRUA members are in table banking where they save and borrow to support farming and other needs. This practice has strengthened the group's financial resilience and encouraged a culture of collaboration and shared success.

Nduku's success story highlights the farreaching impact of community driven initiatives. Her neighbors who are not part of the group admire her achievements and are promising to pick the cue. "PELUM Kenya and IFK has had a major impact on our community," she says.

She is challenging the rest to embrace vegetable and tree planting, saying the availability of water has not only improved her family's livelihood but also united the community around a shared goal of sustainability.



# Karumu self-help group taps water conservation in transforming Machakos County

"Together, we have learned that unity is strength and that with knowledge and resources, we can overcome poverty," says Veronica, vice chairperson of Karumu self-help group in Katangi sub-location, Machakos county. Her words encapsulate the spirit of her group's efforts to transform lives through farming, water conservation, and environmental sustainability.

Karumu self-help group was formed in 2023 by fifteen (15) members who realized they needed to tackle poverty, pay school fees, and meet other family needs. Initially focused on financial contributions for emergencies and dowry payment, their vision expanded after meeting Josphat, chairman of the middle Mwitasyano WRUA. Malonza introduced them to the work of IFK, partnering with PELUM Kenya. This connection was a turning point. IFK and PELUM Kenya desilted Kaluluini earth dam which addressed a critical challenge for the community, namely access to water. Previously, residents walked long distances to

Athi river for water, but the revamped dam has given the community a reliable source of water for domestic use, livestock, and farming.

Mbui recalls how water scarcity forced her community to rely on costly vegetables, often laden with chemicals. "When water was brought closer to us, everything changed. We could now grow our own vegetables," she says.

Encouraged by the proximity of water, Mbui's group has embraced farming. They have divided themselves into three (3) sub-groups, focusing on vegetable farming, green grams growing, and tree planting.





Using training from IFK, they have established a vegetable kitchen garden on a member's land, secured by a chain-link fence. Every Monday, members meet to tend the garden and harvest kale, which they sell within the group at Kes 30 a bundle.

This initiative not only ensures access to fresh vegetables but also generates income. "We used to buy vegetables from vendors, but now we have our own and can even sell," says Virginia, a group member.

#### **Environmental conservation**

Thinking outside the box, the group bought seedlings, including Grevillea and Pine, from tree nurseries along Athi river and planted them in their homesteads. They have established a shared nursery on a member's farm. With 250 seedlings in the nursery, the group plans to sell some at Kes 100 each, reflecting their investment in water transport and care. "We do this for the environment and to combat climate change," says Veronica.

#### The WRUA and IFK's support

The group's progress has been supported by WRUA, which began working with IFK in 2018. According to Malonza, IFK through the WRUA,

trains community members in sustainable farming, including the use of terraces, Zai pits, and agroforestry to conserve water. Exposure visits and technical support have equipped the group with knowledge about drought-resistant crops and organic farming techniques.





"PELUM Kenya and IFK have not only brought water closer but also shown us how to use it wisely," Malonza explains. The association's broader efforts, such as tree nurseries in local schools and community trainings, have inspired others outside the Karumu self-help group to adopt similar practices.

#### **Overcoming challenges**

Despite their successes, the group is fighting pests attack while limited access to pesticides makes management difficult. Chickens and birds frequently invade the kitchen garden, prompting the need for a greenhouse.

Additionally, some community members lack the patience for farming, preferring short-term solutions like casual labor. Theft of crops also hinders progress, underscoring the need for piped water to individual farms.

#### A vision for the future

Looking ahead, the group dreams of acquiring a greenhouse, dam liners, and constructing more earth dams to expand farming. "We have come from far, but with continued support, we can achieve even more," Veronica reflects.

Through the combined efforts of Karumu Self-Help Group, WRUA, IFK, and PELUM Kenya, a resilient community is emerging, driven by knowledge, unity, and the power of water conservation.



# Innovative water supply gives dry areas oases of life



Christian Impact Mission (CIM) on the dry Yatta plateau was started in 2009 as a community outreach response after a drought that hit Kenya, killing people, animals, and birds. An inspiration to feed the people dying of hunger by Bishop Dr. Titus Masika gave birth to this project that has positively impacted the community for more than ten (10) years.

Situated in a low literacy, and highly dry and hot area, the project has turned the area into a thriving village where farmers have devised mechanisms to farm different types of crops for food security and sustainability. As the founder, Bishop Masika's strategy is built on empowering farmers through cooperatives in electoral wards such as Ikombe, Katangi, Matuu, Kathiani, Ikalakala, Kivaaand Kithyoko.

CIM is a faith-based organization (FBO) that works to change mind-set and attitude. Saying they are changing the software and hardware, the organization is coming up with new ideas (software) and the ecosystem (the hardware) by practicing Abraham's principle which turned around a desert by digging wells and planting trees and crops, changing the area from a desert to an oasis.

Started by eighteen (18) elderly women under the slogan of 'Operation' Mwolyo (hunger out), CIM has risen into a community movement impacting people who benefit from home- based earth dams, leaving the area teeming with activity, giving it one of the best climate change adoption strategies in Africa.

Through community support, Bishop Masika launched the earth dam project with villagers digging on their own and harvesting top yields of maize and beans. At seven (7) dams, the community was able to collect enough water for irrigation, giving them a ticket to various types of crops. From the seven (7), the



number has ballooned to about 4,500, making a resounding success of nutritional dignity.

Dr. Masika went against the grain, moving from the city to a rural village to confront the drought-induced hunger that was ravaging the area from 2006 to 2009. He mobilized churches to donate food that he delivered before acquiring 43 acres to set up a base for running Christian endeavors to support the community.



John Okulo, standing next to the earth dams that supply water for irrigating crops such as onions, green maize, fruit trees, potatoes, arrow roots, sweet potatoes

"Through challenging people's mind-set and attitude to embrace different situations in life, we have been able to transform the communities living within CIM and beyond," notes Bishop Masika.

CIM incorporated agroecology by introducing organic farming initiatives such as the development of compost manure. "More people have been educated; we have more University degrees in this community now than we had ten (10) years ago, people have also embraced agroecological farming based on the lessons they continually teach here at the CIM farm," says the cleric.

On creating financial sustainability, CIM registered a cooperative society to form a common marketing production and financial boost where farmers save and borrow.

The profits from the commercial ventures are ploughed back into the venture to ensure sustainability in households.

CIM also runs a training center for organic farming where more than 8,000 farmers have benefited. Every week, more than fifty (50) famers train in agroecological practices, food security and climate resilience apart from recycling, fertilizers and foliar application. John Okulo, the farm manager, says that CIM trains

smallholder farmers in the production of highvalue crops. "We train farmers in how to enhance yield production from a 1/8-acre land to produce eighty (80) bags of maize that is sold at Kes 30 per cob," he says.

When CIM became a member of PELUM Kenya in 2010 through an introduction by another organization, they got support from PELUM's PENELIV project later which facilitated an arrow root project that supplies various markets and helps in seed multiplication.

Through technological changes, the arrow roots have also been planted on drums using organic manure, a technological step that is a key success story for CIM, as seen in the enrollment of more farmers.

From kitchen gardens, vertical gardens made from damliners, recycled cement bags for planting herbs and vegetables, agroecological technologies using minimal space abound. Other methods include recycled drums, moise gardens, sunken beds, terraces, raised beds, double digging, Zai pits of cow dung and soil. Through support from PENELI IV, CIM has implemented the arrow root production through the moise gardens that support their planting in the ASALs. The approach enhances production, seed multiplication, diversification and nutrition. Through this approach, farmers reap multiple benefits and increase food production from small plots.

Other agroecological practices include the vermiculture that involves production of earthworms whose droppings form humus through a simple technology producing foliar for spraying on plants to enhance production. The worms are also used as chicken and fish feeds.

Okulo notes: "The vermiculture technology is a good economic venture to explore and highly effective in the production of foliar, which supports good plant growth. I encourage farmers to visit the CIM farm and learn more about these best practices. Since we started using this technology, our yields have tripled".





CIM's compost manure dubbed 'Yatta compound fertilizer' is made from dry matter, cow dung, charcoal dust, rock dust, bone meal, eggshells and rabbit urine, a catalyst, and water. Taking 21 days to be ready, it supports growth with nitrogen, carbon dioxide. phosphorus, calcium, potassium and ammonium.

"We train farmers to use the dry matter, charcoal dust, eggshells and soil among other materials to make this organic manure," says Mr Okulo. CIM's agroecological practices include crop rotation, calendar farming, and off-season farming has helped the organization to maximize profits, enhance food security, and create jobs and wealth.

Its farm is an inspiration to the community, including smallholder farmers who visit for capacity building in an effort to transform the country, one village after another.

Even though CIM farm is located in the ASALs, it looks like the garden of Eden thanks to the agroecological practices and the earth dams that supply water for irrigating crops such as onions, green maize, fruit trees, potatoes, arrow roots, sweet potatoes while supporting dairy farming, beekeeping, poultry, and rabbit keeping.

It is also hosting government workers, for example the Agricultural Food Authority (AFA) whose team has toured the site for training.

Located in the arid and semi-arid lands (ASALs), CIM farm flourishes like the garden of Eden, powered by agroecological practices and earth dams that support crop irrigation, dairy farming, beekeeping, poultry, and rabbit keeping.

# Agroecological practices

# From a struggling farmer to an agroecology advocate

Agnes says she has transformed her life and farm, leaning on nothing except deliberate agroecology training hinged on resolve and grit.

In the Mweromuthanga area, Muriri in Meru County, Kayuyu's extreme makeover from a conventional farmer to a passionate advocate of agroecology is nothing short of inspiring.

Through training from PELUM Kenya through Community Initiatives for Rural Development (CIFORD) Kenya in her locality, she has embraced sustainable farming techniques, improved her health, and boosted her income.

She grows crops organically, which knowledge she shares with fellow farmers who are also reporting demonstrable changes on their way to a healthier, more prosperous future for her community.

Kayuyu who is the treasurer of the Ithuune farmers group in Mweromuthanga, credits her flourishing farm to the training she received from PELUM Kenya through CIFORD Kenya. "I am living a healthier life now," she says, beaming with pride. "Thanks to the knowledge I gained on agroecology, I have learned how to farm sustainably, grow my own compost and plant crops the natural way."

The training focused on organic farming, teaching Kayuyu to replace synthetic fertilizers with homemade compost. "I grow crops like chia seeds, lemon grass and traditional vegetables, which are organic and free from chemicals," she explains.

Since the U-turn her farm has flourished. She explains: "When we grow these crops, they are healthy, and the community trusts our produce. I teach fellow farmers how to grow clean, pesticide-free food. The knowledge I have on agroecology is not just for me, I want to see it spread."

Thanks to PELUM Kenya, Kayuyu travelled to Marimanti, Tharaka Nithi county and Murang'a county for an exchange program that gave her invaluable insights that she passes on to others in her community.



![](_page_38_Picture_0.jpeg)

Through CIFORD, Kayuyu and other smallholder farmers have also received essential tools such as wheelbarrows, water tanks, and kitchen garden skills. "Before, I did not even have a kitchen garden, but now my family never goes hungry. We have food all year round," says Kayuyu.

In addition to improving her family's food security, Kayuyu's health has also improved. "I no longer suffer from heartburn or depend on medication. I drink tea made from lemongrass, and it keeps me relaxed and healthy," she says.

When she used to grow maize and beans, the yields and incomes were low, but this changed when she shifted to crops such as chia seeds, which are in high demand.

"A kilogram (kg) can sell for Kes 1,500 and if I harvest five (5) Kgs, I make Kes 7,500, which is enough to feed my family. If this continues, I am planning to phase out maize and beans for more profitable crops," says Kayuyu.

Daniel, a program officer at CIFORD Kenya's Sustainable Agriculture and Livelihood, says Kayuyu's story is a testament to the power of agroecology, not just in growing healthy food, but in fostering economic resilience and improving quality of life.

Kayuyu, he explains, is showing other smallholder farmers that there is a sustainable and lucrative future in organic farming.

Her journey from a struggling smallholder farmer to an empowered agroecology advocate is a shining example of how knowledge, support and community can transform lives, one crop at a time.

In the heart of Meru, Isiolo, and Tharaka Nithi counties, CIFORD Kenya, a Community Based Organization (CBO), is sparking a revolution in agriculture.

Through its close collaboration with PELUM Kenya, the organization is working to equip farmers with the knowledge and skills to move from conventional farming to sustainable, organic practices. The result is healthier farms, stronger communities, and a brighter, prosperous future for rural Kenya.

![](_page_38_Picture_11.jpeg)

![](_page_39_Picture_0.jpeg)

"Working together with PELUM Kenya, we have been able to help farmers understand and adopt sustainable agriculture, organic farming, and even permaculture techniques," says Makayo. "The farmers have been attending workshops, gaining knowledge and implementing what they've learned in their gardens. The transformation has been incredible."

CIFORD's strategy is about empowering farmers to become trainers. After attending PELUM Kenya's workshops, they return to their communities to teach the rest, creating a cycle of learning and practice.

"At CIFORD, we believe that once a smallholder farmer has been trained, they must pass that knowledge on," Makayo says. "When you visit their farms, you can see the impact: healthy and vibrant gardens that reflect the change in farming practices."

He says smallholder farmers are changing from conventional farming methods to embracing organic farming, cultivating crops that are in harmony with the environment.

However, one of the biggest hurdles CIFORD faces is accommodating the large number of farmers who need training. While the organization works with more than 2,000 farmers, only a few can be sent to workshops

as representatives. "If we can increase the number of smallholder farmers attending these training sessions, we can spread the knowledge further and make a bigger impact," he says.

"Now that we have enough food, the next step is to focus on adding value to our products and improving marketing. By working on value addition, we can increase our farmers' income and ensure their hard work pays off."

He adds that the journey doesn't end with production, but there is need to turn farmers' surplus crops into profitable products through value addition and better market access. Makayo says he believes value addition is the key to "truly empowering farmers and transforming the agricultural sector."

![](_page_39_Picture_9.jpeg)

# Butere farmers find surplus and more income in organic farming

![](_page_40_Picture_1.jpeg)

Wyckliffe and Fredrick feel their compost manure mounds with agility that reveals satisfaction of a farmer convinced they have landed a fortune.

Mukonyi, a farmer trained by Anglican Development Services (ADS) Western under PENELIIV programme now guides fellow farmers in sustainable agriculture. He firmly believes that "organic farming is the only solution."

Since 2018, Mukonyi, aged 60, has been practicing organic farming whose fruits and benefits, he says, are immeasurable, partly with healthy living, increased harvests, fertility restoration, increased earnings, and reduced production costs. Through ADS Western programs, Mukonyi, who grows napier grass, maize, pawpaws, vegetables, and soybean, says he has learnt to appreciate Integrated Pest Management (IPM), composting, making liquid organic fertilizer, soil management, seed selection, soil sampling, and climate resilience.

Grouped under other farmers from Butere that ADS Western works with, he says PELUM/ADS Western programs "give us practical ways and the yields are improving."

He adds: "Organic farming is the way to go; even without money, when you have food, you are good to go." He says that while synthetic fertilizer is for the crop, organic manure is for the soil and crop, leading to huge benefits. "Compost fertilizer made through such as Bokashi can last up to ten (10) years; that is why the old bomas (homesteads) are still fertile many years after our parents died."

According to the Trainer of Trainers (ToTs), his Shipala trust group of 23 farmers is going back to organic farming "because of pest management and diseases. Acidity level had increased, and we are going back to organic farming to restore soil fertility."

Fredrick aged 40, says his half-acre farm, which used to give him "negligible yields" of maize, is now feeding his family and giving him a healthy surplus whose weight is far heavier than grains produced using synthetic fertilizer.

Nzuya's neighbor, Dan aged 37 who is also into organic farming, says through PELUM Kenya and ADS Western's agriculture plan

![](_page_41_Picture_4.jpeg)

that promotes ecological land use with eyes on better earnings and networking, he has marked improvement.

The neighbors say through the PELUM Kenyalinked trainings, they have come to know that "farmers should feed the soil that feeds plants that feed humans".

Based on the benefits registered, Dan is requesting PELUM Kenya to diversify their trainings to cover animal production "so that farmers can gain more from such good agricultural programs".

![](_page_41_Picture_8.jpeg)

![](_page_42_Picture_0.jpeg)

Apart from the gains that accrue to him through agroecological practices, neighbors were getting manure for free, while some were producing their manure from the readily available materials. Although sustainable agriculture has low-hanging fruit for the 23 farmers under Mukonyi's group in Butere's Shinamwenyuli, he cited the slow approvals of manure that deny farmers more income. "We need to advance and get income," he said, adding that during the heavy rains, leeching is a headache while adaptation was at a snail pace since "people are used to handouts".

To rise above the challenges, he asked PELUM Kenya and ADS Western to step up sensitization, finance the trainers, come up with friendly loans for ease of access to inputs, and also enhance trainings "to reflect latest technologies in organic farming".

Nzuya, who is a member of Red Shirt group from Ebuitende village in Butere, grows maize, arrowroots, vegetables, sugarcane, passion fruit and bananas on a half-acre farm that has catapulted him to a world of food surplus and more income.

Exposure visits to demonstration farms of lead farmers, workshops, trainings at the demo farms, value addition are some of the benefits Nzuya plucks from PELUM Kenya that he joined five (5) years ago to get free seeds, learn how to prepare farms for planting, composting, and use of conical gardens. "Compost manure increases harvest; its fertility stays and is easy to make. Its benefits far outweigh that of the synthetic fertilizer," Nzuya said at his home while testing the readiness of his compost manure.

While he used to get three bags of ninety (90) kgs maize from his 0.5-acre farm, the use of manure has improved the yield to between seven (7) and eight (8) bags. "The use of manure has reduced the striga weed, locally known as 'kayongo," Nzuya said, flanked by his wife and daughter.

Instead of using the pesticides, the group of farmers relies on plants and plant juices that repel pests. "We have trained the Red Shirt farmers group in how to make vermicompost that is labor-intensive, but restores soil fertility and increases yield," said Michael, a field officer with ADS Western.

Sospeter, a project officer at ADS Western, lauded PELUM's" practical training" in agricultural practices, seed banking and multiplication, new technologies of composting, but said there was a need to support smallholder farmers to acquire equipment.

Nyabola added that smallholder farmers doing well in implementing the techniques ought to be encouraged to do more and enhance facilitation of smallholder farmers during trainings to Kes 500 from Kes 300 "because the sessions take a whole day".

Saying that PELUM programs have reduced soil erosion, increased food production, and stepped-up diverse cropping, he is proposing training according to season, including planting, weeding and post-harvest. This kind of segmentation, he said, will increase the impact of the trainings.

# Tharaka Nithi rural initiative reveals juicy treasures of organic farms

In Tharaka Nithi County, farmers are discovering the financial and health benefits of organic farming, thanks to the guidance of the Rural Initiatives Development Program (RIDEP).

Through training in agroecological practices, the farmers are learning how to reduce costs, improve crop yields and protect the environment. The initiative, they reveal, is paying them handsomely.

One of them is Patricia from Gakirwe village. Initially, she relied on inorganic fertilizers and pesticides, but after training by PELUM Kenya through RIDEP, Kanyua has embraced more sustainable farming practices that are lowering her expenses. "I have learned the best ways to plant crops and grow my own vegetables through kitchen gardening, which has saved me money. RIDEP also trained me in managing goats and raise chickens using natural methods, including locally available bio-pesticides to combat diseases," says Kanyua, a member of the Utumi self-help group.

The training also introduced her to techniques like rainwater harvesting and recycling for farm use, enabling her to maximize resources during the dry spells.

![](_page_43_Picture_6.jpeg)

![](_page_44_Picture_0.jpeg)

Additionally, Kanyua was taught how to make compost manure, eliminating the need for chemical fertilizers. This has enabled her to grow traditional vegetables, beans, onions, garlic, and turmeric without relying on synthetic chemicals.

"I want to protect my family's health and the well-being of my community by growing crops without chemicals or fertilizers," she adds.

Susan, Project Manager at RIDEP, explains that the organization encourages farmers to adopt agroecological practices, emphasizing sustainable farming and income generation.

RIDEP's training focuses on using locally available materials to make compost and biopesticides, which reduces costs and enhances farm productivity.

"We teach farmers how to retain and manage water on their farms, construct water retention structures, and ensure no water goes to waste. This is vital for growing crops in areas like Tharaka Nithi, which often experiences extended dry periods," Wanjiru says.

RIDEP was registered in 2003 as a CBO with offices at Marimanti. It has operations in Tharaka North and South where it works with smallholder farmers and pastoralists. RIDEP envisions resilient communities using local resources for improved quality of whole life by training them in the adaptation and mitigation of climate change effects through promotion of agroecology and local enterprise development.

![](_page_44_Picture_8.jpeg)

RIDEP promotes the preservation of indigenous seeds, which are suited to the region's harsh climate, says Wanjiru. By encouraging farmers to save seeds, the program delivers a more resilient food system. "Indigenous seeds are more adaptable to the area's dry conditions, leading to better harvests, even in times of drought," Wanjiru explains.

The program also supports value addition, allowing farmers to process their produce and increase their income. "By adding value to their crops, farmers earn more money, which boosts family finances," Wanjiru adds.

RIDEP's seed bank and training facilities offer farmers not only the opportunity to learn but also a space to collaborate and share knowledge. It encourages group farming and selling through aggregation centers, helping farmers to avoid middlemen and sell their produce at better prices.

Anastacia Kanina, a Community Development Facilitator Assistant at RIDEP, says the organization visits farmers at their farms, helping them to learn making compost and save on fertilizer costs. The CBO also trains people in organic farming at its center, putting the farmers on the road to better living.

![](_page_45_Picture_4.jpeg)

![](_page_45_Picture_5.jpeg)

## Molo farmers turn small plots into pots of sweeter, healthier food

![](_page_46_Picture_1.jpeg)

Small is beautiful, a group of farmers in Molo, Nakuru county seems to display and agree, based on how they have made good use of space, some measuring a sixteenth of an acre. Linked to this success is their training by Maendeleo Endelevu Action Program (MEAP), a member of PELUM Kenya.

Peter Irungu's sixteenth-of-acre plot within Kwa Ndung'u in Molo is a farm that is on maximum use, holding vegetables, sugarcane, strawberry that clings to the walls, chickens, and rabbits whose urine is used to make biopesticide.

At Irungu's farm, the mixture of chicken droplets and rabbit urine combine to produce a

strong smell that may distract a first-time visitor, but the farmer is clinging to his animals, birds and crops proudly for better earnings and changed fortunes.

"In this tiny plot, I am so busy I don't get time for anything else," Irungu says, smiling broadly while adjusting a contraption of pipes that direct rabbit urine into plastic containers of varied colors that dot the tiny compound.

"We know how to use space because food demand is growing but land sizes are growing thinner," explains Karangathi Njoroge, the director of MEAP. He adds that "our followups show farmers we have trained are doing well."

![](_page_47_Picture_0.jpeg)

An NGO that pursues sustainable development, MEAP was established in 2007 and registered in 2008 "to catalyze community consciousness and action to enthusiastically participate in their development processes".

Maendeleo Endelevu means "sustainable development" in Kiswahili, therefore its programs are focused on development that does not compromise the ability of future generations to meet their needs.

MEAP headquarters sit on an eighth of acre, but hold a seed bank, conical vegetable farms, a sheep shed, and offices where the organization trains farmers and students.

John Kimani aged 71, a retired agriculture teacher living in Turi, who has embraced organic farming, says he was drawn to PELUM Kenya in his quest to reduce chemical use. "I don't use chemicals that are harmful to the soil. So, I thought I could get alternatives through PELUM Kenya". Plying his trade on an acre, Kimani says there are agricultural practices that can be done without using chemicals: Using weeds as fodder and collecting manure knowing you are not harming the soil.

He lists the benefits of using manure that he makes from dairy goat droppings: the soil is easy to work on; crops don't require a lot of fertilizer; and, taste of the harvest is sweeter, be it vegetables or potatoes as his visitors have confirmed.

"Consumers who know about our crops and use of manure do come back. They appreciate the yield, the feel, the size, and the taste".

Enrolled under PELUM's agroecology program, Karangathi says MEAP is increasingly seeing organizations, schools and colleges showing interest in organic farming trainings.

![](_page_47_Picture_9.jpeg)

Among them are the Agency for Cross Border Pastoralists Development (APaD) based in Turkana County, Kopito Women group from Narok County, Slow Food Kenya (which promotes slow-growing crops), and Biodiversity and Biosafety Association of Kenya (BiBA Kenya) that promotes indigenous seeds and runs anti-GMO campaigns. Others are the African Biodiversity Network (ABN), Baraka Agricultural College (BAC) based in Molo, and Great Hope Communities.

"Baraka has a sustainable agriculture department, so we run an exchange program for farmers with them," said the MEAP director.

The organization that sits on 50 x 100 plot is creating awareness on agroecology among farmers and pupils with the latter using its

![](_page_48_Picture_3.jpeg)

grounds for practical classes, feeding seamlessly into the Kenya's Competency-Based Curriculum (CBC).

Karangathi says the farmers who are enrolled with MEAP have introduced agroforestry and have wood lots, do boundary planting, have dedicated spaces for trees where they keep bees and use the trees for fertilizing soils.

He says his organization is thinking "beyond food security to nutrition security and then food sovereignty where one can choose the type of food to take."

It is focused on cassava, pumpkin, sugarcane, and sorghum and indigenous vegetables whose markets are growing. Karangathi says Molo has an open-air market that is known for traditional vegetables.

MEAP keeps a seed bank that PELUM funds about which Karangathi says "If you don't keep your seed, you cannot determine what to grow."

Tapping into farmers' local knowledge, the group grows fruit trees and herbs such as 'Rosemary' and chili pepper as bio-pesticides.

Through its programs, the Nakuru County government has invited MEAP to participate in making its agroecology policy, saying one of the ways of finding solutions and registering successes is including people in search for solutions through dialogue.

Kimani says his teaching experience has taught him to share both knowledge and yield for experience. He is challenging organizations, like PELUM, to go big on training consumers and farmers to be able to identify the GMOs under the goal of healthy living.

# Benedicta Nkirote's resilience putting Meru community on agroecology map

#### Sustainable farming practices deliver food and more income in Marurui

On a chilly morning, Benedicta is watering her evergreen onion farm in the Marurui area of Meru County. Adjacent to the onion plot is a variety of beans, including the yellow type, Nyota, and Angaza.

She affectionately calls it 'The Benedicta Farm', revealing her love for the agribusiness she is dedicating her life to.

A community mobiliser, her involvement in the work began with her participation in the CEFA-Kathita Kiirua Water Project that supplies the local community.

She joined as a community mobiliser, but the role later expanded into training farmers in agroecology or Kilimo Hai.

"I have been trained in soil fertility and water harvesting techniques by PELUM Kenya," says Nkirote. "So far, I have trained over 200 women in more than eight groups. My goal is to help our community reach a higher level of understanding and self-sufficiency."

Nkirote describes her agroecology training with PELUM Kenya as transformative. "I have gained so much knowledge, and after each session, I share what I have learned with farmers in my community," she says. "I have taught them about water harvesting, soil conservation, planting techniques, and composting. Along the way, I have also encouraged community members to come together to improve their livelihoods through sustainable agricultural practices."

![](_page_49_Picture_8.jpeg)

I used to spend a lot of money on expensive fertilisers, but now I use my own compost, made through the Bokashi method.

— Benedicta Nkirote

Nkirote practices what she teaches, saying "I focus on smart agriculture, including water harvesting, which has made a significant difference in my farming."

She explains further: "I used to spend a lot of money on expensive fertilizers, but now I use my own compost, made through the Bokashi method, which has helped me maintain a healthier garden."

The farmer hails PELUM Kenya's support, saying it has been instrumental in "helping me build up my community and improve our village by providing essential resources. I am truly thankful for their contribution."

Among others, the trainer cites lifestyle diseases that are egging her on to educate the community about keeping harmful chemicals at bay. "People are now realizing that these chemicals are detrimental to health. We have switched to using bio-pesticides, which are safer and more sustainable. I've already seen positive change and I believe the lessons we've learned from PELUM will continue to transform both our land and our community."

PELUM should conduct more Trainer of Trainers (ToTs) sessions and demonstrations on agroecology, she proposes. "These handson demonstrations allow people to see the methods in action and learn directly. I encourage others to visit PELUM and learn. The knowledge we gain there is invaluable, and I want to keep spreading the message of agroecology, as it plays a vital role in protecting our crops and the environment."

Annsanto, the Deputy Manager at CEFA water project and the head of the community engagement program, affirms Nkirote's impact. "Nkirote is one of the key multipliers trained by PELUM Kenya, and she is fully implementing agroecology on her farm".

![](_page_50_Picture_9.jpeg)

![](_page_51_Picture_0.jpeg)

"We have been collaborating with PELUM Kenya to train farmers in agroecology, and they've helped us create multipliers who are doing great work in the field," Muthoni explains.

She adds that CEFA supplies water to the community and supports small groups of farmers and schools. As a member of PELUM for fifteen (15) years, CEFA has benefited from PELUM's training and sub-grants for farmer groups.

The CEFA official says there is a significant shift from conventional farming to agroecology, partly with the farmers tasting the benefits and sharing the knowledge they have gained from PELUM Kenya.

She highlights the importance of water harvesting, especially in the face of climate change pain, which has made dry spells more frequent.

"Climate change has affected us greatly. In addition to providing water, we encourage farmers to harvest rainwater during the dry season. I urge PELUM to continue investing in training and supporting the promotion of agroecology. Knowledge is key, and when you change your mindset, you can see the possibilities," she says. Naomi Nkatha, the secretary of Hope Women Group in Marurui has benefited from the training Nkirote and other trainers offer. Through the adoption of conservation agriculture and organic farming, Nkatha has seen significant changes in her group of 29 members.

![](_page_51_Picture_7.jpeg)

"Initially, we relied heavily on chemical fertilizers and pesticides, which were harming both our economy and the environment," Nkatha says. "Through the training, we learned proper crop planting techniques, such as how to grow maize for better yields, and how to make our compost. This has made a huge difference."

Nkatha has booked huge savings by switching to agroecological methods. "Before, I used to spend a lot on fertilizers and chemicals. Now, thanks to the new farming techniques, we're seeing great results without the high costs."

"I no longer rely on expensive tractors, which didn't provide good returns. Now, I know that I don't need a tractor. The new methods such as conservation agriculture, where we do minimum tillage, are more cost-effective and productive," she continues.

Isabella, a member of the Ntumburi farmers group, says she dropped conventional pesticides for bio-pesticides and combined the changeover with good soil practices. "These changes have had a positive impact on our farms," says Nkaragacha.

![](_page_52_Picture_4.jpeg)

Nkaragacha explains that knowing how to use drip irrigation has helped her to conserve water and set up a nursery to sell seedlings. "I've been careful not to use herbicides, as I know they can harm the plants. The knowledge I have gained from the trainers has been priceless."

Agroecology, she adds, has improved her family's nutrition significantly. "We're healthier, and we're eating better quality meals, like spinach and beans."

![](_page_52_Picture_7.jpeg)

## Tiny indigenous vegetable plots enhance nutrition in Kiambu

![](_page_53_Picture_1.jpeg)

In 2022, a group of farmers began cultivating traditional vegetables for household consumption, marking a significant step in the pursuit of food security. Their initiative has since grown, supported by PELUM Kenya's organic farming project aimed at strengthening the PENELI IV programme.

A majority of Mukuyu Kienyenji vegetables selfhelp group women, the farmers, through Community Sustainable Development Empowerment Programme (COSDEP), a NGO, benefited from PELUM Kenya's training and set up a demo farm fed by an earth dam in Githunguri, Kiambu county.

The farm holds vegetables such as cowpeas (kunde), beetroot, amaranth (terere), nightshade (managu), cabbage, blackjack, mint, and broccoli. For diversification, the farm has ventured into herb farming, which include types such as sage, lavender and rosemary that also acts as a pest repellent.

"Our area agricultural officer, Mr Kuria, introduced us to COSDEP who have been training us in agroecological practices that have transformed our livelihoods and community," said Gerald, the lead farmer in whose plot sits that demo farm.

#### "Through COSDEP, PELUM-PENELI IV supported us to construct an earth dam for watering our plants," added Wajara.

After mastering how to make organic fertilizers, the group has reported a reduction in the cost of buying commercial fertilizers while ensuring their families enjoy organic food, which is healthier and tastier. Going organic, they report, has also reduced pest attacks as more farmers in the neighborhood embrace agroecological practices.

![](_page_54_Picture_0.jpeg)

To maximize yield from their farms measuring a quarter acre or less, they practice methods that include seed beds, raised beds, plant rotation, sunken beds, terraces, Zai pits, and vertical gardens that enhance production.

The group is also using readily available materials such as tithonia, commonly used as a live fence, molasses, yeast and pepper for making bio-pesticides.

"Since I started producing and applying the organic pesticides, the soil in my farm has greatly improved and my vegetables are pestfree and tastier and I don't have to take two weeks before consumption," says Judith, vice chairperson of the Mukuyu Kienyenji vegetables self-help group. Anne, a member of the group, says her farm is the true picture of embracing agroecology: she keeps poultry and uses an incubator that PELUM donated. She is one of the fifteen (15) farmers from whom eggs are collected to run the venture.

Her quarter acre farm has a biogas installation that her animals supply with cow dung, but which has cut energy costs, putting her on the road to increased profits.

Capsicum, maize, beans, and bananas do well in the farm that she says is self-sustaining and hails the COSDEP and PELUM support.

To reduce post-harvest losses when vegetables demand is low, a solar dryer in the demo farm enhances preservation, making it possible to make flour sold to neighbors for fortified and nutritional meals.

![](_page_54_Picture_8.jpeg)

Apart from the flour business, vegetables, herbs, bananas, and arrowroots surpluses are solar dried and packaged for sale.

Elizabeth, also a member of the self-help group, says their flour brand is a favorite of the elderly and homes with babies because of the nutritional value. "We keep getting more and more orders for the arrowroots, sweet potatoes flour, while our families also benefit greatly from consuming this flour," she says.

Nonetheless, solar drying faces a hiccup, especially during wet and cold seasons. Other challenges are refrigeration during glut or when the farmers collect lots of vegetables that end up rotting, leading to huge losses.

Through PENELI IV, the self-help group received equipment such as oil press machines, a money maker machine, a grinder for making flour, and an egg incubator, putting them on the road to a sustainable poultry business.

The group is working on expanding the flourmaking business, securing Kenya Bureau of Standards (KEBS) certification, and enhance commercialization. To grow their market, the team is working closely with Githuguri constituency officials to be allocated a space for display and sale.

As their source of life and livelihood, the group is preserving its precious seeds using various ways, including old chemical-free drums and jerrycans

![](_page_55_Picture_6.jpeg)

Among other gains of capacity building in organic farming, the yields have risen, compost manure has improved soil fertility, financial status is healthier, ushering them into table banking through which they save and borrow weekly.

Among the hurdles they are grappling with are water shortage due to unpredictable weather; seed quality woes hurting germination and yield quality; costly electricity; and, expensive poultry feeds.

That notwithstanding, the demo farm and the self-help group are a testament that unity of purpose leads to food security, especially through agroecology that checks water use, improves soil fertility and enhances food production.

![](_page_55_Picture_10.jpeg)

## **Best Practices**

- Agroecological farming techniques: Farmers have embraced agroecological practices such as composting, crop rotation, intercropping, and organic fertilizers, which have improved soil fertility and increased yields while protecting the environment.
- **Community-led initiatives:** Successful farmer groups have collaborated to exchange knowledge, share resources, and provide mutual support. These group-based approaches have strengthened local networks, built trust, and improved the sustainability of farming practices.
- Value addition and market linkages: Farmers have found new markets and improved incomes through value addition, such as processing and packaging products such as yogurts, aloe vera soaps and oil, and dried fruits. Market linkages have helped farmers to reduce post-harvest losses and improved economic resilience.

- Women empowerment: Women groups have taken the lead in driving organic farming, seed preservation, and sustainable agriculture. Their leadership in local projects has not only increased food security but also improved gender equality within communities.
- Climate change resilience strategies: Through practices like water harvesting, agroforestry, and drought resistant crops, farmers have improved their resilience to climate change impacts, such as erratic rainfall and prolonged droughts.
- Training and capacity building: Ongoing training for farmers has been critical to disseminating best practices and empowering farmers to adopt sustainable agriculture. Through continuous learning, farmers have been equipped with the knowledge to innovate and adapt to new challenges.

![](_page_56_Picture_7.jpeg)

![](_page_56_Picture_8.jpeg)

![](_page_57_Picture_0.jpeg)

## Lessons Learnt

- **Community empowerment:** Sustainable change occurs when communities take ownership of their development. Community led initiatives not only ensure greater participation but also build long-lasting networks of support.
- Knowledge sharing drives innovation: Farmers who shared their experiences and learned from each other were able to innovate and overcome challenges more effectively. Creating platforms for peer-topeer learning is essential to scaling up successful practices.
- Integrating gender in development: Including women in leadership roles and agricultural decision making is vital for the success and sustainability of agricultural initiatives, as they often take the lead in food production and family welfare.

- Long-term engagement: For lasting transformation, agricultural development must be seen as an ongoing process. Continuous training and follow-up support are needed to reinforce best practices and keep farmers engaged.
- Policy advocacy localization: While national policies are important, local level advocacy and engagement with local authorities are crucial for addressing the specific needs of farmers and ensuring policy changes are implemented effectively.
- **Resilience approach:** Climate resilience is most effectively achieved through a combination of agroecology, water management, crop diversification, and community-based solutions. This holistic approach enhances the overall sustainability of farming systems.

![](_page_58_Picture_0.jpeg)

## Recommendations

- Expand access to resources: To increase adoption of agroecological practices, there is need to improve farmers' access to affordable organic inputs, seeds, and technology. This can be achieved through partnerships with input suppliers, government support, and cooperative systems.
- Strengthen market linkages: Establishing stronger market linkages and supporting farmers in establishing cooperatives can help them achieve better prices for their products. Investment in infrastructure, such as storage facilities and transportation will reduce post-harvest losses and improve market access.
- Enhance financial support: Creating more financial products that are accessible to smallholder farmers, such as low-interest loans or grants for agroecology, would help ease the financial burden and promote long-term investments in sustainable farming.

- Increase policy advocacy: Advocacy should continue at both the national and county/local levels to create a more conducive policy environment for agroecology. Additionally, encouraging policymakers to involve farmers in decision making will lead to more contextspecific solutions.
- Foster innovation through research: Research into indigenous knowledge, crop varieties, and ecofriendly farming technologies will continue to drive innovation in sustainable agriculture. Supporting farmer-led research initiatives will also allow farmers to test and adapt new practices more effectively.
- Increase public education: Engaging the wider community in understanding the benefits of agroecology, through public campaigns, workshops, and school programs, will help build public support for sustainable farming.

## Conclusion

PENELI IV Programme has successfully demonstrated the transformative power of agroecology in promoting sustainable agriculture, enhancing food security, and improving the livelihoods of smallholder farmers and pastoralists. The stories shared in this document are not just about farming practices, they are about resilience, community solidarity, and the drive to improve the future for generations to come.

While there have been challenges along the way, the success stories, lessons and best practices and shared here provide a clear pathway for scaling agroecological practices across Kenya and beyond.

As we move forward, it is essential to continue strengthening community networks, advocating for supportive policies, and ensuring that farmers and pastoralists have the resources and knowledge they need to thrive.

With continued collaboration and commitment, the vision of a sustainable, inclusive agricultural future is within reach, and the stories from PENELI IV Programme will inspire future generations to build on the foundational aid by this remarkable initiative.

![](_page_59_Picture_5.jpeg)

![](_page_60_Picture_0.jpeg)

Networking for a greener Africa.

Participatory Ecological Land Use Management (PELUM) Kenya KU Boma Estate, House Number 114 along Kenyatta Road, off Thika Superhighway exit 14, P.O. Box 6123 – 01000 Thika, Kenya <u>PHONE:</u> +254709746939 <u>EMAIL:</u> info@pelumkenya.net