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Rooted

in Agroecology and Food Sovereignty

Cultivating health and healing

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Photo: Faanati Mamea

Cultivating health and healing

Amid intersecting crises, agroecology reminds us that we have power and agency to choose health – for both people and planet, as this second issue of Rooted Magazine demonstrates. Current trends show disease rates increasing across the board and hunger and malnutrition on the rise, and mental health statistics indicate the negative effects of cumulative stress and suffering. Climate change, war, political turmoil and biodiversity loss are causing uncertainty and instability, which in turn lead to spiritual and existential anxiety. And yet – despite the overwhelming odds – pockets of health and wellbeing persist and are growing.

By linking human, plant, animal and planetary health, agroecology offers holistic and collective responses. This issue of Rooted explores the variety of ways in which this happens, sharing the insights offered from experiences around the world.

Agroecology for health and wellbeing

In a world that encourages disconnection from each other, from nature and from our cultural roots, we are witnessing the medicalisation of human experiences as a 'normal' part of everyday life. Relationships between communities and ecosystems that were previously connected to past and future generations have been replaced by exploitative agricultural transactions that yield profits for the few but destroy our social fabric and the planet's soils and biodiversity. The food that results is homogenous and nutritionally deficient. It is detached from the farmer's care, the peasant's ancestral wisdom, the indigenous cosmovision of balance, and the community's culture of food based on meals shared with family and friends.

If this issue of Rooted makes one thing clear, it is the power of agroecology to heal. Communities around the world are pursuing localised, collective systems organised around diversified, seasonal and nourishing food, centering spiritual connections with each other and their territories. The principles that ground these agroecological initiatives are rooted in food sovereignty, the right to healthy food, equity, and social and gender justice. They are shaped around

Helen Tibandebage Nguya in the gardens she created for people living with HIV/AIDS in Tanzania.

diverse cultures, identities, traditions and knowledge.

This magazine presents powerful and hopeful experiences, poems and perspectives from the (often women) peasants, farmers, Indigenous peoples, communities and movements that are taking health back into their own hands. They do this by reviving traditional seeds, food and practices, and by facilitating healing and wellbeing, reconnecting people to the land and to each other.

It was heartwarming to receive over 100 submissions following our Call for Contributions, including creative expressions such as art, poetry and photography. It is with gratitude that we include two poems about community, soil and seeds: 'Tincture' by Zena Edwards and 'We can plant a seed' by Nnimmo Bassey.

In addition to longer grounded stories, interviews, perspectives and poems, this issue offers a series of shorter stories, which allows us to share a wider range of insights and initiatives that are alive in the global agroecology movement. They all acknowledge the role of agroecology in fostering spiritual health, food as medicine, urban wellbeing and systemic transformation.

Spiritual health

The agroecological approach is as much about spiritual healing as it is about physical and mental healing. Many of the authors offer insights from their experiences in reviving ancient traditions and practices that have been eroded since the onset of colonialism and continued during the era of agribusiness, but that are now proving vital to people's connections to place, culture and spirit.

In Benin, Chief Atawé Akôyi is leading the restoration of sacred natural sites – rich in medicinal plants, nutritional crops and spiritual connections: "This revival has become our story of holistic healing". Another revival, of the indigenous horse in Kyrgyzstan, teaches us that animals can also play an important role today in promoting ecological and spiritual health, and that this requires a holistic approach to agricultural development. Other examples from the US, the UK and the Pacific Islands show how traditional foods and practices enable people to strengthen their cultural and spiritual wellbeing.

Food as medicine

Trauma is often at the root of poor health, and this in turn can be caused by violence, displacement, alienation from one's culture, poverty, racism or sexism. Many articles in this issue illustrate how agroecology offers a path for healing. Its focus on producing healthy, culturally appropriate, poison-free food is one critical path, but just as important is the connection (or re-connection) of people with the land, the forest and its animals, plants, seeds and soil – and with each other.

For example, in Guatemala, the armed conflict not only left scars on the land and in people's memories, but also weakened nutrition in communities. Doña Aniceta works with a network of seed savers to ensure that amaranth, which she buried during wartime in a form of agricultural resistance, is regaining its place in local markets. In Kenya, the Ogiek forest people lost access to their nutritious ancestral diet – and their role as 'caretakers of life' – when

Photo: Reguli Damas

they were displaced from their hunting and gathering grounds. They are countering this by cultivating indigenous vegetables and revitalising their beekeeping traditions. In the Eastern Cape province of South Africa, with its legacy of colonial agriculture, two nurses-turned-farmers dialogue about the nexus between agroecological farming, human wellbeing and care. Experiences in Tanzania, the Netherlands, the US and India also demonstrate how agroecology can be a cure for physical and mental illness.

Urban wellbeing

In cities, with their physical and spiritual estrangement from nature and its cycles, there is an emergence of grassroots transformations that connect people with each other and the land through food and farming. In Brazil, the mapping of 2345 urban agriculture initiatives concluded that they are a force for cultural renewal and the emancipation of marginalised communities. Women in Sao Paulo, for example, are creating spaces that promote health, social connection and environmental care through the cultivation of medicinal plants. A trilogy of short stories from Quito, Ecuador illuminates the political importance of urban agroecology and a photo story celebrates the regenerative, nourishing and healing community gardens in London, UK that bring together people from the African diaspora to seed grassroots solutions for racial equality, land reparations and food sovereignty.

Systemic transformation

Agroecology has the potential to challenge the various systems of oppression that contribute to today's health crises, including capitalism, coloniality, patriarchy, racism, classism and heteronormativity. Articles in this issue highlight some of the work being done to dismantle these pernicious structures through, and in support of, agroecology. In her interview with Rooted, radical dietitian Lucy Aphramor concludes: "If health is the thing that emerges at the confluence of words like love, vitality, liberation, abolition, then agroecology is a powerful potentiator."

In Kenya, an important victory was announced in March 2025 following a lawsuit co-filed by the Kenyan Peasant's League that warned about the dangers that GMO and hybrid seeds pose to the mental and physical health of farmers – and particularly women farmers. Brazil's 'Zero Hunger' programme has improved the lives of women, but also reminds us that complementary measures are needed for new health challenges such as increased consumption of ultra-processed food and the burning of more waste.

At the level of cultural transformation, agroecological practices in Colombia are generating spaces where people's "capacities, talents, anxieties and fears" come to the surface, and where they often develop a "social sensitivity" for all forms of life. 'Social Pickle', a fermentation initiative that bubbled up in the United Kingdom during the COVID pandemic, shows how caring for healthy 'micro' communities of microbes can generate healthy 'macro' communities.

What emerges most strongly from this issue of Rooted is that agroecology can foster a holistic notion of health that is grounded in reciprocal connections and relations. As we learn from the Bagobo Tagabawa people in the Philippines, health is not only physical or individual: it is interconnected with the wellbeing of the community, the relationship to life, the work with the land, social connections, spirituality and culture. 'Being healthy', for the Bagobo Tagabawa and perhaps for all of us, is when these elements are all in alignment. ■

Authors: This article is a collaboration between Rooted Magazine and the People's Health Movement (PHM).
For Rooted Magazine: ***Faris Ahmed, Million Belay, Janneke Bruil, Martha Caswell, Georgina Catacora-Vargas, Ann Doherty, Ana Dorrego Carlón, Yodit Kebede, Jessica Milgroom*** *and* ***Nina Moeller****. Contact: rooted@cultivatecollective.org*
For the People's Health Movement: ***Mariana Lopes Simoes, Claudio Schuftan*** *and* ***Marcos Filardi****. Contact: lopessimoes.mari@gmail.com*

Food as medicine: The Bagobo Tagabawa's holistic health traditions in the Philippines

The Bagobo Tagabawa people, an Indigenous tribe in Mindanao, Philippines, have a long history of using plants for healing purposes. Today, their related knowledge and practices are jeopardised by various forces including the influx of Western diets and medicine. In recent years, tribal Elders and organisers have worked with community members to re-introduce the idea of 'food as medicine' by growing indigenous plants in backyard gardens.

KAHLIL SUCGANG APUZEN-ITO ET AL.

Sibulan Care members Mimi Tatad, Glenboy Utay, Carlitoo Epis, Noli Gomia and Emilyn Janolino together with tribal Elder Matanam Romi Gomia (second from left). Photo: Liliboth Taralba

The Bagobo Tagabawa, one of the many communities indigenous to Mindanao's islands, live on the slopes and in the foothills of Mount Apo, the Philippine's highest mountain. For generations the tribe has held sacred ceremonies and rituals on Mount Apo, receiving insights and healing. The Bagobo Tagabawa are also dedicated protectors of the local forests that are home to abundant plants and animals, including the endangered Philippine eagle. Their diet is primarily vegetable-based, and members have historically gathered and cultivated local indigenous plants for food and medicine. Tribal members in their eighties and nineties attribute their health and agility to their strong connection to place and their enduring cultural practices.

Glenboy Utay, a Bagobo Tagabawa community organiser, explains that their food traditions are not only nutritious but also a way to cleanse and heal the body. "These practices carry the identity of our tribe," he explains. "People seek out our indigenous cooking, especially taro, native chicken and our Law-uy (vegetable soup). We feel that these foods are healing."

Gardens of knowledge

Over the past decades, the influx of Western diets has led to the erosion of traditional Bagobo Tagabawa practices. Matanam Romi, an Elder and cultural practitioner, worries about the loss of the tribe's plant wisdom – not just for food but also for medicinal purposes: "People no longer believe in herbal medicine. When they fall ill – even with the slightest thing – they immediately go directly to the doctor or the hospital."

Recognising the need to revive traditional practices, the Bagobo Tagabawa launched an initiative in 2014 to address health, food and nutrition security by growing indigenous plants in family gardens. They did this in collaboration with Creative Nurturing Communities (CNC), a pilot project of the farming support group FARMCOOP. Although many families already had their own gardens, some relied on synthetic chemicals and pesticides and the crops were not always productive.

Under the guidance of Elders knowledgeable about community health and a cohort of organic gardeners, a core group of Bagobo Tagabawa women and youth worked with parents and neighbourhood leaders to set up family gardens in the municipality of Sibulan. They used locally adapted and indigenous plants known for their nutritious and healing qualities and learnt about efficient and effective organic production with the goal of maximising yields.

Community members exchanged seeds, seedlings and growing practices, and established backyard gardens that included many indigenous varieties. The gardens provided a platform for an inspired exchange of knowledge between Bagobo Tagabawa Elders, mothers, young women, youth organisers and other community members. "We learnt about indigenous herbs from our own community. The Elders and mothers brought the knowledge and the practices. They told us what herbal plants they used for certain illnesses and what foods to eat and to avoid for healing," youth organiser Mimi recounts.

The expropriation of herbalism

For the Bagobo Tagabawa, spirituality is vital to health: for them, plants and humans are interlinked. Yet the widespread adoption and promotion of Western medicine in their society poses concrete challenges to the practice of their healing traditions. Matanam Romi says: "We are encouraged to go to the hospital when we are sick, but when we are there, the doctors prevent us from using our herbal medicine and practicing our indigenous practices." For example, the tribe uses the 'tawatawa' plant (Euphorbia hirta) to treat dengue fever, but this is forbidden by hospital doctors. At the same time, Western-trained doctors have interviewed Matanam Romi about indigenous herbal plants and have even published a book on the subject without crediting him or the tribe.

Abundance, reduced malnutrition and resilience

The family backyard gardens that were created over the next two years provided food for around 900 Bagobo Tagabawa community members and 521 children at school and at home. Local markets and organisations, including churches and government agency staff, purchased the surplus, giving households – and particularly women – an additional source of income.

During the CNC harvest festival and evaluation of the collaboration in 2016, Bagobo Tagabawa families testified not only that they had more food, but that they were also able to share with their neighbors in need. Importantly, the community health worker and neighborhood leaders confirmed a decline in malnutrition among adults and children.

It soon became clear that indigenous plants are also crucial for building resilience within the community, especially in times of crisis. During one of the country's devastating droughts in 2017, these varieties were the only crops that survived and were able to feed local households. They were also an important food source during the COVID-19 pandemic, when food prices rose and movement in and out of Sibulan was severely limited to protect the tribal community. During this period, more tribal members relied on medicinal herbs as a way to avoid hospitals.

In addition, Bagobo Tagabawa research farmers working together with FARMCOOP's partner farms in Davao del Norte are currently supporting strategies to diversify areas that are monocropped with banana and where the sources of seeds and plants are limited. The generosity shown by Bagobo Tagabawa farmers in the exchange of information, seeds and plants with other farmers has been critical for building stocks that can be used to recover from agrobiodiversity loss, an under-reported crisis in the Philippine food and agriculture system.

For the Bagobo Tagabawa, the gardens have served both as a pathway for the expression of their collective vision about the healing power of plants and as an acknowledgement of the many benefits of retaining their cultural foods and growing practices. Matanam Romi explains: "A long time ago, I wondered what would happen to the culture of the tribe. How can I teach our children so they can be on the right path? I decided to teach about the plants, about the herbs. Everything that the Ginoo [God] placed here on earth can help people."

Upland challenges

Community-led backyard gardening has been a successful strategy for food sovereignty in the lower, more populated areas of Sibulan, but the remote upland areas where many Bagobo Tagabawa families rely on farming for their livelihoods remain isolated. Here, food production and nutrition security are severely impacted by soil degradation, low yields, lack of farm infrastructure and organic inputs, limited market access, and an anti-farming bias in education, society and institutions. Furthermore, new government rules have decreased earnings from the cultivation of abaca fiber, an important commercial product, forcing many remote Sibulan farmers to work on conventional, high-pesticide vegetable farms. These economic shifts have led to scenarios where one parent must work in the city or overseas, separating families indefinitely.

In these areas, where households increasingly needed to purchase food due to the challenges of local food production, 30% of Tagabawa Bagobo pupils in the four communities we worked with missed school on a regular basis due to hunger. In response, upland tribal members proposed replicating the backyard gardens that had been so successful in the lowlands. However, instead of the quick and widespread success seen below, the upland effort faced a wide range of difficulties, including logistical, staffing and budget limitations, and limited participation by farming households who were negotiating resource and time constraints.

Taking an agroecological approach to health requires time, intergenerational commitment, and the regeneration of 'bayanihan': the unity of the community

In response to these persistent challenges, a coalition of nearly 400 Bagobo Tagabawa farmers, Elders, women and youth united to form Sibulan CARES in 2024. The goals for this new organisation included diversifying crops and farming income, improving biodiversity and soil health, and establishing more family gardens, especially in remote areas.

Today, Sibulan CARES and FARMCOOP are working with families and young people in the uplands to revitalise the

Harvest of traditional vegetables.

Photo: Kahlil Apuzen-Ito

organic backyard garden and multicropping programme. To alleviate financial difficulties, these gardens will serve dual purposes – food for the home and a possible source of income.

Our garden initiative has taught us that taking an agroecological approach to health requires time, intergenerational commitment, and the regeneration of 'bayanihan', or the unity of the community, to work together. Community organiser Mimi Tatad explains: "In the past, the family passed on this knowledge of cooking, food and herbs for healing to their children. The Elders would teach intentionally, and the children were more hands-on."

Observing the negative impact of Western diets, Bagobo Tagabawa parents have now begun to encourage their children to learn from their Elders about traditional herbs, food, and indigenous practices. In conjunction with the work of the CNC gardens, this has resulted in today's youth being more aware of the value of traditional healing methods and more receptive to learning.

Spirituality and health

For the Bagobo Tagabawa, health is not only physical or individual; it is interconnected with the wellbeing of their community, their relationship to their environment, their work with the land, and their livelihoods, social relationships, spirituality and culture. 'Being healthy', for the Bagobo Tagabawa, is when all these elements are in alignment. Sibulan CARES arose as a collective response to strengthening – through practice – the tribe's knowledge about this interdependence. The home gardens, the revival of biodiversity, and the creation of sustainable livelihoods that protect community health are all ways to reestablish these interconnected harmonies.

In addition, through the maintenance and reintroduction of traditional practices, indigenous and locally adapted crops and herbs have the long-term potential to address food and nutrition security, provide viable options for climate resilience, and improve health outcomes for Sibulan and other communities in Mindanao.

In the words of community organiser Mimi Tatad: "If the culture is rich, if the community is able to sustain what it needs, then the community is healthy, and the individual is healthy in the community." ■

Photo: Kahlil Apuzen-Ito

Indigenous linutlot, one filled with rice and the other with cassava.

Passing on the knowledge

My mother taught me and my siblings about the healing properties of food and plants as we were growing up. She was a nurse who helped to organise women and community-based health programmes that integrated traditional Filipino, East Asian and Western healing methods for rural communities where medical facilities or practitioners were lacking. The core of her teachings espoused the notion that food is medicine and that everyone – and especially disadvantaged rural communities – should have holistic preventative health knowledge and skills to provide them with autonomy and empowerment.

In that context, I am happy about the younger generation's growing desire to find ways to keep their cultural heritage alive. Matanam Romi's son and traditional Indigenous cultural practitioners Noli and Carlito Epis would sometimes prepare my favorite 'linutlot' when I visited them. I would wait in anticipation while they broke the charcoaled bamboo open and the steam rose, filling the air with the aroma of lemongrass, native chicken rice and cassava. I have recently begun to appreciate the medicinal benefits of this beloved bamboo rice and am deeply grateful that the tradition has survived due to the dedication of traditional Elders and tribal members to retain and develop our culture.

Kahlil Sucgang Apuzen-Ito

*Authors: **Kahlil Sucgang Apuzen-Ito** is an Indigenous Kanakana-ey agroecology and soils practitioner. She is head of the Agroecology Research and Development Unit for the Foundation for Agrarian Reform Cooperatives in Mindanao (FARMCOOP). **Glenboy Utay, Mimi Tatad** and **Emilyn Janolino** are Bagobo Tagabawa community organisers with Sibulan CARES, which works with Bagobo Tagabawa tribal members to diversify crops and farming income, improve biodiversity and soil health, and establish more family gardens, especially in the remote areas. Contact: ksaikzen@gmail.com*

The forest is life: Restoring the health of people and place in Benin

As a child, I saw python deities draped from branches, heard the stories of my ancestors who hid from European slavers among roots, and drank the medicinal teas and wild fruits gathered by my mother. But I grew up seeing these forests recede, and the health of both nature and people has suffered. Where I live, on the southern Ouemé plateau, just one third of the sacred forests recorded in 1980 remain. As a man, and as the Chief of my people, it has become my life's mission to restore us all – our forests and ourselves.

CHIEF ATAWÉ AKÔYI A. OUSSOU LIO

My name is Chief Atawé Akôyi; I am the Chief and Prince of the Atawé community in Avrankou, in the east of Benin. In the time of my forefathers and the chiefs who came before me, Avrankou, like most of the country, was home to many great forests. These forests gave us shelter, food and medicine, and within them lay the sacred natural sites which are so important to our Vodún (Voodoo) culture. Vodún is a religion of the Earth. Each element has significance, and all our beliefs ultimately go back to the forests where we have lived, prayed and cured ourselves for generations.

My organisation was founded in 1996: Groupe de Recherche et d'Action pour le Bien-Être au Bénin (GRABE-BENIN, or the Research and Action group for Wellbeing in Benin). I was able to buy half a hectare of land, and many people came together to begin what would be a transformative process for the health of our territory and kin.

Restoring our memory

We began our work by holding community dialogues with knowledgeable Elders to restore our memory of the ancient agroecological practices that enable humans to live in harmony with nature, producing food and medicine while supporting the health of the forests, rivers and wetlands around us. This revival has become our story of holistic healing.

Each community used to be responsible for taking care of its own sacred natural sites. Trees were regarded as sheltering, healing, fruitful and inspiring companions in our Earth community; they weren't reduced to sources of wood or stores of carbon, as they are today.

As our ancestor Wangari Maathai said, "Trees have become, literally, totems of the clashes between different groups… invading forces have understood that sacred groves must not only be destroyed, but that such destruction is a way to demoralise, fragment and intimidate the local

Photo · Amy Forshaw

Chief Atawé Akôyi A. Oussou Lio.

population by stripping it of its spiritual strengths." Today, the fragments of forest still alive are in jeopardy. Industrial agriculture, urbanisation and mining are all encroaching on our ecological and cultural health. Whenever this pressure threatens to overwhelm us, I remind myself that others may have connections to authorities and the power of money, but we remember our connection to nature and have the power of Mother Earth.

Seed is power

We are guided in this endeavour by the philosophy and practice of Earth Jurisprudence, a philosophy in which humans are only one part of a wider community of beings and where the welfare of each member of that community is dependent on the welfare of the Earth as a whole. I see agroecology as preparation for this – for becoming one.

We have built a learning centre that offers agroecological training for the rural communities around us. This is a meeting place of much wisdom: women, community Elders, custodians, students and children. Here, we blend western and traditional learning but above all we bring people together with each other and with nature.

At the learning centre, women have revived their roles as custodians of seed and brought back our indigenous varieties. Like the wrinkly cowpeas that come in two colours, which we call sheep eyes and cow eyes. Eating cowpeas gives you strength, the roots are medicinal, and boiling the seeds makes alcohol. But seeds aren't only for planting. Seeds are stories. Seeds are spirituality, knowledge and power. The women remember these cultural traditions, like how a mother will be given one sorghum seed to eat and one to plant for her child's future during naming day ceremonies.

> *Seeds aren't only for planting. Seeds are stories. Seeds are spirituality, knowledge and power.*

Decades ago, our parents used to eat more than 30 varieties of vegetables. But as our people have been sold to the ways of 'modern' agriculture, this number has been reduced to four or five. So over the past years, the women of our community have united to plant, harvest, forage and cook traditional varieties. They don't need money to do this, just the seed. Today we are the only organisation in Benin with an ancestral vegetable garden, and when we eat its diversity, we and the land are healthier.

Weaving farming and forests back together

We have also remembered how to farm without chemicals. It is dangerous to give chemicals to human beings, as well as to our more-than-human kin. We are all connected, and

The community sharing shards of coconut and ayivi (cowpea).

when we harm nature, we harm ourselves. It doesn't make sense to destroy ancient forests for annual agricultural production; we need to weave farming and forests back together again.

One of my favourite trees, the breadfruit, is important because it sustains us through the dry season when there aren't crops to harvest. It is versatile – pound it, fry it, boil it – and it is very nutritious, full of magnesium and potassium. These big fruits, ripening at a difficult moment of the year, are like gifts. So nowadays I have breadfruit trees in our learning centre nursery, and we are replanting them across the region. Millet is for one year, but a breadfruit tree is forever.

Sacred natural sites

Sacred natural sites are the oldest 'conservation areas' in the world, having been protected by Indigenous custodians for time immemorial. They are safe homes for animals and plants, and they exist in a network across lands and waters, so their health is integral to the resilience of the entire ecosystem.

Culturally, they are home to our ancestors, offering us a connection to the spiritual world. They are no-go zones for cutting wood, hunting animals and foraging food; instead of extracting, we go there with offerings like seeds or oil from cocoa or palm. They are also a source of medicinal plants and herbs.

As a child, my mother would prepare a variety of medicinal teas. We drank moringa to give us strength, thanks to its high mineral content. We used basil, an antibiotic, to fight off infections. We drank ginger and ripe papaya to aid our digestion, as well as the leaves of the papaya tree to help prevent malaria. After eating, we would chew on crushed sticks of lemongrass to clean our teeth.

At GRABE-BENIN we are rediscovering this knowledge of harvesting medicine alongside harvesting food from plants. Customary, natural cures are vital for the health of 70% of our communities, who don't go to hospital or can't afford 'modern' healthcare. We are thankful to have western medicine too; it has its place if carefully used. But in my culture, we say "don't break the canoe that helped you cross the river".

The philosophy and practice of Earth Jurisprudence

I have learnt much along the way, and most of all from the nature of the forests themselves. I am especially grateful for the lesson of unity: that as healthy individuals, we contribute to a healthy whole. We get back what we put into this reciprocal system, held together by our sacred natural sites. If you kill plants and insects with chemicals, you are killing yourself; it is like planting pineapple and looking for lemons. What you contribute comes around. This is justice according to the laws of nature. Now it up to us to heal nature – and ourselves – by reviving and being inspired by indigenous ways that are governed by the laws of nature.

We do not walk alone. As an Earth Jurisprudence Practitioner, I am part of the African Earth Jurisprudence Collective: a wider constellation of communities across East, West and Southern Africa. We are all returning to our roots, both physically in the forest and spiritually in our hearts. Rather than relying on top-down, 'conservationist' or 'development' interventions, we are enabling knowledgeable Elders to revive and share their own ecological knowledge and practices with their communities. This is how we are taking responsibility for the health of our people and our ancestral lands. We are on the frontlines of an intensifying race for land, money, fossil fuels and minerals. In response, we root deeper, back to the pre-colonial wisdom that holds us steady, which we learnt from the body of Mother Earth. ■

*Author: **Chief Atawé Akôyi A. Oussou Lio** helped to secure the first Sacred Forests Law in Africa in 2012 and then trained to become an Earth Jurisprudence Practitioner with The Gaia Foundation. Recently appointed as advisor to one of Benin's kings, he acts as cultural advocate for over eight million Tolinu people, stretching across Benin to Nigeria. Contact: aoussoulio@gmail.com*

The African Earth Jurisprudence Collective is a community of practice reviving indigenous lifeways for enhancing resilience. They accompany African communities on journeys of decolonisation, embracing the philosophy and practice of Earth Jurisprudence: remembering indigenous wisdom, restoring seed and food sovereignty, protecting sacred natural sites, and strengthening eco-centred governance. Contact: amy@gaianet.org

Healing with agroecology

Besides allowing us to stay healthy and prevent illness, food grown through agroecological approaches is being used around the world to help people heal and get better.

The story of a New American woman farmer

Julienne was born in a camp in the Congo to parents who fled Burundi in the 1960s, and her family spent years in another camp in Tanzania when conflict forced them to flee yet again. She was in her mid-twenties when she arrived with her family in the United States in 2008. There she joined the Syracuse Refugee Agriculture Program, which is enabling over 60 people to grow culturally appropriate foods without using chemicals. They do this on a vegetable farm and three community gardens in the Syracuse area. Like other New American farmers, Julienne finds immense satisfaction in growing, harvesting and preparing food that reflects ancestral traditions and nourishes both bodies and spirits. ■

*Author: **Mercy Oppong** is currently pursuing a PhD in Environmental Science at SUNY ESF. Contact: moppong1@esf.edu. Photo: Mercy Oppong*

A garden for women and youth living with HIV/AIDS

In 2010 Helen Tibandebage Nguya opened a centre for Training, Research, Monitoring and Evaluation on Gender and AIDS in Northern Tanzania. In Helen's garden, 24 participants learn agroecological practices to cultivate 'dawa lishe': therapeutic and nutritious traditional foods. They are all living with HIV/AIDS; most are women, specifically widows, and the rest are unemployed youth. The garden is not just a place of learning; it's a space of healing. Women regain their strength, both physically and mentally, and they develop new skills. "We grow more than just food: we grow dignity, resilience, and a future where no one is left behind." ■

*Authors: **Reguli Damas Marandu** is an agroecology officer with WWF Tanzania and the national coordinator of Slow Food in Tanzania. **Cristina Laurenti** is a researcher at Switzerland's Research Institute of Organic Agriculture. Contact: regulidamas@gmail.com. Photo: Reguli Damas*

Food Pharmacy: healthy food for patients

In the city of Rotterdam, the Netherlands, 40 patients with type 2 diabetes are receiving fresh, local and organic food boxes each week, as well as plant-based recipes, culinary workshops with chefs, and coaching from dietitians in their neighbourhoods. Food Pharmacy has a mission to redirect some of the 700 billion euros spent annually on managing chronic disease in the European Union towards accelerating agroecology and regenerative land transitions. Importantly, Food Pharmacy makes nutrient-dense local produce accessible to those who often have the fewest possibilities to consume it yet need it the most. ■

*Author: **Zuzanna Zielińska** is an environmental nutritionist and co-founder of HarvestCare. Contact: zuzanna@harvestcare.eu. Photo: Aina Seerden*

Biodiverse gardens amidst rice fields

Raichur in Karnataka was transformed in the 1960s and 1970s through irrigation and a shift to cash crop monocultures. Nutritious native species of millet disappeared, soil and water were depleted, and malnutrition and anaemia persist today, especially among women and children. Since the late 1980s, families have created biodiverse backyard gardens with our organisation's support. Medicinal herbs were specifically chosen to combat anaemia and malnutrition. More than 500 backyard gardens were established over the course of two years and the establishment of seed banks has empowered families to sustain the model. Women find pride and purpose in using these spaces to nourish their families, generating income and reclaiming agency with every harvest. ■

*Authors: **Nivedita Arumugasamy, Madhu R. Kolkar** and **Shivalingappa S. Ghanti** work with the Biodiversity Collaborative in collaboration with Ashoka Trust for Research in Ecology and the Environment and Prarambha in India. Contact: nivedita.arumugasamy@atree.org. Photo: Suresh Gowda*

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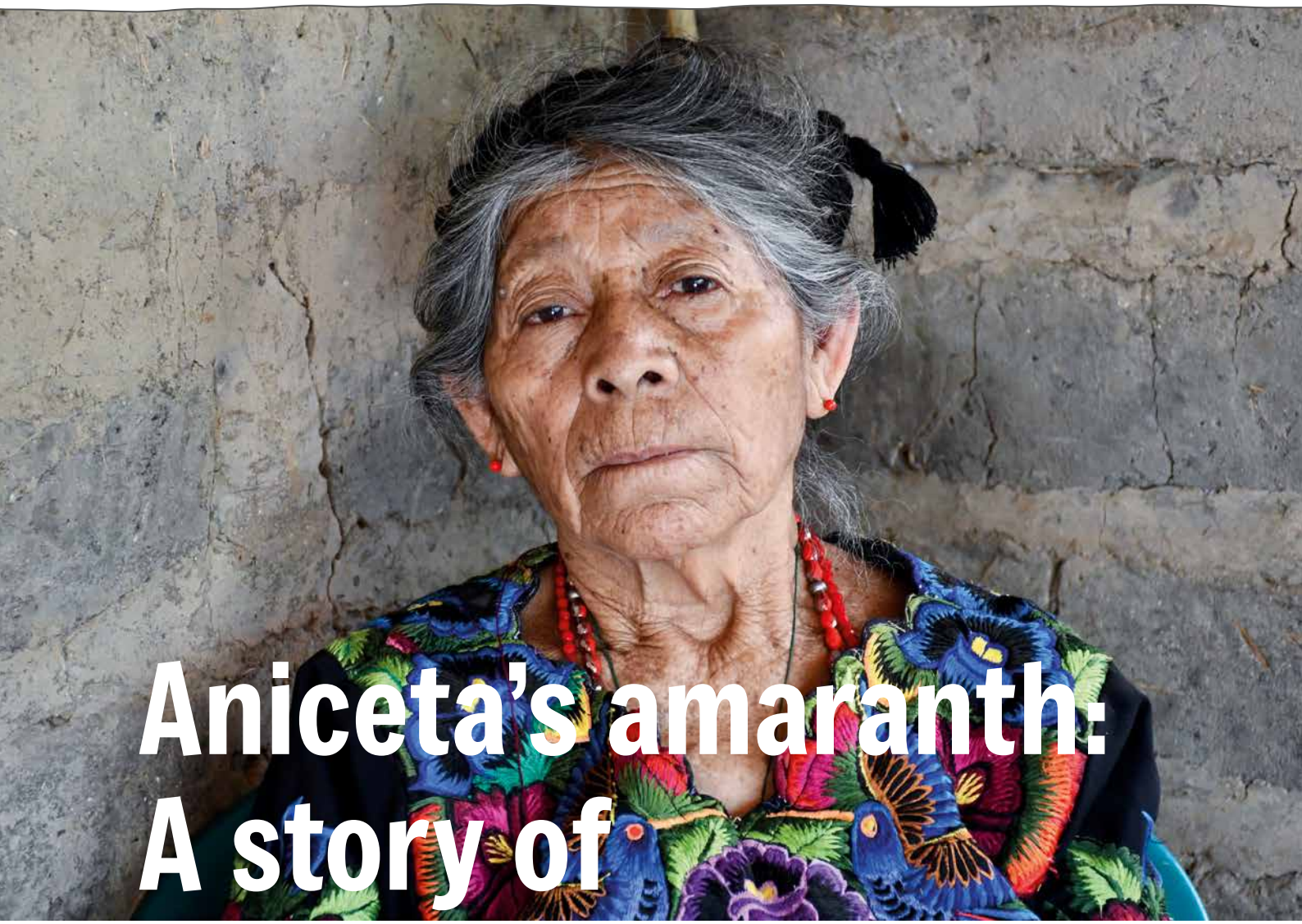


Aniceta's amaranth: A story of resistance, memory and life in Guatemala

"Gather grain and seeds and gather the shoots, for times of drought and hunger are coming. Sharpen your weapons, for enemies hidden behind the mountains and hills will not be long in stalking the ease and wealth of these lands with greed."
From Popol Vuh, a text recounting the cosmology, mythology and history of the highland Maya people in Guatemala, circa 1550.

LUISA MARÍA CASTAÑO HERNÁNDEZ

Aniceta, a Mayan Achi leader and guardian of seeds, sits in the corridor of her house in Rabinal, Baja Verapaz. In her traditional dress, embroidered with flowers. Photo: Lesli Liliana Juárez Alvarado

Rabinal's soil and the memory of its seeds

The soil of Rabinal, a small town located in the department of Baja Verapaz, Guatemala, holds stories of resistance and memory. At dawn, the sound of the 'metate' grinding stone and the aroma of corn reflect the continuity of an ancient agricultural tradition of the Maya Achi people. These communities have cultivated maize, beans and amaranth for centuries, integrating their cosmovision into planting and respect for the land.

The arrival of the colonisers brought attempts to erase these practices through the prohibition of crops and traditions. However, seeds like amaranth survived in hidden corners thanks to strategies of agricultural resistance to preserve not only food but also history and culture.

Amaranth in times of war and resistance

During the long internal armed conflict in Guatemala (1960-1996), Rabinal was the scene of massacres, forced displacement and the 'scorched earth' strategy of burning crops and thereby poisoning water sources. The military sought not only to eliminate people, but also to erase their way of life. Communities were forced to integrate into 'model villages' under strict control, leaving thousands of people without livelihoods.

Aniceta Toj and Luisa Manuel Xitumul, two Maya Achi women, recall the fear and hunger in those days. Luisa, from the community of Panacal, remembers: "There came a point when the law prevented us from working, and we started to go hungry. We had no tortillas, no beans. After a month, the generals arrived and gathered the remaining people of Panacal to ask us if we wanted to live or die."

When violence wiped out entire villages, many families fled, taking only the bare necessities. Some people buried seeds in containers and cloths before fleeing. Rabinal's villages fell silent. The survivors were forced into a daily struggle against hunger, wandering in the mountains, hiding and surviving on whatever the jungle had to offer.

When 19-year-old Aniceta fled her village, she first buried amaranth seeds. She survived in the mountains by feeding on roots, and there she gave birth to her son, alone, relying on the knowledge passed down by her mother and what she had learnt in her training to become a midwife.

> *When the first leaves sprouted, not only the land began to heal but the community itself*

Some of these peasants later found the seeds that their ancestors had hidden before the war, protected by the earth as witnesses to a future that still seemed possible. Others were not so fortunate; the Guatemalan Forensic Anthropology Foundation (FAFG) has documented more than 100 clandestine burial sites in this region, many involving peasants who were returning to their villages for food.

Amidst the uncertainty, the memory of amaranth persisted. In the evenings, the elderly people invoked the crops that once fed their villages. In their words, amaranth was resistance itself.

The return to Rabinal and the restoration of the land

After years of flight, some of the survivors returned to Rabinal. What they found was desolate: destroyed villages, barren fields, soil hardened by war and neglect. Aniceta Toj dug into the earth where her home had once stood, and found what she had buried before she fled: amaranth seeds, untouched and waiting.

Amaranth not only represented hope for the community; it was a real opportunity. Research has shown that its seeds can be preserved for years and that its root systems help to regenerate degraded soils. Aniceta did not know about these studies, but her intuition and memory told her how to care for the soil. She patiently removed the stones from the land, waited for the rain and sowed. When the first leaves sprouted, it was not only the land that began to heal but the community itself.

Luisa Manuel Xitumul recalls what happened next: "As women we started to get together and addressed our problems by sowing seeds to produce food."

The rebirth of amaranth attracted attention, and neighbours started to arrive. They understood that shared planting generates spaces for meeting and collaboration; these were fundamental elements in the reconstruction of social networks after the war.

Although many still considered amaranth as a grain of the past, others recognised its value. Community organisations such as Qachuu Aloom, a Maya Achi women-led organisation in Baja Verapaz, played a key role in the recovery of amaranth, promoting both its consumption and its relevance to food sovereignty. "Before, amaranth was the basis of our food; it was the gold of our ancestors, and that is why they were wise people. Now, after its forced disappearance, we are starting to grow it again and we are giving it to families as the main food to strengthen food sovereignty," explains one of the women.

Amaranth and the fight against malnutrition

The effects of the armed conflict in Guatemala left deep scars on the land and on the collective memory and nutrition of its communities. The war worsened Indigenous peoples' food security, leaving generations in a situation of extreme vulnerability. According to the UN Food and Agriculture Organization (FAO) and UNICEF, some 46 per cent of children in Guatemala suffer from chronic malnutrition, which severely limits their physical and intellectual development.

Research published in 2024 by the Autonomous Regional University of the Andes, entitled *Amaranth enterprise*

development: a path to food sovereignty and reduction of malnutrition, highlights that amaranth, because of its high protein, vitamin and mineral content, is an essential resource for combating malnutrition and strengthening food security.

For families in Rabinal, this information was not new. After the war, women began to revive their traditional practices, combining amaranth flour with corn to make tortillas and atoles (a thick, hot drink made with corn, water or milk and sweetener). In this way they recovered ancestral recipes that the war had nearly stolen from them.

The FAO recognises amaranth as an exceptionally resilient crop that is fundamental to the identity of Indigenous communities. However, while amaranth was returning to the fields and tables in Rabinal, in other countries its value was growing for different reasons. Since the 1990s, amaranth has been promoted for its health benefits and sold as a 'superfood' in health food shops and specialised supermarkets in the United States, Japan and Europe.

Amaranth seeds. For Maya Achi communities, these seeds are a central part of the cultural and food recovery.

But with fame came danger. The organisation GRAIN has denounced large corporations for trying to appropriate ancestral crops under the pretext of 'agricultural development'. Amaranth, like quinoa and other traditional grains, has fallen victim to biopiracy; companies are patenting improved varieties and privatising knowledge that belongs to Indigenous peoples. For Rabinal farmers, this meant a new struggle. They not only had to cultivate amaranth, but also to protect it again.

Aniceta and other women from Rabinal realised that their work could not stop with planting. If amaranth fell into the hands of large companies, its community value would disappear. Starting in 2003, they rescued seeds, formed collectives to share them and thereby established support networks with other Indigenous communities. Little by little, amaranth regained its place in local markets. It was sold alongside maize and beans, reaffirming its importance in daily diets. Today, each seed exchanged and each new plot sown is a declaration of resistance. What was once considered a forgotten food is now a symbol of recovery and sovereignty.

> *They recovered ancestral recipes that the war had nearly stolen from them*

At dusk, when the heat subsides and the air smells of damp earth, Aniceta walks among her plants and touches the leaves with the same devotion her grandmother once did. She doesn't speak of struggle or resistance, though that is what she embodies. She speaks of planting, of caring, and of waiting. She knows the land has its own time and that, in the end, it always gives back what is entrusted to it. Like seeds, the memory of her people had found a way to survive.

Today, Aniceta is working with Qachuu Aloom. Together with over 500 women, she is part of a powerful network of seed guardians who are protecting more than 70 native and creole varieties of corn, beans, squash and other traditional crops. For them, every seed is a story, every harvest an act of resistance, and every planting season a step toward food sovereignty and cultural survival. ■

Authors: ***Luisa María Castaño Hernández*** *is Groundswell International's communications coordinator for Latin America and the Caribbean.*
Contact: lhernandez@groundswellinternational.org

Harvesting for a Spring Tonic workshop.

Social Pickle: Building new micro and macro communities in the UK

NICOLE KENNARD

The Social Pickle project in Sheffield, UK is building community from the ground up, nurturing diverse microbial communities through the collective and communal practice of fermenting local produce. What began with producing vinegar from surplus apples has evolved over the years into a community initiative that promotes connection through activities such as fermentation celebrations and workshops, foraging wild plants, and preserving excess from local farms.

Community and collectivity are central to the ideals of agroecology. Healthy and thriving agroecosystems require regenerative networks of human, animal and plant life that support each other. Both history and research show how important community is for personal and societal health. Our health is also inextricably linked to animals, plants, and wider environmental health, a concept known as One Health. Many Indigenous cultures also centre a collective responsibility of care for each other and the land, principles that are also drawn on by agroecology.

Our addition to these existing frameworks is the idea that healthy 'macro' communities can only exist when there are healthy 'micro' communities at the foundation. The common thread supporting health across all ecosystems from the bottom up is the diverse microbial communities that live in the soil and water, on our crops, and even in our guts. These bacteria, fungi, yeasts and moulds are the engines turning the circles of life – they regulate planetary carbon and nitrogen cycles, decompose organic matter to feed new plant life, and even function within us to help us process and access nutrients from our foods.

In building agroecological food systems that support wider health, it is essential to care for these micro communities. Our role as humans is that of the steward – even if we do not work the land, we are all stewarding microbial communities around us, whether inside of us or in a jar of fermented food. As we learn how important these communities are, we can be more intentional with how we support them – and thus wider public and planetary health – within our daily lives.

Community fermentation

We gained these collective learnings through Social Pickle, a volunteer-run fermentation project born out of Foodhall, a community food hub, during the pandemic in 2020. Social Pickle is based in Sheffield, a small industrial city in north-central England. Although Sheffield has grown rapidly over recent years, the benefits of this development have not always been shared equitably.. In response to these economic divisions from the south to the north of the city, urban farms, gardens, local food businesses and community food projects have emerged and joined forces over the past decade to ensure access to healthy, nutritious food for all.

Foodhall was integral to this effort, providing a social eating space to bridge this divide by bringing people together around nutritious meals cooked from surplus food. During COVID, Foodhall shifted its focus to operate one of Sheffield's largest emergency food distribution programs. As Foodhall volunteers, we received a flood of food donations, but had limited capacity to process and distribute them due to social distancing. A group of us saw an opportunity to use fermentation both to preserve this surplus food and to enrich it with more nutrients, thus further supporting the health of our vulnerable communities.

Sheffield apple cider vinegar

Social Pickle's main aim is to bring people together to share in the joy and knowledge of foraging, preserving, pickling and fermenting food in ways that are open, accessible and fun. Our original six members included artists, writers, chefs, students and scientists. The journey began with the creation of apple cider vinegar from surplus and foraged apples across Sheffield, which we distributed in local shops and door-to-door to help fund our collective. Vinegar in itself offers many health benefits, but also is used to extract nutritional and medicinal compounds from plants (e.g., 'fire cider') and to preserve produce as 'pickles'.

> *The importance of our vinegar stretched beyond the bottle; it reconnected us with each other and with our natural environment*

The importance of our vinegar stretched beyond the bottle; it reconnected us with each other and with our natural environment. Raw vinegar has a 'mother' – a gelatinous community formation of bacteria, yeast, and cellulose – which can be added to new vinegars to jumpstart the fermentation process. Our first vinegar thus became the literal and figurative mother to many future ferments, pickles, medicines – and friendships – across Sheffield. With just some local apples and a little sugar, we were able to build entirely new micro and macro communities during a time of isolation.

Preserving foraged and surplus food

We next experimented with other forms of food preservation, transforming surplus foods in Foodhall's kitchen into marmalade, fermented banana sauce, Brussels sprout kraut and kimchi. Although COVID prevented in-person workshops, we found creative ways to build community and share knowledge, like our virtual launch party, where we taught vinegar making, held a collective tasting, and co-created a poem.

What is fermentation?

Fermentation is an ancient food preservation technique where microorganisms - bacteria, yeasts or moulds - break down complex sugars in foods into simpler compounds, while also producing either acid or alcohol, which preserves the food. This process makes foods easier to digest, generates vitamins and minerals with positive health effects, and fosters the growth of beneficial microbes that, when ingested, are beneficial for our gut microbiome. Our gut microbiome - or the microbes living in our gut - is one of the top influencers of our overall health; these microbes aid in digestion and accessing key nutrients, ward off sickness, and even support mental health.

Vegan market.

As COVID restrictions eased in 2021, we launched biweekly 'Glut Clubs'. These open fermenting sessions allowed people to experiment with various food preservation methods to capture the excess of the seasons through surplus and foraged foods.

We also hosted open fermentation workshops at markets and events across Sheffield and nearby towns, and ran an annual 'Pickle Fest' – a community-based fermentation competition and celebration. Art played a key role in all our events, helping people connect with the micro communities that support our health.

Although not farmers, all Social Pickle members are agroecological stewards – instead of a farm, our environment is a jar. As our project grew over the years and people entered the collective, the responsibilities of tending to our ferments and micro communities were communally shared. In sharing this process of collective care, and the joy and knowledge that came with it, we were building a new community of our own.

Connecting with Sheffield's environment

Food preservation was the avenue through which we connected our newly formed micro and macro communities to our local environment. We sought to capture Sheffield's seasons in jar-sized portions: starting in the spring of 2021, we partnered with a local herbalist in guided workshops where we infused our vinegars with the medicinal plants in abundance in our city parks, such as yarrow, elderflower, dandelion and plantain. These workshops expanded since into year-round programmes of seasonal infusions, facilitating a symbiosis with our local environ that nourished and cared for us as our needs changed through the seasons.

We also worked with farmers who supported microbial life in our local soils. Using agroecological methods such as minimising field disturbance and incorporating composts and manures, they protected and fed microbial life. These soil microbes are vital to food production; they break down organic matter into nutrients and help plants communicate and respond to stresses. They also improve soil structure by aggregating particles, which prevents soil loss and contributes to carbon sequestration – and thus, wider planetary health. Additionally, studies show that crops grown in more microbially active soils can have higher amounts of micronutrients and phytochemicals, contributing to the prevention of chronic disease when we consume them. As we fermented surplus produce from these microbially active soils, we captured and boosted this nutritive value for our communities.

We also gave back to these communities; by composting our kitchen scraps and then applying this nutritious organic matter to local garden beds, we supported soil microbial growth. In addition, we gave jars of locally preserved foods back to the farmers we worked with, as well as to the Sheffield community through a 'pay-what-you-can' model.

Fermenting into the future

Since 2020, Social Pickle has been in a time of uncertainty; key members have come and gone; Foodhall closed in 2023; and we lost our new space again in 2024, thus leading to the pause of 'Glut Clubs'. Despite these transitions, Social Pickle's micro and macro communities will forever continue sprouting across Sheffield, all rooted in our original vinegar mother. The knowledge, joy and creativity that has been shared through her, and through other microbes, pickles, sticky hands, laughing mouths and full bellies will continue to be shared and multiplied, building healthy and happy interspecies communities of care that will continue to sustain – and sustain us – into the future. ■

Author: ***Nicole Kennard*** *helped to start Social Pickle in 2020 and co-organised the project until she returned to her hometown of Atlanta, US in 2023, where she continues to engage in community food projects and conducts research around resilient local food systems at the Georgia Institute of Technology. Contact: Nicole Kennard, kennard3@gatech.edu*

This article draws on the collective experiences and insights from Nicole and other Social Pickle founders and members, including: ***Hannah Fincham****,* ***Ross Bennett****,* ***Lucy Marriott****,* ***Poppy Turner****,* ***Tara Hill*** *and* ***Matt McCabe****.*

The potential for wellbeing offered by the indigenous Kyrgyz horse

The indigenous Kyrgyz horse, a unique breed adapted to mountain ecosystems, used to be a strategic agroecological companion for nomadic communities but has been in steep decline since the 1950s. The horse contributes not just to ecology, economy and food security, but also to culture, knowledge and health. Reviving the indigenous horse could be vital for Kyrgyzstan, enabling the country to effectively adapt to serious global challenges. However, the restoration of these horses requires not just adequate agricultural policy, but above all changes in worldview – a return to a holistic vision of human wellbeing in relation to nature. This is key to unlocking the full potential for indigenous animals to strengthen livestock farming and improve ecological and human health in many countries.

INDIRA RAIMBERDIEVA

Children of horse breeders on an indigenous Kyrgyz horse. Photo: Aibek Baimbetov

The decline of the Kyrgyz horse and why it matters

The Kyrgyz horse originated from steeds bred by the Kyrgyz people some 4,000 years ago. Kyrgyz horse breeding gained attention in the 19th century when the Kyrgyz Republic established stronger ties with Russia following geopolitical shifts in Central Asia. In 1879, the first Kyrgyz national stud farm was established with Russian support. With the onset of the Soviet era, horse breeding was primarily oriented toward meat production and supplying horses to Soviet military units.

The start of the significant decline of the Kyrgyz horse started in the late 1950s, after World War II, when the Soviet government shifted its focus to European-style equestrian sports. It introduced a crossbreeding program, mixing ancient Kyrgyz horses with Russian Thoroughbreds and Arabians to enhance 'quality' and 'size'. This led to the creation of the Novokyrgyz breed, mainly intended for racetrack performance. As a result, the traditional Kyrgyz horse gradually disappeared from everyday use, as local people were increasingly convinced that it was unprofitable and lacked value. Another crucial factor in the horse's decline was the introduction of agricultural aviation in the Soviet era, which reduced the need for long-distance livestock transportation by horseback.

In the past, the total number of Kyrgyz horses from the Ural to the Altai mountain systems in Eurasia reached up to four million. Today, some estimates suggest that only 3,000 to 5,000 Kyrgyz horses remain, scattered across remote mountain regions of Kyrgyzstan. The displacement and loss of the Kyrgyz horse has meant the disappearance of traditional knowledge as well as the nomadic horse breeding culture. This in turn has caused a decline in nomadic logistics and economies and the disruption of balances in mountain ecosystems.

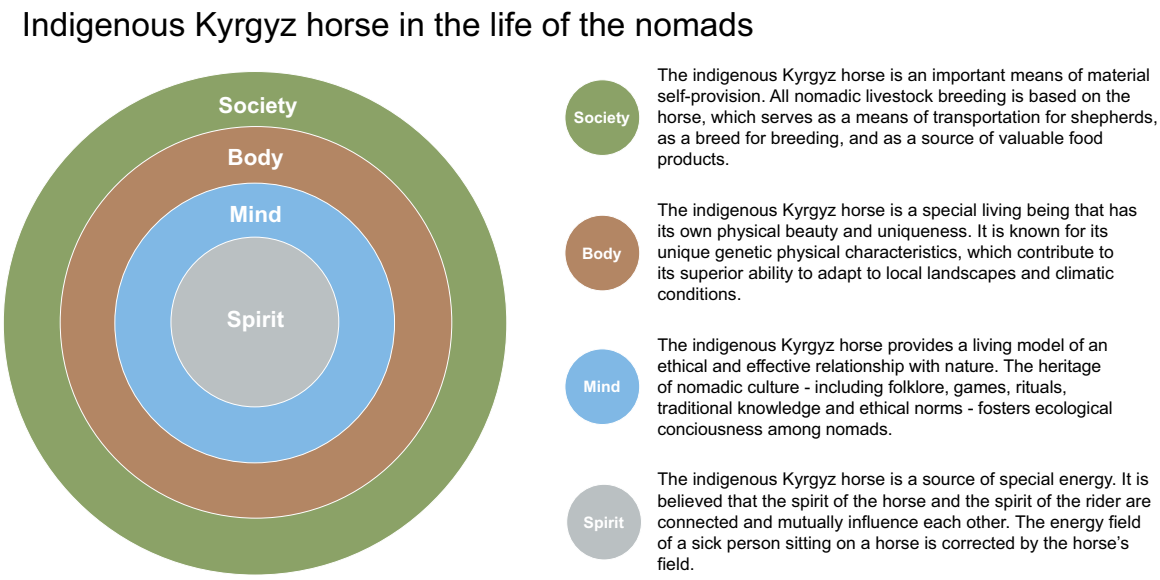
Reviving the Kyrgyz horse: a holistic approach

Nomads have always regarded their horses as reflections of their own existence in nature. So when we decided to revitalise the breeding of the indigenous Kyrgyz horse among the nomadic peoples in the Pamir, Tien Shan and Sayan-Altai mountain ranges in 2018, we were determined not to become just another conceptually fragmented project that would fail to land in a meaningful way in local communities. We wanted to apply a systematic, holistic approach that would reflect all possible roles of the indigenous horse in the environment, transcending its perception as a mere agricultural animal. Our approach would thus need to be aligned with the traditions of the nomadic Kyrgyz.

Combining our own framework of the 'spiritual core' with holistic theory allowed us to see previously unilluminated aspects and roles of the indigenous Kyrgyz horse. Moreover, it helped us identify serious omissions and gaps in policies regarding indigenous livestock breeding at all possible levels. Our analysis resulted in an integral roadmap for the research and revival of the indigenous Kyrgyz horse.

A lineage of purebred Kyrgyz horses

Between 2018 and 2024, our team established an experimental herd in order to develop a modern line of purebred indigenous Kyrgyz horses. First, we identified existing Kyrgyz horse populations in three regions of



The Kyrgyz horse in relation to the life of nomadic communities, with the spiritual core at the center.

Kyrgyzstan and conducted genetic analyses of selected horses. We acquired a herd of 24 genetically verified indigenous horses, which were bred at two high-altitude farms over a four-year period. In 2024, the first purebred generation (the offspring of the first offspring of the initial experimental herd) was born, and official selective breeding commenced. We need to produce at least three more generations for our experimental stock to officially attain the status of a 'modern line'. Only then will we be able to issue genetic lineage certificates for each horse born on our farm.

We have also launched an advocacy process to encourage the government to establish a special status for indigenous farms that breed native animal species and contribute to the preservation of local biodiversity. This status would provide us with a support system of state-provided land for growing feed, additional access to pastures, and other resources and services.

In the first years, the experimental herd was kept and developed at the state horse breeding farm. Since 2024, the herd has been living on the farms of two families of hereditary horse breeders in the high-altitude village of Taldy-Bulak in Talas Province. The village is geographically ideal for this purpose and has deep roots in nomadic horse breeding traditions. The herd is managed by a six-person team that includes a geneticist, a livestock technologist, two hereditary horse breeders, a veterinarian and an organic agriculture specialist.

Increasing interest

Interest from local communities is growing exponentially, as these horses significantly outperform other breeds in terms of fertility, survival in mountainous areas, endurance, compatibility with the environment and breeding costs. Professional horse breeders from nearby communities are also expressing interest in acquiring these beautiful and unique horses for both shepherding and breeding purposes.

Nomads have always regarded their horses as reflections of their own existence in nature

Indigenous Kyrgyz mares also provide excellent milk, which according to women engaged in dairy production is much richer and more nutritious than that of ordinary horses. They use it to produce 'kumis', a unique and immune-boosting fermented drink. The special qualities of this horse's dairy products have also been confirmed by a series of scientific studies conducted by our partner, the Kyrgyz-Turkish University's Faculty of Veterinary Medicine. Following this, we have developed a programme to develop and promote every possible ecologically and economically viable product and service derived from the indigenous horse as a way of

Horses from the experimental herd.

Photo: Indira Raimberdieva

enhancing economic opportunities and food security for local livestock communities.

There have also been challenges, the most significant being the securing of sufficient feed for the herd. There have been years when feed prices (both grass and grain) have been exorbitant due to droughts and the entry of intermediary exporters into the forage market. The second difficulty has been the lack of attention in the state's agricultural policy to indigenous livestock farming. We are currently undertaking advocacy efforts to change this. The third difficulty we have encountered is connected with financial instability and our small team. Projects like ours, which involve long-term activities such as scientific observation and biodiversity restoration, require larger teams and long-term funding.

The great potential of the Kyrgyz Horse

After six years of doing research with nomadic communities, we can confidently assert the immense potential of the indigenous Kyrgyz horse. Here are just a few of the most striking examples:

Mental health: We found that residents of local communities with long-standing horse breeding traditions exhibit psychological resilience and calm temperaments. The indigenous Kyrgyz horse possesses unique qualities that make it highly suitable for equine therapy. These include its anatomy (short neck, broad back, small stature and stable hooves), its comfortable and soothing 'pacing' gait, and its empathy, intelligence and gentleness toward humans. People in large cities can find healing from the stresses of modern life through their interactions with these horses, and this is also true for those experiencing discomfort with global environmental degradation and climate change.

Cultural health: The horse plays a tremendous spiritual and cultural role in the lives of the Kyrgyz people. The nomad's relationships with their horses, instilled from early childhood through traditions and rituals, essentially serve as a model for ecologically sound relationships between humans and nature as a whole. In fact, the indigenous system of encoding, storing and transmitting a specific ecological consciousness to new generations may represent the greatest potential of the horse for modern humanity.

Biophysical health: The indigenous Kyrgyz horse's unique range of physical qualities allow it to thrive in the extreme conditions of high altitudes. Thanks to these qualities, the horses are a reliable means of transportation during migrations and are advantageous for breeding. Findings are also emerging about the horse's high level of stress resistance and its ability to positively impact water, flora, fauna and air conditions. Finally, testing of the immunomodulatory qualities of the meat and dairy products of our herd (including 'kumis') has begun to yield positive results. These biophysical characteristics will undoubtedly be key in responding to global challenges, especially environmental degradation, climate change and worsening food security.

Socio-economic health: The horse's products also offer significant potential for the food and recreational sectors of the economy. Although it currently lags behind imported purebred horses in terms of productivity, the quality and cost-effectiveness of the indigenous Kyrgyz horses' products are far more advantageous. An important condition for attaining this socio-economic potential is the regulation of these products according to their environmental impacts. For example, equestrian tourism and equine therapy could become significant avenues for economic activity in Kyrgyzstan without placing a heavy ecological burden on nature.

Recommendations and looking into the future

Although our research and work on the revival of the horse is still ongoing, the interim results of our activities inspire hope in us. Our strategic, long-term objective is to improve livestock farming in Kyrgyzstan by leveraging the potential of indigenous animals in response to global challenges. We are currently working to establish our own model farm for indigenous livestock and hope to obtain preferential status from the Ministry of Agriculture. In the next ten years, together with high-altitude communities with deep historical roots in nomadic livestock farming, we will develop a model for the integral optimisation of livestock farming at the local and then national level. If this model proves viable, it could serve as best practice and know-how for nomadic communities in other countries facing similar challenges, such as those in the Pamir, Tien Shan and Sayan-Altai mountains as well as in other countries.

We are confident that the subsequent development of sound, integral policies in each of the aforementioned sectors will lead to an effective agricultural system for Kyrgyzstan. Fragmented thinking is the fundamental destructive factor in modern society. We believe that the continuation of research and the practical and integral revival of indigenous animals from various regions will inspire more efforts aimed at harmonising the relationships between nature, humans and culture, forming a significant step towards wellbeing for all. ■

Author: ***Indira Raimberdieva*** *comes from the ancient lineage of Saruu people historically inhabiting the Talas region of the Kyrgyz Republic. She coordinates the Golden Hoof Collaborative (GHC), which unites several organisations and experts from fields related to agroecology. Indira is also the director of the Peace Building Center, the GHC's lead organisation. Contact:* pbc.kyrgyzstan@gmail.com

‘Dirt is not just dirt’:

Growing healthy communities in the UK

Black Rootz and GoGrowWithLove are two community gardens in London that are bringing people together to grow food, with love. Antiracist, anticolonial, intergenerational, rooted in indigenous and ancestral wisdom, and strongly connected with nature, these gardens are regenerative, nourishing and healing – not just for the earth but for the soul.

PHOTOGRAPHER: ARPITA SHAH

*These photos are from a collection called ‘Sankofa’, commissioned for **We Feed The UK** in collaboration with **Photo Fringe**. Contact: arpita@arpitashah.com*
***We Feed The UK** is an alliance between art and agroecology, grown by **The Gaia Foundation**, pairing photographers and poets with inspiring custodians of soil and sea. Contact: ally@gaianet.org*

Sandra Salazar D'eca: "We take people on a journey into what it actually means to grow your own food, and before they know it they're enraptured by our world. I always tell people that the first time I sowed a seed, it changed my life. For us melanin-rich people in the diaspora who are perhaps missing that connection with the motherland, food growing and working with soil are ways that we can pass on ancestral information: we can communicate our traditions, our cultural approaches, our knowledge about nutrition.

I didn't tell anybody what I was doing for years, because in a way I was embarrassed. Because where I came from, as a city girl, growing food wasn't cool. Until Covid happened. And then everybody wanted to grow food. All of a sudden, those people that I was hiding from were growing food with me.

When it comes to food justice through agro-ecology, community is the power that will move us forward. Through community, we can continue to pass on this information."

> ***Sandra Salazar D'eca*** *is a horticulturist, farmer, and founder of GoGrowWithLove CIC, an indigenous melanin-rich, women-led organisation. Contact: info@go-grow.org.uk*

Pamela Shor: "We grow food because we are part of the earth and the earth is part of us. What's beautiful is the way we can intertwine our superpowers. Being able to connect communities – human and more-than-human – with our food systems, allows us to understand heritage, to understand power, it allows us to share."

> ***Pamela Shor*** *is head grower at Black Rootz, where she helps to create a safe space for this first Black-led growing enterprise in the UK. Contact: pamela.shor@ubele.org*

Paulette Henry: "This kind of community is about allowing people to have informed choices about what they eat, and educating children so that they know carrots come out of the soil. We teach that every cell of you, every hair follicle, bone, sinew and muscle comes from the food that you eat, which comes from the soil in the ground.

I encourage as many people as possible to grow their own food because once you get a taste for it, it's very difficult to go back. At our glasshouses in Wolves Lane we laugh that everyone's now a tomato snob; we grew 31 varieties this season and nobody wants to eat anything that comes from the shops!"

> ***Paulette Henry****, who had her hands in the soil from a very young age, is a founding member and master grower at Black Rootz. Contact: blackrootz@ubele.org*

“We can’t talk usefully about sugar without talking about the plantations”

Lucy Aphramor (they/them) is a radical dietitian who puts a critical spin on food beliefs many of us take for granted. Lucy explains how structural inequalities and white supremacy are core risk factors for disease and shows us how narrow and oppressive – and racist – the dominant Euro-American notion of health really is. Jessica Milgroom interviewed Lucy for this issue of Rooted.

Lucy, how do you define health?

"What does health mean to you?" is one of my go-to opening questions when I'm working with someone therapeutically as a dietitian. The question opens up a conversation about values, anxieties and deep beliefs. It disturbs the idea that there's one right definition of health and even that it can have a fixed meaning.

I think it's useful to expose this because I don't think health is a strategically useful concept if the goal is to improve human and nonhuman flourishing through social change, even if it is through food sovereignty.

In conversations around non-communicable or diet-related disease, for instance, health is commonly understood as a personal state that is overwhelmingly determined by diet, exercise, smoking and alcohol intake. These are behaviours that are in turn held to be largely explained by willpower and knowledge and skills. This model obscures the enduring and intergenerational impact of living with inequity by locating human wellbeing in vitamins, meritocracy and calories. The word 'health' creates and sustains the construct of a standalone atomistic human body completely extracted from all relationships, as if life is untouched by the experience of power.

You often say: "You can't talk usefully about sugar without talking about the plantations." Can you tell us more about that?

So, the public health discourse says: don't eat sugar. Sugar has an incredible power to dysregulate your metabolism and can cause diabetes. But in this case, sugar is set aside from other things that will also impact your metabolism in a way that could cause diabetes. What about the metabolic, intergenerational impact of the legacy of the sugar plantations? That too impacts metabolism. Black scholars have been saying for decades that we need to look at racism to understand health, but again, because the way that knowledge is generated around food privileges, biomedicine and coloniality, Black knowledge is ignored. The fact is that socio-structural factors cause health problems, but the over-focus on diet in particular, and lifestyle more generally, diverts attention away from the research that shows this.

This framing, where health is explained by lifestyle, hides the detrimental metabolic and material impact of living with the daily grind of insecurity, violence, oppression and poverty. These experiences all influence physiological pathways that predispose people to heart disease, whatever the person eats. That's not saying food doesn't matter – it's saying public health nutrition norms reproduce classism and neoliberalism.

Photo: Lucy Aphramor

Lucy (right) at a festival in Coventry, UK. Photo: Jessica Milgroom

Lucy Aphramor

Lucy Aphramor is a radical dietitian and spoken word poet (poetitian), a cofounder of World Critical Dietetics, and a Food Ethics Council member (UK). Lucy is non-binary and goes by the pronouns they/them (for more information on gender and pronouns see here).

The healthiest milk workshop

Imagine you are in a small group of people who are shown a range of milk cartons – organic whole milk, regular skimmed milk, oat milk, soya milk with vitamins and many more – and asked to decide: which is the healthiest milk? Participants tend to focus on the milks' nutrient content. Every food-related thing a group believes in and strives for, from farmworkers' rights to climate justice, anti-racism to gender equity, drops off radar. This is a powerful way of demonstrating how the dominant concept of 'health' acts as a lock-in to coloniality.

Can you say more about health discourses and racism?

As I just said, nutrition discourse strips away the enduring and intergenerational embodied impact of living with racism. Obscuring the daily impacts of racism on a body as a factor in diet-related disease is one form of racism in nutrition recommendations.

A second form of racism is enacted when pictorial food guides that claim to be for the general population are really only appropriate for a certain group of people and have an Anglo bias. For example, many Asian people are lactose intolerant but still are encouraged to consume dairy. The recommendation for vegetable and fruit intake is inappropriate for those with gut problems or small appetites and impossible for many people to follow due to low income or reliance on food aid.

Third, wherever Western nutrition science is used as the only valid way of understanding food, or at least the 'best' way, we perpetuate scientific imperialism. This has anti-Black consequences, devaluing other ways of understanding food and flourishing. Every time we put foods into groups by nutrient content we rely on a colonial logic: this taxonomy isn't inevitable, or 'normal', or inherently equitable or benign – it's just so common it escapes critical scrutiny. Thus attempts to correct lack of representation, as mentioned above, have led to African-Caribbean and 'South Asian' versions of the UK food guide. Of course, representation is vital, but swapping foods in and out of a colonial template leaves the deep racist logic unseen and untouched.

How do you see the relationship between health and agroecology?

Ah! We're back at the impasse and opportunity contingent in the term 'health'. To answer this usefully I need to go back to the question of what do you mean by health? How do you measure it? I do think that the conversation about agroecology, health and food has a lot to offer as long as we keep approaching it through relationality and not through this idea of standalone nutrients.

For instance, agroecology showcases how to approach food relationally, so we look beyond nutrients, refuse to commodify food, and build food-related narratives that cultivate anti-racism, gender equity, that embrace care, spirituality, body respect, the sacred, that seek to metabolise trauma held in land and Beings, and that know food and eating as intimately entangled with tradition and ceremony and language.

Instead of the time-bound individualistic ethics of biomedicine, this agenda needs an ethics of reckoning, care, and repair. Food narratives nested in an agroecological cosmovision lend themselves to this. The ecosystems-thinking of agroecology readily accommodates earth, power, humans and nonhumans, and many ways of knowing. Agroecology helps us hold in mind that that which is life-affirming exceeds vitamins and minerals and exposes the political misdirection of reducing 'health' to lifestyle. It's designed to help us figure out right relationships in polycrisis. And if health is the thing that emerges at the confluence of words like love, vitality, liberation and abolition, then agroecology is a powerful potentiator. ■

I gift you my anger and trauma and terror my intellect poetry rigour and error ~ as filters for a vision of caring better where we're in it together with practitioner privilege ~ in it together plaiting the minute, the meaning, the mattering ~ in it together because living is quantum ~ and in it differently, because a sexist mind-set anywhere is the protein backbone of rape culture, eating disorders, war, another tree species felled forever ~ spells the very soul's extinction ~ and we shouldn't qualify as dietitian until we can join these dots so that every health policy reads as a peace treaty ~ because the body is not a commodity …

*Interview by **Jessica Milgroom**, Research Fellow at the Institute for Sociology and Peasant Studies, Cordoba, Spain.*
Contact: jessica.milgroom@gmail.com

Tincture

ZENA EDWARDS

And, in a community garden in North London
sumptuous, fecund soil sends a charge of good energy through the soles
of a brown-skinned barefoot baby, learning that dirt is not just dirt.
"Women who lead with the land" plant light fragrant Cho Cho, milky Soursop,
magenta fire skinned Dragon Fruit, cream fleshed Sweet Potato, Cane.

The Women who leaven kitchen scraps for sprouting
Sun-earth root vegetables speak gently with lilting patois tongue
with love, encouragement to the soil. To patiently restore ritual practice,
they pray: Come, seed and grain, fruit, root! Bulk in body
against these colder climes, push through!

And they work the land some more for a generation
of melanated microbiomes, young and disoriented crashing along concrete pavements –
city worn, and in confusion. In need, of cultural fusion.
Unification: slow calming Caribbean tradition with the conflicting existence
of a fast-paced race to assemble a whole face in a strange land,
on land estranged. So the women say – It's all Earth! Reclaim! Work this land with us, with love!

Return the children to soil, to humus, dark bark, clay and bone,
mycobacterium vaccae – good bacteria feeding mycelia- nature's social media,
ancient broadcasting of hidden histories of home seed, grain, fruit and root
before colonial botanists began blowing up the cornerstones of culture,
balanced boulders of Indigenous backbones. Wisdom brought by boat, by foot
hidden in the Dreadlocks and braids of Men Indigenes who protect and heal.

Earth's insight in the breast milk of Mother Storytellers who listen to the speaking scent of land
to the crumbling of soil between fingers, hold it to the nostrils of teens
to teach their taste buds the beginning. "Open young eyes to what you have never seen:
a purple tomato or a grape with a seed, or a scotch bonnet hanging from the vine.
And, when the streetlights pop on, there are koras, violas
and the precious patter of Djembe drums playing in a grow tunnel in North London, singing

in Latina and creole in the cactus house, incanting the tincture of cultural resilience.
And in the autumn dusk, a drop of Chinese sorghum, sweet cane
iron, magnesium, potassium rich, is placed on the lips of baby Isiah.
And he smiles in rapture with so much oxygen and women's laughter
and the soft words of Elders warming the chilled air,
who deftly de-pulp sacred seeds, fifty generations strong, from orange pumpkin melba.

Miraculous seeds, to be handed to the next in line,
so they can eat their culture, be nourished by its soil strong song,
making sure they are brave to plant in winter and ready for harvest,
in a future of growing food that has already come.

Poet: Zena Edwards is a performance poet of Caribbean heritage and African descent whose work promotes the 're-humanisation' and 're-membering' of communities. Contact: edwardszena@proton.me

Photo: Arpita Shah

Urban agroecology fosters collective health in Brazil

Urban agriculture is transforming cities across Brazil by strengthening public health, food security and environmental justice. Over an 18-month period starting in 2022, action research in six metropolitan areas uncovered the powerful role of agroecological networks in shaping healthier, more sustainable urban spaces and communities.

LORENA PORTELA SOARES ET AL.

By mapping key urban agriculture initiatives led by civil society in Recife, Rio de Janeiro, Vitória, Belo Horizonte, São Paulo and Florianópolis, our aim was to reach a broader understanding of urban agriculture in Brazil, especially its connection to health. At the same time, we wanted to highlight how farmers, collectives and social movements are influencing public policies, reclaiming the right to the city, and promoting gender and racial equity.

The study was led by the Oswaldo Cruz Foundation (Fiocruz) in partnership with the National Collective of Urban Agriculture, which is part of the National Coalition for Agroecology in Brazil (ANA). It revealed that urban farming improves health outcomes, fosters community resilience, and strengthens ties between food production and wellbeing.

Rivers of Time workshop with the Network of Peripheral Agroecological Women Farmers from São Paulo (RAPPA). Photo: André Biazoti

Rivers of Time: a collective memory

To bring to life the histories of urban agriculture groups, collectives and advocates at both the national and regional levels, an immersive and collectively-developed methodology called Rivers of Time was employed. This approach enables communities to collectively reconstruct their histories, blending chronological timelines with oral narratives to foster deep reflection and critical analysis.

A national workshop with members of the National Collective of Urban Agriculture took place virtually, along with six in-person workshops across different regions. Using water-related metaphors, participants mapped their collective journey, identifying key moments that shaped their movements. For example, 'source' represented the origins of the movement, 'rocks' represented the challenges and obstacles encountered along the way; 'droughts' represented times of decline and resource scarcity; and the 'ocean' symbolised achievements and the evolving destination.

The mapping was carried out by 165 urban agriculture collectives, mostly led by women, Black people, and people from the periphery. Together, they identified 435 significant historical milestones, culminating in the construction of seven territorialised Rivers of Time. Each River of Time was printed on a large scale and distributed to its respective collective, serving as a powerful advocacy and organising tool. The Rivers workshops not only provided more visibility to urban agricultures but also turned into places for gathering, for celebrating the various trajectories, and for recognising the importance of the people and groups that are the protagonists of urban agriculture in Brazil.

The collectives' milestones were examined through three thematic lenses: health, race and gender; the right to the city; and environmental justice. The process revealed the historical role of urban agricultures in promoting ways they have been meaningful for civil society. These include the expression of cultural and ancestral practices, the provision of ways to seek food and nutritional sovereignty and security, the supply of income sources, as tools in the struggle for rights and, importantly, as a means to improve physical and mental health.

In the metropolitan region of Recife, for example, urban agriculture is led by racialised women and often related to popular medicine, medicinal plants and education. Here, the fight for the legalisation and medicinal use of locally grown cannabis is also organised by a group of mothers. And in the metropolitan region of Vitória, herbal medicine initiatives have been linked to the country's publicly funded Unified Health System and have led to municipal laws that recognise 'living pharmacies' and a Municipal Policy for Medicinal Plants and Herbal Medicines. In Florianópolis, composting processes in urban farming are a form of solid waste management, contributing to sanitation and health. Additionally, health professionals who are also part of Rede Semear, a local urban agriculture collective, are actively involved with the 45 garden initiatives of Florianópolis' public health units.

A deep dive into existing maps

In parallel, we undertook a comprehensive analysis of existing territorial mapping of urban agriculture. Many urban agriculture collectives contributed their own research data, and information also came from public institutions and academic studies. The final database consolidated 13 different mapping projects and documented 2,345 active urban agriculture initiatives in the six metropolitan areas involved in the research. This unification of data has created a valuable resource for urban agriculture advocacy and policy development.

These deep dives into the existing mapping efforts helped local agroecological urban agriculture collectives, research institutions and local governments to better understand the state of urban agriculture in Brazil.

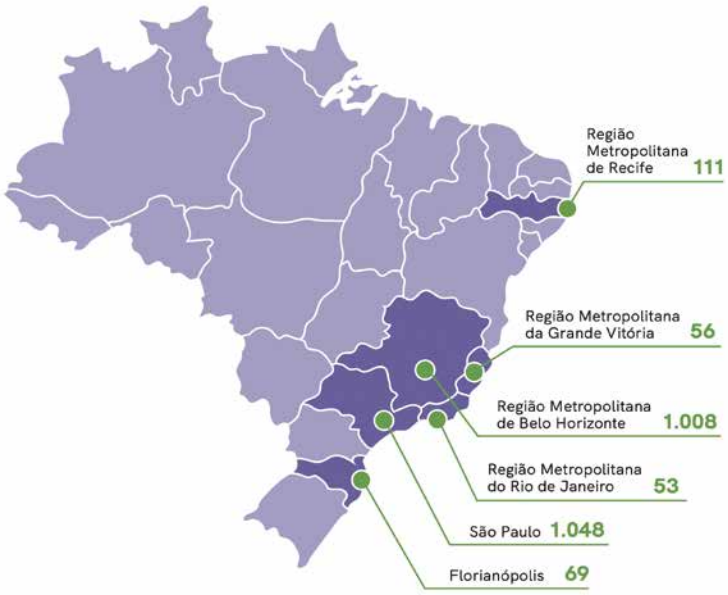
> *It is a dynamic political movement for collective health, shaped by diverse knowledge systems and social struggles*

For example, the leadership of women and non-white people in urban agriculture development became apparent. We also found that some mapping initiatives enhanced territorialised actions, such as collaboration between initiatives, the exchange of seeds and products among farmers, and improved commercialisation. Finally, the importance of urban agriculture experiences in a period of health, economic and food crisis was highlighted as the mapping by local urban agriculture collectives took place during the pandemic.

Through this dual approach – honouring lived experiences with the Rivers of Time methodology and grounding the work in rigorous data mapping – our group built a dynamic and collective memory of urban agriculture movements in the country, strengthening their impact and giving visibility to how they are connecting fundamental dimensions of collective health.

Urban agricultures: cultivating health, justice and transformation

As our study clearly showed, urban agriculture is more than a set of farming practices – it is a dynamic political movement for collective health, shaped by diverse knowledge systems and social struggles. Our research



Mapped urban agriculture experiences in Brazil. Illustration: Patrícia Nardini

uncovered a vast array of initiatives, many deeply rooted in the emancipation of marginalised communities. To honour this diversity, we embrace the term 'urban agricultures', recognising the multiple ways people cultivate, resist and reimagine city spaces.

Yet, not all approaches to urban farming are equal. Some mainstream perspectives reduce it to a mere technological fix, sidestepping the many ways in which it can address deeper structural inequalities. In contrast, agroecological urban agriculture embraces Indigenous, Afro-diasporic and peasant knowledge systems, foregrounding the leadership of women, youth and grassroots movements. These actors reclaim urban spaces as sites to promote life, solidarity and health.

Urban agriculture is also a force for cultural renewal, helping to reconstruct identities and reclaim ancestral knowledge. Indigenous, Afro-Brazilian and peasant traditions infuse urban agroecology with critical lessons for climate resilience and environmental justice, through knowledge about caring for the land, cultivating crops, and preparing food and medicine in alignment with the rituals and celebrations of life. These stories also highlight the different ways in which communities understand and organise themselves around health issues. They remind us that urban agriculture is not just about growing food – it's about growing movements, strengthening communities, and transforming the very fabric of our cities.

One of our most powerful findings is the central role of Black and marginalised women in urban agriculture. Their work goes beyond food production; it fosters political empowerment, self-esteem and financial autonomy. It also contributes to women's mental health through their contact with the land and the strengthening of networks for social support. However, it is important to note that these women remain largely excluded from key decision-making spaces in public policy.

In summary, this initiative generated valuable insights that not only inform research but also drive action. We identified three key ways that urban agriculture strengthens health and wellbeing: by advancing food sovereignty and security through local, pesticide-free production; by restoring urban ecosystems through composting and green infrastructure; and by enhancing mental health, preserving traditional medicine, and fostering collaborations with Brazil's Unified Health System and integrative health practices.

Nonetheless, significant barriers remain. These include a lack of visibility and recognition; limited access to public policies and markets; legal insecurity regarding land access; and the persistent denial of fundamental rights like housing, sanitation, transportation and healthcare.

One of our most powerful findings is the central role of Black and marginalised women in urban agriculture

With the approval in 2024 of Brazil's National Urban and Peri-Urban Agriculture Programme and Policy, we have an important opportunity to elevate urban agriculture as a cornerstone of sustainable and just food systems and collective health. The insights from our study offer clear priorities for action – ensuring that urban agriculture not only thrives but that it also drives possibilities for transformation towards people's health and wellbeing, and more equitable, resilient and agroecological cities.

Authors: ***Lorena Portela Soares*** *is the coordinator of the Agroecological Urban Agriculture and Health Promotion project at the Health and Agroecology Agenda – Vice-Presidency of Environment, Care, and Health Promotion/Oswaldo Cruz Foundation (VPAAPS/Fiocruz).* ***Karine Pereira de Freitas***, ***Priscila Seoldo Marques*** *and* ***Daniela Adil Oliveira de Almeidaare*** *are researchers in the same project. Contact: lorena.soares@fiocruz.br*
Contributions to this article were made by other members of the research team: ***Douglas Rafael Lopes Reis, André Campos Burigo, André Ruoppolo Biazoti, Ione Duarte Pereira, Jackline Gomes da Silva, Luana de Brito, Luisa Alburqueque Ferrer, Marília Escanhoela Cucolicchio, Maysa Mathias Alves Pereira, Natália Almeida Souza*** *and* ***Vivian Delfino Motta.***

Self-care and community care with medicinal plants in São Paulo

Photo: Clara Camargo

In the Metropolitan Region of São Paulo, Brazil, women are cultivating medicinal plants in community gardens, creating spaces that promote health, social connection and environmental care.

CLARA RIBEIRO CAMARGO ET AL.

The women-led Network of Peripheral Agroecological Women Farmers from São Paulo (RAPPA) is playing a key role in improving access to alternative health solutions by expanding medicinal plant cultivation in Indigenous communities through trainings and knowledge exchanges.

The Oswaldo Cruz Foundation (Fiocruz), operating under the Brazilian Ministry of Health, provided funding to develop trainings on medicinal plants; one involved university and technical teachers, while another involved peer-to-peer learning and exchanges. The latter, organised in March 2025, had a more 'traditional' approach to knowledge and included exchanges with Indigenous groups.

A repertoire of care

The women acquired a repertoire of knowledge and skills for self-care (via herbal teas, ointments and tinctures for example) that they also shared with their families and communities. "I came back renewed from this course. It was spiritually incredible. We returned to our gardens more motivated, and decided to use the funds to build a nursery and produce our own seedlings," said Dani Camboim from RAPPA.

Many women on the outskirts of São Paulo don't have access to spaces for self-care, so the gardens have become very important. They often arrive feeling nervous, sad or anxious, but find a safe and calming space to talk, have tea, and feel the earth. Many of them carry a heavy mental load; this comes on the one hand from the gendered division of labour, and on the other hand from the double burden of working as farmers (many also have other jobs) and caretakers of their families. Self-care is a way for them to feel good about themselves:

Sustaining life

Women have long taken on the responsibility of sustaining life, not only through reproductive work but also through care for their communities and the environment. Their work with medicinal plants and community gardens demonstrates how agroecology can be a tool for healing and empowerment, strengthening the social fabric and building pathways toward greater autonomy and wellbeing.

Future efforts will focus on expanding training opportunities, reinforcing networks, and promoting urban agroecology as a model for health and food security. The collective action of women farmers highlights how the sustainability of life can emerge from local solutions, mutual support, and the integration of traditional and agroecological knowledge. ■

Authors: ***Clara Ribeiro Camargo*** *is responsible for network articulation at RAPPA; she has a PhD from the University of São Paulo.* ***Laura Martins de Carvalho*** *is a postdoctoral fellow at the Center for Studies on Urbanization for Knowledge and Innovation (CEUCI) at the State University of Campinas (UNICAMP).* ***Márcia Tait Lima*** *is associate professor at the Universidad de Valladolid in Spain.* ***Karina dos Santos Rodrigues*** *is a social scientist at the Federal University of ABC and an urban farmer in Brazil.* ***Aline Queiroz de Souza*** *is an educator and environmental specialist at the Secretariat of Environment, Infrastructure and Logistics of São Paulo State. Contact: clara.r.camargo@gmail.com*

This work is part of the project "Strengthening Urban and Peri-Urban Agriculture Networks and Health Promotion in Cities", a collaborative initiative led by the Health and Agroecology Agenda of Fiocruz, the Brazilian Articulation for Agroecology (ANA), and the Brazilian Ministry of Agrarian Development (MDA).

Photo: Ayşe Gürsöz, Thousand Currents' Photographer in Residence

How GMO and hybrid seeds impact farmers' mental and physical health

Susan Owiti

SUSAN OWITI is a feminist activist, peasant farmer and a co-founder of the Kenyan Peasants League, which is a member of international peasant movement La Vía Campesina (LVC). She is the co-founder and secretary general of the Women's Articulation of the Kenyan Peasants League. She is also a member of LVC's International Coordinating Committee and is active in LVC Southern and Eastern Africa. Contact: susanowiti2013@gmail.com

Kenyan farmers won a significant legal battle on 7 March 2025 when they secured a conservatory order from the Court of Appeal in their case against the government's decision to lift the ban on Genetically Modified Organisms (GMOs). The court ruled that the Kenyan government cannot begin to import GMOs as planned while the appeal is ongoing.

In this interview, peasant feminist activist Susan Owiti from the Kenyan Peasants League (KPL), one of the organisations that filed the court case, talks about the dangers that GMO and hybrid seeds pose to the mental and physical health of farmers – and particularly women farmers. Loans taken out to buy patented seeds lead to cycles of debt, depression, physical violence and even suicide. The antidotes: organising peasants through the practices of agroecology, the nurturing of indigenous seed sovereignty, and denouncing GMO and hybrid seeds.

Why is the Kenyan Peasants League challenging the government on GMOs?

GMOs are false solutions. Multinational companies are telling farmers that GMOs will solve their problems by helping them adapt to climate change and by increasing their income. But this is a lie. When you plant GMOs, you must use chemical fertilisers, pesticides and herbicides. These products lead to losses in soil health and biodiversity. Fertilisers further contribute to climate change because of the fossil fuels used in their production.

European biotech companies such as Bayer AG have been selling pesticides to Kenya that are banned in the EU due to their risks to human health. So, GMO and hybrid seeds also threaten the physical health of farmers and farmworkers. In addition, they trap farmers in Kenya in cycles of debt. We already have seen the negative effects of hybrid seeds and do not wish the added challenge of GMOs.

When the Kenyan government lifted the ban on GMOs after the 2022 election, we immediately decided to challenge it in the courts together with the Law Society of Kenya. As peasant farmers, we are first of all denouncing the fact that none of the affected groups were heard, even though public participation is required in the Kenyan Constitution. And second, we are denouncing GMOs, which will affect farmers' indigenous seeds. The March victory strengthens our commitment to fighting for food sovereignty, human and ecological health and the protection of smallholder farmers from corporate control.

The critique of GMO and hybrid seeds has many dimensions as you mention. But we hear less about the mental and physical health impacts on peasants in general, and on women peasants specifically. What have you observed in your work?

First of all, let me say that talking about the physical and mental health of rural women in Kenya is especially important today, as there is an epidemic of gender-based violence and femicides in the country.

Hybrid and GMO seeds have contributed a lot to women's mental health problems, especially for smallholder food producers. Multinational companies come with a lot of high hopes, telling farmers that they will get more produce, but they are really tying the farmers up in debt. Farmers are faced with the question: will I spend money on food, or will I pay off my debt? These are often women who have a hard time finding any cash. How will they pay back these loans and feed their families?

> *"European biotech companies have been selling pesticides to Kenya that are banned in Europe due to their risks to human health. So, GMO and hybrid seeds also threaten the physical health of farmers and farmworkers."*

I especially want to bring in the perspective of women farmers because they are most often targeted by multinational seed companies. Development projects focused on women's empowerment are popular today, and the companies selling GMO and hybrid seeds and the matching chemical fertilisers are jumping on this trend. They often target women by giving them loans for seeds in the name of 'empowerment'. But women often end up signing documents they do not understand. Maybe they think that they will save their family from poverty, but this actually traps them in a cycle of debt and poverty. Sometimes they agree to give up their land, or their animals, or the crops they had saved, if they cannot pay the debt. When the women cannot repay on time it can lead to depression, stress or even suicide.

Can you explain why debt is often higher for farmers using GMO and hybrid seed than for those relying on indigenous seed?

They tell the farmers that indigenous seeds cannot produce enough. This is the way that the multinational companies take control over farmers' lives.

It is illegal to save hybrid and GMO seeds from season to season – because they are patented. That means every time farmers want to grow, they need money. And they might not even have repaid their debt from last season, which means they need a new loan to buy seeds. The companies tell the farmers that indigenous seeds cannot produce enough – yet we have seen our great grandparents producing food in bulk with indigenous seeds.

With indigenous seeds, you preserve your own seeds, from your own harvest. Like today, we harvested sweet potatoes at the farm and now we will use what we

harvested for re-planting. So, I don't spend any money buying seeds and I don't need to take out a loan. And that is why within KPL we are educating farmers to preserve their own seeds, and to multiply them.

We also know that debt and increased poverty worsens gender-based violence. Do you see similar links between gender-based violence and patented seeds in your work with women farmers in Kenya?

Gender-based violence often arises when women sign documents they do not understand, and maybe they do this without their husband knowing or consenting. When the partner learns about it, women may be beaten or chased out of the house with their children.

In Kenya, we have a culture that oppresses women. Over the past years, different classes of women have gotten organised – let me call it organised instead of empowered – but peasant women have been left behind. These are the women who ensure that the world has enough food, but when it comes to decision making and issues of access, they face a lot of violence and discrimination. A woman can work, and then when the harvest is ready, the husband will come and sell everything and disappear with the money. And then, when the husband returns and the wife questions him, she risks being beaten. We had a case like this in Mariwa.

Photo: Ayşe Gürsöz

These are some of the many issues we are addressing within the Women's Articulation of the Kenyan Peasant's League. Recently, in 2022, we successfully crowdfunded to buy land for a rescue center for women facing gender-based violence and land grabbing. Women can come here to heal physically and mentally while they farm together and fight for justice in their respective cases. The KPL is also working with allied organisations to fight gender-based violence in the country, both at the community level and by demonstrating on the street.

Finally, can you tell us why an agroecological approach to food production is better for the physical and mental health of women farmers and their families?

Women who practice agroecology often have their own seed banks, and then they have control. Like me: I have my own seeds, so when I want to grow I can plant different varieties. I know each one, and I know how it grows and what it produces. Agroecology gives us the power of independence: we have our own seeds, we have our own knowledge, and so we cannot be deceived by the companies.

The victory on the 7th of March was a step towards safe, healthy and independent food production for Kenyans. Those of us in the agroecology movement are coming from different parts of the world, and we all have our indigenous seeds. Let us preserve them, let us multiply them, because that is the only way we can fight the multinational companies. Let us reject the multinational seeds and let us embrace our indigenous seeds! ■

> *"Agroecology gives us the power of independence: we have our own seeds, we have our own knowledge, and so we cannot be deceived by the companies"*

*Interview by **Sophia Wathne**, a decolonial feminist activist scholar based in Denmark. She earned her PhD in political science and sociology through a Participatory Action Research project with the Kenyan Peasants League. Contact: sophia.wathne@sns.it*

Urban initiatives for health in Quito

A trilogy of short stories from Quito, Ecuador illuminates the importance of urban agriculture in cities, where people often lack connection with nature and its cycles as well as with other people.

Community kitchens: a beacon of hope in times of crisis

In June 2022, a national strike paralysed Ecuador for 18 days. Demands of protestors in the streets included lower fuel prices and policies to curb mining and oil exploitation in indigenous territories. The government's response was forceful: military repression, gas cuts and food shortages. In the midst of this chaos, community kitchens set up by Kitu Kara Indigenous families in Quito were transformed into humanitarian aid centres. Fresh, agroecological food was made available to people who mobilised on the streets of Quito. In times of crisis, these spaces become havens of solidarity, where ordinary people come together to care for each other. They are not just places to cook; they are points of encounter, of existence and of collective construction. "We created a space that nourished resistance and sustained us. When we chopped onions, our frustration went away and we transformed it into food," shared one volunteer. ■

Authors: ***Eliana Estrella*** *and* ***Marcelo Aizaga*** *lead the organisation Minga por la Pachamama. Contact: mingaporlapachamama@gmail.com. Photo: Minga por la Pachamama*

Urban agriculture: a pathway to holistic health

In the heart of Quito, Ecuador, a comprehensive participatory urban agriculture scheme has showcased how community gardening can go beyond food production to build physical health and offer healing. Pioneered in 2002 by the municipality, AGRUPAR provides sustenance, dignity, and improved mental and physical health to vulnerable populations - mostly women. Over the past two decades, AGRUPAR has supported the creation of 4,700 vegetable gardens, primarily in areas with high poverty and malnutrition rates. Participants have learnt agroecological practices like composting, crop diversification and water management. Eighty-four percent of the gardeners are female heads of household, and together they have produced nearly 1.5 million kilos of food since 2007. The surplus produce is sold at 17 'bioferias' in public parks throughout Quito. In a society dominated by patriarchy, these gardens allow women to reclaim autonomy and to nurture themselves and their families. ■

Author: ***Amaya Carrasco-Torrontegui****, PhD is a postdoctoral associate at the Institute for Agroecology in Vermont. Contact: Amaya.carrasco@uvm.edu. Photo: Amaya Carrasco-Torrontegui*

Fruits of Our Land: culture and health in Quito's markets

In Ecuador, Indigenous peoples have sustained agroecological practices for centuries, but these have been made invisible by agroindustrial models and hegemonic discourses. Through communication and art, we seek to disseminate this ancestral food-related knowledge and to combat structural discrimination, promoting recognition of the contribution of Indigenous peoples to the care of nature, food security and the national economy. Since 2013, 'Fruits of Our Land' has transformed the relationship between the countryside and the city of Quito through agroecology, communication and the arts. We have been organising cultural fairs where agroecological products are presented alongside artistic expressions such as dance and theatre. These activities break down prejudices towards Indigenous farming communities, and transmit knowledge about phytotherapy and the importance of agroecology, integrating physical, mental and emotional wellbeing. 'Fruits of Our Land' is sustained by a multidisciplinary team composed of farmers, agronomists, communicators, cultural managers and artists. ■

Author: ***Sayri Wladimir Cabascango*** *directs the Aya Hatariy Cultural Foundation. Contact: teatro.aya.hatariy@gmail.com. Photo: Carmen Celia Calderón Carrillo*

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How agroecology grows emotional resilience in Colombia

In Colombia, the relationship between agroecology and health has been studied mainly from a physical health perspective, focusing on the reduction of exposure to harmful substances and the creation of healthy environments. However, the impact of agroecology on mental health and wellbeing has been little explored. Our findings are showing strong connections.

ARLEX ANGARITA LEITON

Both the National Network of Family Farming (RENAF) and the Minuto de Dios University's Specialisation in Family Farming have observed that agroecological practices in the territories not only promote sustainable production, but also generate spaces where aspects of human subjectivity emerge – capacities, talents, anxieties and fears – that are related to how people experience and give meaning to their lives.

Social sensitivity

For example, the creation of healthy environments leads not only to human wellbeing, but also to respect for other forms of life. Samuel Babativa, an agroecological farmer from Tolima, explains: "When we teach farming, we also teach about the importance of taking care of the soil and the micro and mesofauna." Another agroecological farmer from Tolima, Maribel García, highlights how the design of

Peasant woman teaching young people about chick management practices. Photo: Arlex Angarita Leiton

agricultural spaces in a way that responds to local ecological and socio-cultural conditions not only increases production, but generates wellbeing and satisfaction for those who design and enjoy them.

Agroecology also supports the human potential to transform environments. Carmen Inés Prieto, an agroecological producer in the Cabrera Peasant Reserve Zone, says: "Thanks to agroecology, many peasant women, including mothers who are heads of households with children with disabilities, have found alternative livelihoods and learned new skills. In my case, caring for my daughter with physical and motor disabilities has been a challenge, but the work in the gardens and the community has improved her physical and mental state and has given us confidence and hope."

People who participate in agroecological processes develop a social sensitivity that goes beyond technical, productive and economic realms. As Pedro Vicente González, an agroecological producer from Subachoque points out: "I dedicated my youth to agroindustry, until my health deteriorated and I was fired. Agroecology allowed me to get my life back on track, to recover my wellbeing, and to contribute to my community. My garden is now my office, where I work and share my experience with others who are looking for a different path."

Personal and collective transformation

These testimonies show how agroecology can be a source of emotional resilience, identity and wellbeing, offering a path and a horizon of hope and reconstruction for those who practice it. Those who participate in agroecological processes develop a greater understanding of their attitudes and actions, which facilitates personal and collective changes.

Claudina Loaiza, an Indigenous Pijao, learned to read and write as an older adult at the Manuel Quintín Lame Agroecological and Territorial School. There, she discovered her passion for recognising and protecting native and creole seeds, which led her to express herself through poetry and song. Today she is famous in her territory.

Pablo Manios and María Virgeni Llanos, a farming couple from Tolima, told me that they have identified aspects of their personal and work relationship that they needed to improve through the agroecological production of Creole hens. For example, they learned about the importance of a more balanced distribution in the daily tasks of caring for the chickens and the equitable participation of women in the market and the community.

Another example is the 'knowledge' meetings about the therapeutic uses of wild plants organised by Afro-descendant women from Guapi-Caucathe within the 'Ríos Unidos' community organisation. These meetings incorporate agroecological practices and processes, and are used not only to transform plants into phytotherapeutic products but also as spaces of collective therapy. The high level of wellbeing that these gatherings provide is recognised by the women themselves.

Gender and generational inclusivity

Agroecology movements promote inclusive participation from a gender and intergenerational approach. Hamilton Salazar, a young farmer from Tolima and part of the LGBTIQ+ population, says: "Coming to agroecology and the family farming movement has allowed me to be heard, to contribute to society and to integrate without discrimination."

Luis Ermilson Gañan from the Embera Chamí indigenous reservation has been involved in agroecology from a very young age. Currently, in addition to teaching at the local school, he takes part in youth processes focused on agroecology that result in young people feeling proud of their culture and more inclined to remain in the territory and take care of it.

Florencia Murcia, a peasant agroecologist from Tolima, highlights the role of women in agroecology: "Understanding that we peasant women are valuable, that we have capacities, gives us the wings to feel proud to produce food and protect our local agri-food systems."

Spirituality also plays an important role in these processes. María Rosario Chicunque 'Charito' of the Kamëntsá people of Putumayo, explains: "We are beings sent by our supreme ones to protect Mother Earth and all that allows life. Agroecology is a path that the wise people have proposed to reconnect us with our caring and healing mission."

Labour challenges and resilience

Agroecological labour can be heavy. Beyond productive innovation, it is essential to promote working conditions that reduce stress and physical and mental risks. Creating alternatives that make agroecological work a productive, healthy and satisfying activity is key to strengthening this movement.

As we can see, direct contact with the land, water, plants and animals generates wellbeing and acts as a therapeutic space. Although practitioners are in constant conflict with industrial production models, they have found in agroecology a path of resilience to resist and move forward. To promote agroecology, it is necessary to continue to illuminate its psychosocial impacts and demonstrate its contributions to wellbeing, mental health and the construction of fairer and more sustainable societies. ■

*Author: **Arlex Angarita Leiton** is an agroecological farmer and community social psychologist. He is a member of the National Network of Family Farming (RENAF) and the Colombian Agroecological Movement (MACO), and a research professor at the Corporación Universitaria Minuto de Dios (UNIMINUTO) in Bogotá. Contact: aangarita@uniminuto.edu*

Caretakers of life:

How the Ogiek forest people in Kenya are revitalising ancestral practices

The word 'Ogiek' means 'caretaker of flora and fauna'. Fittingly, the Ogiek people of Kenya have long relied on traditional hunting and gathering practices as their primary means of survival. This community, like many other groups of Indigenous Peoples, has faced significant challenges over the years, including displacement from their ancestral lands, changes in government policies, forced climate and conservation solutions, commercial agriculture, and the erosion of traditional knowledge.

SAMSON L. LUARI AND DANIEL M. KOBEI

Managu (black nightshade) growing in an Ogiek garden. Photo: Ogiek Peoples' Development Program

Despite these challenges, the Ogiek have found a transformative solution through agroecology, which has not only served as a means of preserving traditional knowledge but has also played a crucial role in improving the health and wellbeing of the Ogiek people.

The path to agroecology

The Ogiek's population of approximately 52,000 people are mostly located in the Mau Forest overlooking Kenya's Rift Valley. Like many other Indigenous communities in Kenya, they have historically relied on hunting wild animals, foraging for fruits, and gathering tubers as their primary means of sustenance.

However, developments over the past decades – including government policies that prohibit hunting in order to protect wildlife and promote conservation and the eviction of people from their ancestral lands (box) – have forced the Ogiek to seek alternative livelihood strategies. The expulsion of many of their people from parts of the Mau Forest, which has traditionally provided the Ogiek with natural resources for hunting and gathering, left many families without a reliable source of nutritious food and income. This has led to untold suffering.

After hunting was prohibited in 1977, the Ogiek adopted 'modern' methods of farming, which included the widespread use of synthetic fertilisers and pesticides. These methods were costly and clashed with the Ogiek's forest caretaker practices, while the introduced crops – including hybrid maize, potatoes and cabbage – did not align with their cultural traditions.

As a result, the Ogiek no longer had access to their nutritious ancestral diet. Combined with the increased reliance on processed foods, this led to rising rates of malnutrition and poor health, an upsurge in diseases such as diabetes and cancer, and the erosion of indigenous knowledge about farming, nutrition and plant medicine. Over time, the Ogiek found themselves losing the ancestral role that gave them their name as caretakers of life.

Faced with these challenges, the Ogiek community decided to turn to traditional agricultural practices. In 2022, the Ogiek community, other hunter-gatherer communities in Kenya, and various local organisations including the Ogiek Peoples' Development Program (OPDP) came together to launch a scheme to promote and support the cultivation of indigenous vegetables and beekeeping.

Women and youth groups mapped out strategies for revitalising community-based food systems; their goal was not only to enhance food security, but also to improve community health and preserve the Ogiek's cultural heritage. The Ogiek's Council of Elders helped guide the community through the transition to agroecological farming while reinforcing the connection to traditional knowledge.

Remembering how to grow healthy food

Learning exchanges to document the Ogiek's indigenous food and farming practices were the first concrete steps in the transition to agroecological farming. This happened through visits by the Ogiek community, specifically women and youth, to organic farms, and community-to-community learning sessions that provided exposure to traditional knowledge and to various perspectives on agroecology.

The focus was placed on cultivating indigenous vegetables, which had declined due to the shift towards modern agricultural practices. The reintroduction of these crops allowed Ogiek community to remember and revive practices and knowledge about growing healthy, safe foods that are well suited to their cultural heritage and their local environment.

Beekeeping as an economic activity

Another important strategy in the agroecology initiative was the revitalisation of beekeeping. For centuries, the Ogiek had kept bees for honey and beeswax production. Over the years, many families had given up their hives due to environmental changes and the overall decline of traditional

Threats from conservation, logging, plantations and carbon offsets

Conservation policies are not the only threat to the Ogiek people's land. Over the past decades, clearcut logging in the Mau Forest – financed by both public and private interests – and the introduction of exotic trees and tea plantations have also led to forced evictions of community members.

In 2009, these ongoing evictions spurred the Ogiek to submit a complaint to the African Court on Humans Rights. In a landmark ruling in May 2017, the Court decided that the Kenyan government had violated the Ogiek community's rights to their ancestral land and that they were entitled to live in the Mau Forest. A further ruling in June 2022 led to the recognition of the Ogiek as an Indigenous community and ordered the government to cease evictions and begin reparations.

Despite these historic legal victories for the Ogiek community, carbon offsetting projects promoted by companies and the government led to yet another wave of illegal evictions in November 2023.

Ogiek honey.

practices. OPDP provided the community with traditional log hives as well as modern beehives, and community members learned about improved beekeeping techniques.

Today, beekeeping has become an effective way for the Ogiek to generate income, improve their food security, and take care of the land and the forest. The sale of honey, a valuable source of nutrition, allows families to improve their economic standing. OPDP and other community organisations are now adding value to their honey through labelling and certification and the processing of wax for candles.

Strengthening the position of women and youth

One of the most significant results of the transition to agroecology has been the impact on women and youth. Traditionally, women in the Ogiek community have had limited access to decision-making roles in agriculture and have been marginalised in land management practices and ownership.

As women have become more involved in farming and beekeeping, they have been able to save money that would otherwise have been spent on purchasing food from external markets. This has not only improved household nutrition but has reduced women's dependency on male members of the family for economic support.

Factors of success and challenges

The key strategies that proved successful were the emphasis on organic farming, the documentation of traditional practices, the revitalisation of beekeeping, and the reintroduction of indigenous crops. These approaches are aligned with the Ogiek's cultural practices, are well suited to the local climate, and have helped the community to access nutritious food at lower costs.

Another success has been the focus on community engagement through a participatory approach. Whereas women and youth were centered, men were also asked to share their knowledge of traditional beekeeping techniques. In addition, by involving the Ogiek's Council of Elders, OPDP has been able to empower local leaders and champions to take ownership and ensure the sustainability of the initiative.

There have also been challenges. Not all farmers were immediately receptive to the idea of organic farming; some were sceptical of moving away from fertilisers and pesticides, fearing lower yields. Overcoming this resistance required extensive education and training, and even then, some farmers continue to rely on 'conventional' methods.

Furthermore, weather patterns have become increasingly erratic, posing a threat to food security. The market has also been a big challenge: massive crop yields during the rainy season result in low prices and waste. The Ogiek have come up with a solution to this challenge, which involves drying the vegetables to increase shelf life and add value.

Lessons learnt

We have learnt that projects are not enough to support communities to make a long-term shift to agroecology. Research and documentation of indigenous food systems is needed to influence agroecology policies at all levels – and particularly the local level.

We also believe that successful agroecology projects must be community driven, and that providing farmer-to-farmer learning, education on farmers' rights, and practical instruction on seed saving and other traditional techniques is key to ensuring success.

And finally, agroecology is not a one-size-fits-all solution; the approach needs to be flexible and adaptable to local contexts and must address both environmental and socio-economic factors. By building on the successes of our work and addressing the challenges, we hope to create a model for sustainable, community-driven agriculture that can be a source of inspiration across Kenya. ■

Authors: ***Samson L. Luari*** *is an agroecology champion from the Ogiek community and works as a project officer at the Ogiek Peoples' Development Program (OPDP) in Kenya.* ***Daniel M. Kobei*** *is the executive director of the OPDP. Contact: samsonluari@ogiekpeoples.org*

How traditional seeds and foods are improving health

Seeds and foods that are rooted in ancient traditions and practices can be a major contributor to people's physical, mental and spiritual health.

The power of seed to support people

In March 2024, under the name 'Growing to Seed', 14 people in the North East of England committed to a six-month learning programme about agroecological seed production – the history and politics of seed, techniques for good quality production, and the practices of low input growing. The outcomes provide early-stage evidence of the direct link between seed production and wellbeing. This region of the UK is often associated with poor physical and mental health, linked to low income, limited levels of educational attainment and a damaged post-industrial landscape. At the close of the training, learners said they were feeling better as a result of working with seed. The notion of abundance they experienced, and the resulting capacity to share seed freely, were key factors in this change, which for them was distinct from the experience of growing food. ■

Author: ***Catherine Howell*** *is the Northern England Region Coordinator of the Seed Sovereignty Programme UK & Ireland, an initiative of The Gaia Foundation supported by the Landworkers' Alliance's 'Experts in your Field' project. Contact: catherine@gaianet.org. Photo: Catherine Howell*

TV cooking show strengthens Pacific Islanders' health and food cultures

Over the course of a generation, there has been a fundamental shift in the way people in the Pacific Islands eat and grow their food. The toll on health, biodiversity and food cultures has been disastrous. Since 2019, a reality TV cooking show called Pacific Island Food Revolution has succeeded in attracting audiences and drawing attention to these challenges in an innovative, creative and unshaming way. Contestants from the islands of Fiji, Samoa, Tonga and Vanuatu compete against each other to cook up recipes based on fresh local ingredients. The show is currently screened in 12 island countries and has more than 5 million weekly viewers. We have found it terrifically affirming to realise that your culture is your cure. ■

Author: ***Robert Oliver*** *is the founder and host of Pacific Island Food Revolution.* ***Vincent Lal*** *manages the Centre for Sustainable Futures at the University of the South Pacific in Fiji and supports projects at the Periodic Table of the Food Initiative in the South Pacific.* ***Gina Kennedy*** *is a principal Scientist with the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT). Contact: robert@pacificislandfoodrevolution.com. Photo: Faanati Mamea Photography*

Learning from Indigenous agricultural traditions at a university farm

For three seasons, as students and faculty, we have been cultivating an Indigenous agroecological garden – the Four Sisters Garden – at the University of Montana's PEAS Farm in the US in collaboration with Nueta Hidatsa Sahnish College (NHSC), the tribal college of the Mandan, Hidatsa and Arikara (MHA) Nation on the Fort Berthold Indian Reservation. The garden is a 250-square-foot space with corn, beans, squash and sunflowers planted in mounds. In the garden, we follow the agricultural traditions and cultural protocol of the Indigenous MHA peoples. Through this protocol, we are asked to practice the worldview and cultures associated with the Tribes' ancestral garden, entering the garden as our full physical, intellectual and spiritual selves. In practice, this requires us to recognise that plants and other land-based beings have spirit and sentience. Thus, when we enter the garden, we are mindful of our language and behavior; as we work, we are respectful, kind, and of positive mind. ■

Author: ***Ruth De La Cruz*** *(Hidatsa, Nueta, Nakota, Dakota) is from the University of Montana and the Nueta Hidatsa Sahnish College.* ***Sidney Fellows*** *(Shoshone-Bannock, Chippewa-Cree),* ***May-Lyric Smith*** *(Apsaálooke, Aapatohsipiikani, Sicangu Lakota) and* ***Caroline Stephens*** *are caretakers of the Four Sisters Garden at the University of Montana. Contact: Ruth De La Cruz at rhall@nhsc.edu. Photo: Sidney U. Fellows*

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“Farming resonates with caring”:

A dialogue between South African nurses-turned-farmers

Historically, farming and good health were on a continuum for the Xhosa people of South Africa. Over time, however, the food and farming systems in the Eastern Cape province have been deeply scarred by the ongoing legacies of colonialism and apartheid. Busisiwe Mgangxela and Xolelwa Koncoshe – agroecological farmers and Xhosa community leaders who earlier trained and worked as nurses – share some insights in this dialogue.

VANESSA FARR

Health and agriculture: a false divide

‘Sis Busi’ and ‘Sis Xolie’ consider themselves ‘activists for living soil’. For both of them, the connections between human wellbeing and regenerative farming practices are clear. They are drawn to agroecological farming as a means of addressing the health challenges that result from the depletion and contamination of soil from colonial farming practices. They are also resisting the introduction of genetically modified seeds and encouraging a return to indigenous crops. Today, the women are starting to gain visibility in their province for their opposition to contemporary governance approaches that regard health and agriculture as two separate issues.

“My mother was a farmer while working as a nurse. Health and agriculture, hospitals, medicine, nurses and farmers – they should all be in one pot with agroecology,” says Sis Busi firmly. “A lot of people who have been nurses

Sis Xolie listens to Sis Busi explaining how she drew from the 'ilima' tradition to prepare new beds for planting. Photo: Mycelium Media Colab

are in agriculture now, even if it's not always agroecological farming. Farming resonates with caring: if you're caring for bodies you're also going to be drawn to caring for soils."

"Mmm, yes, the things we learnt in nursing training, they've sometimes been a useful basis," agrees Sis Xolie. "I remember being taught that eating healthily is a form of medicine. But I also recall that insights into food production didn't feature in our training. While they taught us about the importance of eating a nutritious and varied diet, the curriculum was silent about how the quality of the soil and water and the quality of food are connected."

She reflects deeper. "In the training programme of the Department of Health, nurses learn biology and anatomy, head to toe, which leads us to nutrition. They'll make sure you understand things like: for these bones to grow, you have to have the right nutrition, carbs, minerals, fats. That's how health and nutrition were looked at: just, what are you eating, don't eat too much of this or that."

Sis Busi laughs and shakes her head. "There was nothing about how the food was grown, about fungi, protozoa, soil health – this I only learned when I started learning agroecology. Eating 'all the colours on the plate' was taught, but I never learned about healthy soil and how that's the most important thing for food. Agroecological farming looks at healthy food, strong seeds that farmers own, and clean soil."

Sis Xolie agrees. "Agriculture and nursing are not far from each other, and I think the Departments of Agriculture and Health should be doing the same thing. If we invested in healthy soils for healthy food we wouldn't have to spend so much on sickness, elder health care, Alzheimer's, cancers – all the diseases that we're seeing now, and all the side effects of medication that aren't explained when they put people into a treatment protocol."

Indigenous farming practices

Their shared professional background in nursing is one reason why Sis Busi and Sis Xolie are such good friends. They also support one another in teaching other food producers about "going back to the old ways of farming," as Sis Xolie puts it.

Like agroecology, traditional Xhosa farming has social values of care at its core. Sis Busi elaborates: "We suggest that women do 'ilima': coming together, doing one garden together, and then going to the next garden, helping each other. And then we'll cook together, the traditional 'imifimo' like our grandparents used to."

"We call that 'Ubuntu', where you help each other," Xolie adds. "The young people join in too. We have young people who are supporting the initiatives even without being paid; this is something remarkable because they are giving back to the community."

Healing soils, healing bodies

Both women say that it was only after they embarked on their farming journeys, and really only when they were exposed to agroecology as an approach for people who want to heal soils and bodies, that they fully remembered – and by this they mean spiritually and practically reconnected with – the farming practices of their grandparents. This was when they came full circle in their understanding of the interconnections between the health of humans and the health of the earth.

Today, Busi on her farm, and Xolie through the community centre she runs, see their work as helping others to fully remember the clean, adaptive farming approaches that are the birthright of the Xhosa people. ■

Busisiwe Mgangxela and Xolelwa Koncoshe

Busisiwe Mgangxela, a retired nurse, is an influential Elder and community-based agroecology activist in the Eastern Cape where she runs the Bafo & Busi organic farm. She contributes to the development of agricultural curricula at local academic institutions, is a regular radio voice, and counts large numbers of aspiring young nurses among her fans.

Xolelwa Koncoshe turned her focus full time to agroecology when she retired after 20 years of nursing. She is managing director of the Isithembiso Multipurpose Organisation, and has established an Information Resource Centre, a Small Scale Farmers Foundation, and a Multipurpose Cooperative under this umbrella

Both women are active members of the Adaptation Network in South Africa, which connects people working towards a just transition by bridging climate adaptation policy, research and practice.

*Author: **Vanessa Farr**, who guided and wrote up this dialogue, is a regenerative storyteller with the women-led Mycelium Media Colab, which works to bring about positive societal change by collaboratively producing and amplifying creative socio-environmental content. She practices agroecology in her own backyard. Contact: vee@vfarr.org*

***A note about our methodology:** The beginnings of this conversation about nutrition and agroecology took place during an inter-provincial learning exchange between Adaptation Network members and storytellers from the Mycelium Media Colab in November 2024. Once we had all returned home, we workshopped the conversation more fully through WhatsApp exchanges, which are transcribed and narratively organised in this piece. Videos of Sis Busi and Sis Xolie can be viewed on the Adaptation Network website and on YouTube.*

The tackling of structural obstacles must accompany 'Zero Hunger' policies

MARIA LOPES SIMOES

The semi-arid region of Northeast Brazil, where rural women have long struggled with food insecurity and water scarcity, is a place of resilience. For generations, women here were responsible for supporting agriculture, managing domestic work, caring for family, and transporting heavy buckets of water from distant wells balanced on their heads. But the launch of Brazil's 'Zero Hunger' strategy in the early 2000s changed everything.

Photo: Mariana Lopes Simoes

In 2022, I talked with women from a small community about how three of the Zero Hunger programmes have impacted their food practices: the cash transfer programme Bolsa Família, the PRONAF agriculture credit programme, and the Cisterns programme, which provided families with water tanks for their homes.

These initiatives significantly improved daily life. With access to water, women could maintain gardens and raise birds, ensuring more nutritious diets. They had more time to cultivate their land and care for their families. With the increased income from the cash transfer programme, families had access to a more varied diet that included rice, beans, meat and vegetables. Women noted that their meals now included more minimally processed food, thanks to the increased income and better access to nearby markets.

Deep-rooted cultural and economic challenges

Nonetheless, with these improvements came new challenges. Over the years, younger generations began to consume more ultra-processed foods, shifting away from traditional diets based on corn and manioc and replacing them with pasta or rice.

Only five of the 17 women I talked to utilised PRONAF. An important reason for this was that many felt excluded from financial decision making, with their husbands taking control of investments. This highlighted a persistent issue: whereas economic conditions improved, gender roles remained unchanged in rural communities.

Another challenge was waste disposal; more money meant more consumption and more waste. With no garbage collection system in place, the women burned their waste, a practice that posed serious health and environmental risks. Despite these difficulties, the women expressed satisfaction with the programmes, acknowledging the positive impact on their food practices and overall quality of life.

Although the success of the Zero Hunger programmes demonstrates the potential for long-term change, the need to address related structural and cultural barriers remains evident. Future initiatives should focus on providing women with greater decision-making power, ensuring they are not just beneficiaries but active agents of change.

The journey of these rural women underscores the importance of holistic development - where access to resources is matched by the knowledge and autonomy to use them effectively. The road ahead may still be challenging, but their resilience and determination pave the way for a brighter future.

Author: ***Mariana Lopes Simoes*** *is a PhD candidate in Public Health at Bielefeld University in Germany and part of the global People's Health Movement. Email: lopessimoes.mari@gmail.com*

Christine Kpossou from Benin holding a variety of local corn.

This is Rooted Magazine

This is the second issue of Rooted in Agroecology and Food Sovereignty. This magazine is a platform for the exchange of voices, perspectives and knowledge of food producers and others at the forefront of action to transform food systems. A flagship global publication, it connects science, practice and movement, shifting narratives and strengthening agroecology for food sovereignty.

Rooted is a collaboration between Cultivate!, the Latin American Association for Agroecology (SOCLA), the Alliance for Food Sovereignty in Africa (AFSA), Agroecology Now! and the Institute for Agroecology at the University of Vermont (UVM-IfA). The magazine collaborates closely with two regional agroecology magazines in Latin America: LEISA Revista de Agroecología and Agriculturas. Rooted builds on the rich history of its antecedent magazines, Farming Matters and LEISA Newsletter, which have captured knowledge from agroecological practice since 1984.

The September 2025 issue of Rooted will highlight how grassroots organisations and social movements are weaving resilience and resistance for systemic transformation towards justice, dignity and wellbeing.

See our website for longer versions of the articles in this issue, the Spanish language edition and the Call for Contributions for upcoming issues.

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Design: Ocelot Ontwerp and Bindi-Works
Cover photo: Sidney Fellows
Back cover photo: Precious Ucheawaji

Contact: We welcome your contributions, comments, questions and ideas.
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We can plant a seed

NNIMMO BASSEY

We can plant a seed
And not eat poison

The food we eat must not eat us
Mother Earth warns we are all her children
The plants, the birds, the beasts, the worms, the bees, the butterflies
In the soil and above the soil
On the seas and beneath the seas
Trillions of our relatives call to us
"Globalise the struggle
Globalise hope!"
Globalise the people
Not transnational corporations

Resilience
Solidarity
Hope
Power
Life
are all in the seed
And if we care we can touch the soil
We can plant a seed
We can water a plant
We can nurture life
We can raise a goat
We can connect to the soil
And allow Mother Earth to feed us all

We can plant a seed
And not eat poison

Nnimmo Bassey is a Nigerian architect, writer, poet and director of Health of Mother Earth Foundation (HOMEF), an ecological think tank. This is an excerpt from his poem 'We Can Plant a Seed', which is from 'I See the Invisible', his poetry collection from 2023. You can read the full poem at www.rooted-magazine.org

Rooted
in Agroecology and Food Sovereignty