Centering farmers in innovation and extension

Unlocking the ***transformative power*** of agroecology

LEARNING EXCHANGE BOOKLET: CASE STUDIES FROM NGO PARTNERS IN WEST AFRICA, LATIN AMERICA & THE CARIBBEAN, AND SOUTH ASIA

groundswell international

SEPTEMBER 12, 2024

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About Groundswell International

Groundswell International is a global network of local NGOs operating in 11 countries across West Africa, the Americas, and South Asia. We leverage our collective resources and expertise to achieve a shared mission: **strengthening communities to build healthy farming and food systems from the ground up.**

Our programs drive the shift from extractive agriculture to agroecological farming and food systems. Our local NGO partners work hand-in-hand with smallholder farmer organizations to improve their well-being, grow abundant food rooted in local cultures, build climate resilience, and strengthen local economies. We catalyze virtuous cycles of community-driven development, scale them, and contribute to systems change.

Our shared Program Objectives with our partners in the field are:

Experimenting with agroecology

We support family farmers to continuously innovate with nature instead of against it, then spread effective, regenerative practices through farmer-to-farmer networks.

Championing women farmers

We promote women's leadership and gender equity, support savings and credit and mutual support groups, and increase access to land and tools. We facilitate learning on agroecological techniques, increasing incomes and decision-making power.

Lifting up rural youth

Our Youth Storyteller Program empowers young people to document and spread agroecological solutions in their local areas, shape the narrative of how to feed the world, and grow as farmers and local entrepreneurs.

Connecting farmers to local markets

To incentivize agroecology and nourish local populations, we connect famers to consumers and increase their access to local markets.

Improving nutrition

We ensure that farmers increase their production and consumption of nutritious, diverse, local food as the foundation of family nutrition and health.

Driving supportive policies

Healthy farming and food systems require government support to succeed. We strengthen farmer and civil society efforts to create enabling policies locally and globally.

As a global network, we are supporting over 1,440 community-based organizations, across 11 countries, with over 114,000 farmers applying agroecological principles to regenerate more that 162,400 hectares of degraded land, **improving the lives of over 1.5 million people.**

Groundswell International's global network of NGO partners

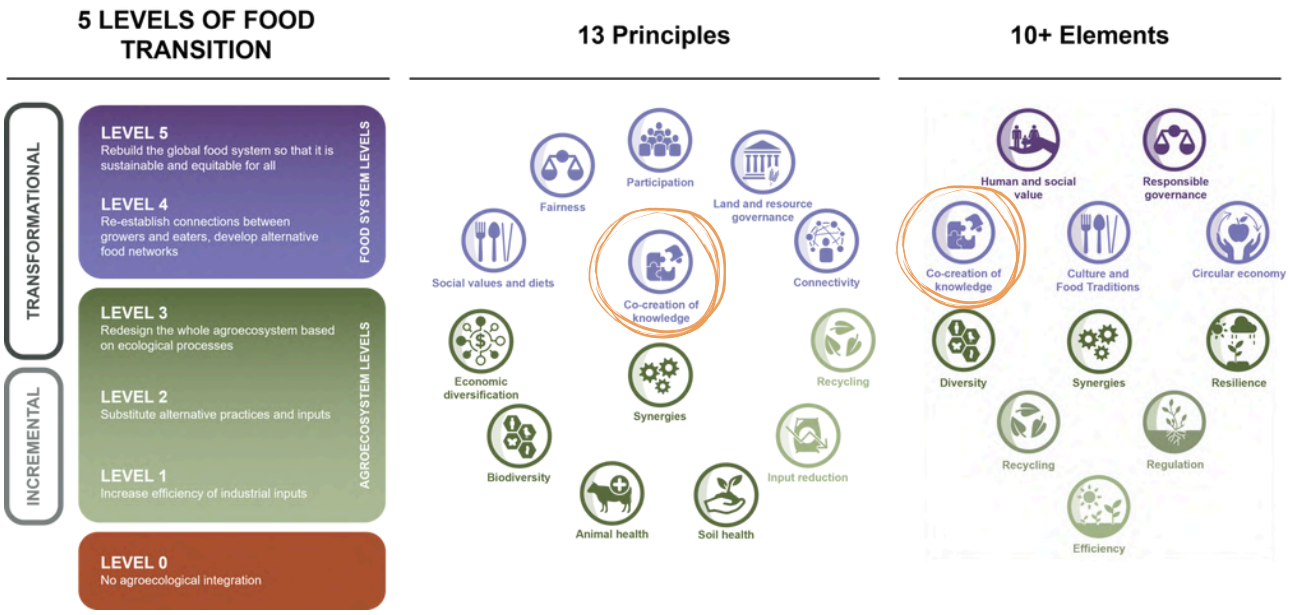
Foreword

In many localities and communities in the Global South and around the world, there is a growing body of practice and evidence demonstrating the effectiveness of agroecological farming and sustainable local food systems to improve food production and incomes, reduce poverty and malnutrition, regenerate land and biodiversity, and build resilience to climate change. As the field of agroecology grows, important work has been done to harmonize key principles and elements.

Agroecology is defined and understood in many different ways. In 2019, 197 countries endorsed the **10 elements of agroecology**. The FAO led the development of these elements through a multi-stakeholder process to shape their vision of agroecology. That same year, the UN's High-Level Panel of Experts on Food Security and Nutrition (HLPE) introduced **13 principles of agroecology** to guide policy discussions and provide independent, evidence-based analysis[1].

Today, these principles are widely adopted by civil society organizations, NGOs, and researchers worldwide.

[1] "13 principles of Agroecology" | Agroecology Info Pool (2023). Available at: https://www.agroecology-pool.org/13aeprinciples/



Graphic from "13 principles of Agroecology" | Agroecology Info Pool (2023). Available at: https://www.agroecology-pool.org/13aeprinciples/

This synthesis of 13 principles, grounded in levels of food system transition and key elements, provides important shared frameworks for program development, learning, and assessment.

Yet, **how do we apply the principles at community levels in different contexts to drive change? What strategies and social processes work?** Without this practical work on the ground, these principles risk remaining abstractions on paper.

Based on Groundswell International's experience, an essential starting point is **ensuring that smallholder farmers have a central role in experimenting with, developing, and spreading agroecological alternatives,** from farms to landscapes to policies. This is the foundational principle of "Co-creation of Knowledge," and is the theme of today's learning exchange. **There is no agroecology without strengthening the agency of farmers.**

To advance our dialogue, we asked our 14 NGO partners from 11 countries in West Africa, Latin America & the Caribbean, and South Asia to prepare brief case studies on how they center the role of farmers in processes of agroecological innovation and dissemination.

We asked them to respond to four common questions:

1. What **methodologies** do they use for promoting farmer learning and innovation?
2. What technical **innovations** are most effective in their context?
3. What **strategies** do they use to disseminate effective practices to more farmers and communities?
4. What are the **next steps**?

These case studies were prepared in just a few weeks as drafts to ground today's learning exchange in local realities so that we might better share knowledge and strategies toward agroecological transitions.

The shared principles of agroecology also recognize that power matters. The concentration of power in corporate and government sectors has often sidelined the voices and interests of the world's 500 million smallholder farming and food-producing families, representing about 2.5 billion people, or 20% of the global population.

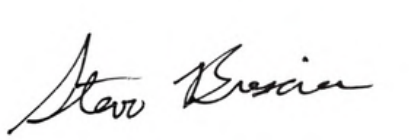
While the prominence of agroecology globally is growing, the industrialized agricultural system continues to greatly influence policies and programs in many countries in the Global South. Key "lock-ins" have been identified as concentrating power and limiting the transition to agroecological farming and sustainable local food systems.

The logic of industrialized agriculture promotes the delivery of external inputs and technology packages (chemical fertilizers, pesticides, herbicides, and commercial GMO and hybrid seed varieties), short-term productivity and profits, and prioritizes uniformity for long value chains rather than diversity and circular local economies.

So, while many technical agroecological innovations exist and are proving effective around the world, local farmers groups, civil society actors, scientists, and research networks have difficulty developing, spreading, and scaling these when top-down agricultural innovation and extension processes predominate. **Democratizing power and strengthening the agency of smallholder farmers in the co-creation of knowledge is also key to unlocking the transformative power of agroecology.**

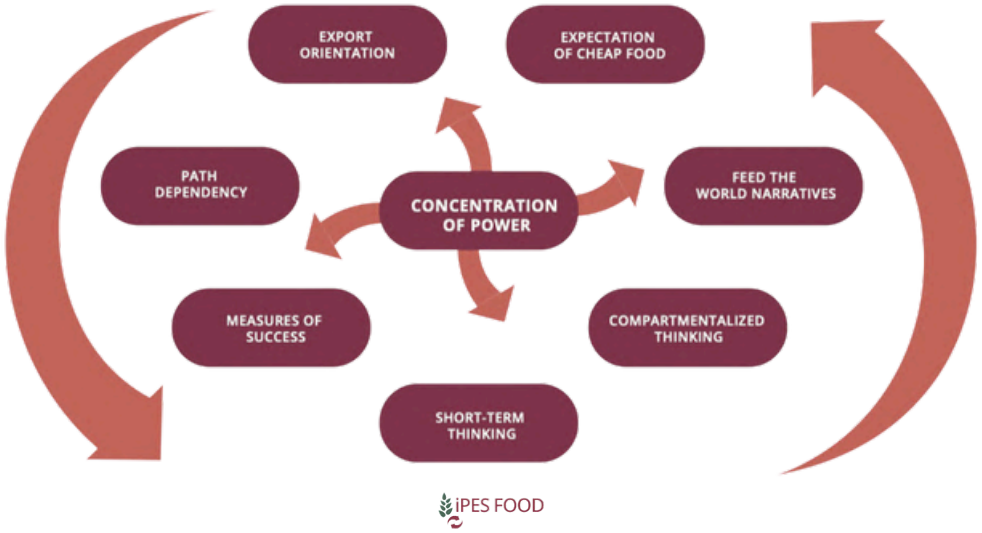
Thank you for downloading this booklet,

Steve Brescia, Executive Director



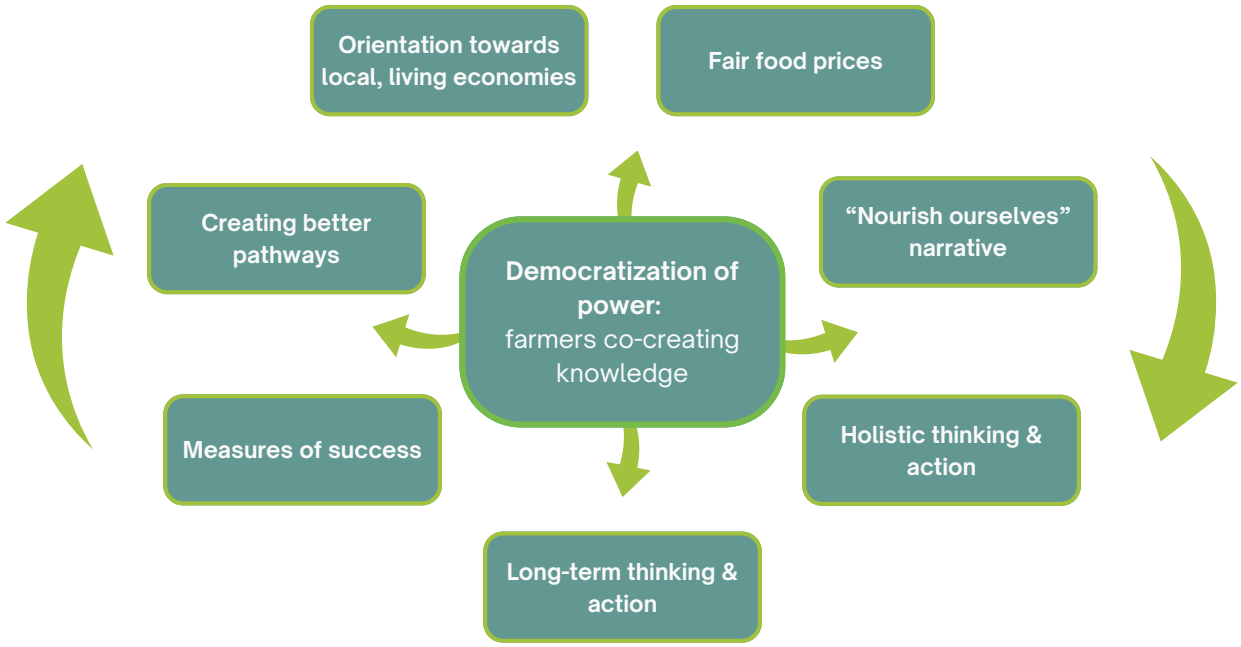
From concentration to *democratization* of power in food systems

The 8 key lock-ins of food systems



IPES Food, From Uniformity to Diversity, June 2016

Unlocking the transformative power of agroecology



Burkina Faso

Association Nourrir Sans Détruire (ANSD)

https://ansdbf.org

Association Nourrir Sans Détruire is an NGO set up in 2011 to work alongside rural communities in Burkina Faso's East and Central East regions to help improve their living conditions through the promotion of agroecology and other non-agricultural livelihoods. Its intervention zone is marked by the effects of climate change and inappropriate agricultural practices, leading to a decline in soil fertility and agricultural productivity.

The rate of households living below the poverty line (247,806 FCFA, or US$413.35) was 43.2% in 2021, with conditions worse in the communities where ANSD works. As in the rest of the country, much of ANSD's intervention areas are affected by insecurity, rendering several partner villages inaccessible to outsiders, including ANSD staff. Many villages have been displaced, increasing the vulnerability of the populations ANSD serves.

ANSD's specific objectives are:

1) Supporting farmers' organizations to promote agroecology for the resilience of agricultural production systems.

2) Strengthening women's ability to improve their livelihoods, nutrition, and families' diets.

3) Documenting and disseminating success stories in agroecology and other household livelihood strategies.

In 2023, ANSD worked with 117 communities and 376 community-based organizational structures in 5 communes. There, we supported 26,005 participants in the program, who **implemented agroecological innovations on 39,782 hectares of land, benefiting 191,000 people** (27,300 directly and 163,800 indirectly).

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

To achieve its goals, ANSD developed approaches that support farmers' experimentation and innovation through:

- Providing farmers with a "basket" of agroecological innovations to test/experiment with.
- Supporting farmers in conducting agroecological tests of their choice.
- Providing training and equipment to villages to support agroecological experimentation.
- Carrying out monitoring/support/advisory activities.
- Supporting farmer experimenters and communities in organizing village self-assessments and guided tours.
- Supporting farmers in setting up networks of innovative farmers across villages.
- Providing farmers and their organizations with simplified research methodologies in collaboration with research institutes such as INERA (Institute of the Environment and Agricultural Research).
- Supporting partner communities in setting up agreocology promotion committees that coordinate the implementation of activities in their respective villages in collaboration with innovative farmers.
- Strengthening women's leadership through forming women's groups focused on savings and credit programs, market gardening, processing of non-timber agricultural and forestry products, nutrition, etc.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Biodiversity (at farm level)

·Farmer Managed Natural Regeneration of Trees (FMNR)
·Improved FMNR through the integration of high-value trees (e.g., baobab, moringa, etc.)
·Crop-tree integration such as planting nitrogen-fixing fertilizer trees in fields
·Crop rotation and crop diversification
·Integration of livestock (e.g., goats) into agricultural systems

Biodiversity (at landscape and ecosystem level)

Forest parks

Seeds

·Maintaining inventory of local seed varieties
·Seed variety testing
·Training producers in seed selection, conservation and distribution to farmers
·Seed exchange between farmers
·Access to short-cycle seed varieties

Water

·Rainwater catchment basins
·Zaï holes
·Half moons
·Improved soil organic matter for water retention
·Wells for women's market garden plots

Local markets (how do local farmers and businesses supply inputs and market products?)

·Savings and Credit Groups (EPC)
·Warrantage systems (community-managed grain reserves)
·Bio-stimulant production (bokashi)
·Tree nurseries and creating tree input markets
·Market gardening sites
·Setting up small processing and marketing units for non-timber agricultural and forestry products (NTFP)
·Women's participation in trade fairs

Access to production resources

·Negotiating land access for women's groups
·Sensitizing authorities on the importance of gender equity in local development plans

Soil

·Rock bunds (contour barriers for soil conservation)
·FMNR
·Improved composting (heap)
·Bio-fertilizers (bokashi, Apichi)
·Ending burning to clear land

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

ANSD has supported the establishment of **more than 100 community agroecology committees and agroecological networks** in three municipalities. These networks create a sense of solidarity and mutual aid among producers, by promoting the sharing of experiences and resources. They identify priority challenges and agroecological practices that can address them. Interested farmers participate in learning visits to communities where the practices are successfully implemented.

Pilot villages are selected based on their geographic location and potential to **exchange practices with neighboring villages that share the same ecosystem, ethnicity, language**, or other characteristics. In the pilot villages, farmers self-identify as interested in participating in agricultural experimentation groups on priority practices. In cases where labor is needed (e.g. zai, half-moons, digging water catchment basins), farmers can form working groups to share manual labor with other farmers.

Specific strategies for sharing effective practices with other farmers:

- Exchange visits to discover agroecological innovations.
- Organizing clusters of villages, with strategically selected pilot villages where the first experiments and training sessions take place.
- Supporting communities in identifying and training peasant trainers for each district to train their interested peers, thus contributing to the rapid dissemination of innovations.
- Organizing competitions to reward farmers who develop innovative practices or overcome specific challenges.

- Supporting partner communities in **setting up agroecology promotion committees** that coordinate the implementation of agroecological activities in their respective villages in collaboration with the farmer trainers.
- Organizing **workshops, radio broadcasts, and video screenings** with partner farmers' organizations to share experiences.

Ensuring institutional support and sustainability by engaging technical services and authorities:

- Collaboration with INERA, which provides scientific support, validates results and introduces valuable seed varieties and techniques to the community (e.g., production of biostimulants, etc.).
- Technical service providers are invited to knowledge exchange sessions to learn about the appropriate techniques used by ANSD and share lessons.
- Ensure regional and municipal authorities are aware of the importance of agroecological farming practices by inviting them to visit farmer plots and fields.

Next steps to build on success and address challenges

- ☑ Continue **identifying and documenting successful agroecological practices** and sharing them within communities.
- ☑ **Scale up sustainable best practices** through cascading training.
- ☑ **Build the capacity of farmers** and their farmer organizations to experiment with and disseminate agreocological techniques.
- ☑ **Strengthen experience-sharing networks** with other farmer organizations to exchange ideas and knowledge.
- ☑ **Improve the production capacities of small-scale processing units** and create networks between producers, processors, retailers and consumers to improve access to local markets for agricultural products.
- ☑ **Encourage innovation** within producers' organizations through participatory development of experimentation methodology.
- ☑ **Enable farmer organizations to advocate and defend farmers' interests** and make their voices heard so that agroecology is supported across municipal, regional and national development plans and strategies.
- ☑ **Improve monitoring and evaluation systems** to measure progress and adjust strategies where necessary.

SUCCESS STORY

MEET EMMANUEL WANGO, A FARMER ACTIVELY PROMOTING AGROECOLOGY IN BURKINA FASO

After several years living and working in Côte d'Ivoire, Emmanuel returned to his native village during the political crisis that shook the country. His only means of feeding his family was a plot of land he inherited from his father. Like all the other farmers in his area, Emmanuel faced many agricultural challenges, notably soil degradation, scarcity of rain and heavy dependence on chemical products.

While looking for solutions to the many difficulties he faced in feeding his family from his farm, he met an ANSD staff member and they had a long discussion about sustainable agriculture. From that moment on, he discovered land regeneration techniques. His interest in agroecological practices soon made him a **deeply committed participant in all the training sessions** held in his village.

This attitude immediately led him to master the various techniques taught and to become a Peasant Trainer. He began using practices such as Zaï, half-moons, stone contour barriers, improved composting, crop diversification, and reducing the use of chemicals. He began focusing on protecting biodiversity and set up a small tree nursery in the middle of his field.

Emmanuel joined forces with other growers to test the use of rainwater collection basins by building an 8-cubic-meter pit. Using the water collected, he was able to grow local varieties of vegetables using environmentally friendly practices. This experience has enabled him to produce healthy, nutritious food and to **win second prize in the ANSD's 2023 Best Producers competition**. From the very first season of his adoption of agroecological techniques, Emmanuel has seen a considerable improvement in his yields. On his one-hectare barley plot, his production rose from 400 kg to 800 kg by the end of the 2023 agricultural year.

This year, he is starting the farming season with greater serenity. He has noticed a significant improvement in the health of his soil, and has become a fervent advocate of agroecology, sharing his experience with other members of his community. His field is now a school for other farmers, and his work inspires many farmers in Gounghin. On our last visit to his field, Emmanuel told us:

"***Inheriting poor soil is not necessarily up to us, but producing higher yields and better quality is a choice***."

Emmanuel's sorghum field (right) compared to his neighbor's (left)

Emmanuel's journey shows that, even in the face of challenges, it is possible to find solutions that respect the environment and improve farmers' quality of life.

Ghana

The Centre for Indigenous Knowledge and Organizational Development (CIKOD)

https://cikodgh.com/

CIKOD is a Ghanaian NGO established in 2003. It seeks to transform Indigenous institutions and local groups into vibrant grassroots civil society organizations that enhance rural communities' participation in their own development processes. CIKOD works across all ecological zones in Ghana.

In 2021, Ghana scored 0.63 on the Human Development Index (HDI), ranking 145th out of 193 countries, indicating a medium development level. The country experienced a steady increase in the index from 2000 onwards. However, it remained between the medium and low indicators of human development.

Agriculture is the backbone of the Ghanaian economy. It is Ghana's most important economic sector, employing more than half of the population on a formal and informal basis.

As of December 2023, **CIKOD supported 368 communities**, in which 41,062 farmers adopted various agroecological practices on about 82,121 hectares of land. The number of direct and indirect beneficiaries of CIKOD's interventions also stood at **52,797 and 211,188 people**, respectively.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

To promote farmer learning and innovation, CIKOD exposes farmers to various technologies through direct training opportunities such as demonstrations on lead farmer fields and field visits to successful demonstration plots. One example is the Volunteer Tree Promoter (VTP) groups, where within the VTP groups are farming leaders who support their communities with their learning processes.

To support women's empowerment, CIKOD engages in dry season agroecological vegetable production, which provides an economic empowerment opportunity, and village saving and loan associations, which increase women's decision-making power in their households. CIKOD works with eight communities in the Lawra and Nandom Municipalities of the Upper West Region of Ghana on VTP groups, dry season gardening, and saving and credit loan associations.

At a national level, CIKOD also facilitated the establishment of and continues to engage with the Ghana Agroecology Movement, which works across the country's different agroecological zones. Movement members run various "hotspots" and "learning hubs" that serve as training centers for the youth, women, and farmers in regions where they test, adapt, and demonstrate the effectiveness of agroecological practices. Four members of the Ghana Agroecology Movement operate centers for training youth and women farmers in agroecology.

CIKOD also collaborates with district, municipal, and regional-level agriculture directorates and the Ministry of Food and Agriculture (MoFA). Together, they organize workshops and Caravan tours (where key decision-makers travel to learn from rural communities) to help influence the policy and content of these departments' agricultural extension programs.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Soil

·Composting
·Manure application
·FMNR (Farmer Managed Natural Regeneration of Trees)
·Biochar
·Liquid fertilizer from fish
·Bio fertilizer from rabbit urine
·Urine-based herbicides for weed management

Seeds

·Use of early maturing and drought resistant seed varieties
·Improving farmer seed selection, saving, and distribution
·Promoting community seed banking
·Establishment of seed centers
·Seed fairs for exchange within and between
·communities

Local markets

·Expertise in the Participatory Guarantee System for organic/agroecology certification
·Annual seed and food fairs
·Establishment of market outlets using local vendors
·Mobile canopy markets
·Establishment of a food aggregation warehouse and processing social enterprise for farmers in the Upper West region

Biodiversity (at landscape and ecosystem level)

·FMNR Demonstration fields
·Agroforestry (planting of cashew trees)
·Community-managed protected areas

Biodiversity (at farm level)

·FMNR sites
·Mixed cropping
·Mixed farming

Water

Ridging, Bounding, Mulching

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

The methodologies and social processes used in spreading learning and innovations include:

- Direct training and organization of learning visits. CIKOD works with the lead agroecological farmers/VTPs in its operational communities to test and experiment with various technologies. Successful field trials and demonstration fields at the different ecological zones have now become **learning centers for other farmers**.
- The Department of Agriculture staff, including the Agriculture Extension Agents, and other stakeholders, including traditional authorities, are also taken on **learning visits** to these successful fields.
- CIKOD established a processing center in Pavu, Ghana, to increase the **access of agroecological products to local markets**. This intervention encourages farmers to practice agroecology as it promotes access to the existing market and opportunities for increased revenue.
- Seed festivals/durbar and traditional food bazaars promote the spread of agroecology among various communities.
- The production of **documentaries and documentation of grounded evidence** on agroecology and the widespread sharing of these materials and products also contribute to the spread of agroecology. In addition, the use of **policy briefs for engagement with government agencies**, especially the Ministry of Food and Agriculture, promotes agroecology at the national level.

- Supporting partner communities in **setting up agroecology promotion committees** that coordinate the implementation of agroecological activities in their respective villages in collaboration with the farmer trainers.
- Organizing **workshops, radio broadcasts, and video screenings** with partner farmers' organizations to share experiences.

Next steps to build on success and address challenges

☑ At the local level, CIKOD is working to **enhance agroecological innovations** at the various innovation centers in different zones, increasing the number of farmers participating in farmer field schools. Through its partnership with GIZ REACH (The Resilience Against Climate Change project), CIKOD established **43 conservation agriculture demonstration fields** in 43 new communities. These fields also serve as learning fields for farmers.

☑ Moreover, the Ghana Agroecology Movement is **growing numerically and across all the ecological zones** in the country. CIKOD is working to strengthen the capacities of the agroecology hotspots that are key actors in the movement. These hotspots serve as **sites for practical training and demonstration plots**, providing opportunities for farmers and policymakers to learn.

☑ The government's annual program to support agricultural inputs, called the Planting for Food and Jobs (PFJ) program, aims to give farmers more choices when selecting agricultural inputs. The program's goal is to **encourage farmers to use compost and organic fertilizers** and to enhance their skills to improve soil fertility and crop yields.

SUCCESS STORY

HOW OPOAKPAJOR'S AGROECOLOGICAL INVENTION WENT FROM FARM TO GOVERNMENT

Opoakpajor Nyigmah James, the founder of Opoakpajo farms, is an active member of the Ghana Agroecology Movement based in Techiman, the agroecological transition zone of Ghana. Through involvement with CIKOD, he has increased his operational capacity significantly. He has acquired more land, set up an irrigation system, and is currently constructing an on-farm hostel to accommodate trainees and learners.

He has also developed a technology with the potential to address a significant challenge in agroecology: finding alternatives to chemical herbicides for weed management.

To overcome this challenge, he has created a urine-based solution that can eliminate weeds in approximately 48 hours. This technology is currently being researched at the **University of Energy and Natural Resources** and has been tested in four fields, consistently showing positive results. Since then, more than 600 lead farmers and Ministry of Agriculture staff have been introduced to this technology, and most are now experimenting with it at their own farms.

Opoakpajor Nyigmah James is an inspiring example of how farmer innovation and leadership are essential to the agroecological transition.

Mali

Sahel Eco (Ecologie, Economie et Ecoute du Sahel)

https://saheleco.org/

Sahel Eco is an apolitical, non-denominational, non-profit association founded in 2004. The organization emerged from the prior *Programme Environnement Communautaire* (PEC) implemented by SOS Sahel Great Britain in Bankass and Tominian.

Sahel Eco's mission is to promote inclusive socio-economic development that respects the environment and ensures the needs of present and future generations in the Sahel. The Sahel Eco program focuses on the circles (districts) of Tominian (6 communes with 64 villages and a population of 162,587) and San (10 communes with 129 villages and a population of 256,675) in central Mali.

In 2023, Sahel Eco worked with 152 communities, including 316 structured community/village organizations, and **helped 63,492 people improve their agroecological strategies on 83,238 hectares of degraded land**, benefiting 380,952 people (63,492 direct beneficiaries and 317,460 indirect beneficiaries).

With a population of around 22.3 million, the Republic of Mali is a low-income country in the Sahel region of West Africa.

Mali ranks 188th out of 193 countries on the 2023 UN Human Development Index. The country is subject to frequent terrorist attacks and growing inter-ethnic violence. This security crisis has not prevented Mali's economy from performing reasonably well, with real gross domestic product (GDP) growth averaging 4.6 percent yearly (IMF, 2021).

However, with an annual population growth rate of around 3.5%, annual per capita GDP growth has remained modest. Indicators of poverty reduction and improvement in human development, among the lowest in the world, have not progressed.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

Sahel Eco supports farmers to form groups using the "savings for change" approach. The organization provides them with learning and training opportunities in agroecological techniques such as soil and water conservation, organic soil fertilization, market gardening, and farmer-managed natural regeneration of trees (FMNR).

Agroecological farms serve as meeting places for beneficiaries to experience demonstrations, receive practical training, plan activities, and learn about innovative technologies promoted by the project. Communities also form agroecology committees, which work at the commune level.

Methods:

- Successful engagement with rural populations has mainly occurred through the **Farmer Leader Trainer model** (farmer leaders teaching other farmers), which has proved effective in many countries. Sahel Eco builds the capacity of agricultural extension agents (staff and farmers) to lead knowledge sharing better and support opportunities for exchange between farmers, community organizations, and agricultural extension agents.

- Collaboration within local networks of community-based organizations, such as **agroecology committees and women's savings and credit associations**, increases the social and financial capital to spread agroecology and support local value chains and market access for agroecological products. The ownership and dedication of local communities to agroecology practices have allowed them to play a crucial role in recruiting and training neighboring communities to adopt practices.

- The synergies between farmer training, the testing and adoption of improved soil and water conservation, FMNR and other approaches, and the development of value chains for non-timber forest products (such as shea and néré), incentivize the adoption of agroecological practices, improve farmers' yields and incomes, and promote wider landscape regreening.

- **Media campaigns** carried out through local language radio, community videos, and community-led awareness campaigns also increase visibility and understanding of agroecology and contribute to changing farmers' attitudes and behaviors.

- Sahel Eco also works with farmer groups to organize **agroecology competitions** to increase adoption rates and incentivize the use of agroecology.

- Sahel Eco focuses on **participatory and active learning approaches with farmers** (on-farm demonstrations, use of illustrative images, exchange visits, etc.) that are driven by the farmers themselves (community and farmer-to-farmer relay training, agroecology committees in each village responsible for local capacity building, community-managed nurseries for seedling production and tree planting, etc.)

- They prioritize the participation of at least 30% of women in all training courses and agroecological learning exchange visits and **50% representation of women on village agroecology committees.**

- Other approaches to supporting farmer innovation include support for simple agricultural equipment and inputs; learning exchange visits between communities; techniques for valued added processing of agroecological products; strengthening farmer groups' capacities to use simple tools for accounting and management of grains and other stocks; reflection and promotion of gender equity; synthesis, documentation and dissemination of experiences, success stories, key practices, videos for sharing in workshops and with different audiences.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Biodiversity (at farm level)

·**FMNR: Farmer Managed Natural Regeneration of Trees** is a practical, sustainable, and low-cost approach with a high adoption and success rate. FMRN protects cropland against erosion, improves soil conservation and fertility, regenerates tree seedlings and conserves endangered flora and fauna, provides on-farm firewood, fuelwood, and animal fodder, reduces water transpiration, supports traditional medicine, provides shade and mitigates climate change.

·Integrating high-value trees (baobab, moringa, néré, shea, mango, etc.) into FMNR systems **increases and diversifies farm production and incomes**. It supports beekeeping and harvesting of non-timber forest products (NTFP). Setting up community-managed agroforestry parks conserves endangered forest species.

·**Profitable and healthy farming practices**: by integrating innovative technologies (bio-liquid fertilizers, bio-pesticides, soil-less farming, fish farming, half-moon farming, intelligent water management, etc.).

·**Improved livestock management**: Improved breeding of goats, cattle, and poultry, and enhanced livestock hygiene and health increase production, allow farmers to better integrate livestock into farming systems, provide manure to improve soil fertility and structure, and increase agricultural yields.

Biodiversity (at landscape and ecosystem level)

·**Improved management of forest areas:** Strengthening community organizations to engage with local decision-makers, develop and implement agreements and protocols for forest management, and ensure respect for the laws and regulations that protect community forests. They also engage in FMNR, reforestation, and prevention of fires and burning.
·Community water sources include the expansion of ponds, stocking ponds and rivers with fish.
·**Land tenure**: Promotion of local agreements on natural resources management and sustainable management of forest products: fruit, wood, farmland, etc.

Seeds

·**Promoting farmer seed production on a large scale** (for main farm plots, market gardening of vegetables, and seedlings for forestry).
Strengthening farmers' access to quality local seeds to ensure harvests contributes to good production and reduces farmers' expenses.
·**Seeds are adapted to local soils and conditions.** Sahel Eco supports farmer-managed seed selection and integration of diverse local seed varieties to increase seed access and quality.
·**Short-cycle varieties** are valuable in the context of climate change and unpredictable rainfall.

Water

·Zai and half-moon techniques, water infiltration contour ditches, stone contour barriers.
·Rainwater harvesting, improved pond management.
·Mulching to conserve moisture.
·Micro-dams for water retention and distribution.

Soil

·**Soil and water conservation, management, and regeneration**: zai pits, half-moons, stone contour barriers, partitioned ridging on farms, fallow land, agroforestry, hedgerows, crop rotation
·**FMNR**: selecting and protecting tree seedlings and pruning trees for regenerative agroforestry farming systems
·**Soil fertilization**: rapid composting, bio-liquid fertilizer, mulching
·Farmers are provided basic tools like wheelbarrows, a-frames, pickaxes, hammers, buckets, shovels, etc.

Nutrition for women and children

·**Promotion of improved nutritional gardens** for growing moringa, baobab, sweet potato, and similar foods to improve food access and nutrition of vulnerable households
·**Nutritional education sessions** in secondary schools, where 300 students learn the principles of a balanced diet.
·**Training for breastfeeding women** on making improved porridge for newborns,
·**Supporting 250 vulnerable households** to improve, raise, and sell local poultry breeds.

Local markets

·**Mobilizing women's groups**, with 30% gaining access to credit and local markets.
·**Community-managed grain reserves** ("warrantage" system) link post-harvest grain storage to credit, so farmers have the cash to meet short-term household needs and then sell stored grain together later when prices rise. This increases food security during the lean season, improves incomes, and reduces dependence on intermediaries.
·Farmers are trained in producing inputs for **organic soil fertility and pest management.** Community tree nurseries produce and sell seedlings to projects.
·**Women's cooperatives receive training in value-added processing of non-timber forest products (NTFP)** (shea, néré, syrup) and solar dryers for processing vegetables from market gardens. Women take part in national and international trade fairs to cultivate potential customers.
·Providing organized farmers with access to **subsidized agroecological inputs**
·Providing women's and youth groups with appropriate means of transport (tricycles)
·Development of **a simplified market information system** to facilitate the sale of NTFP.
·Creation of WhatsApp groups to connect with customers.

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

To disseminate and spread practices to farmers, Sahel Eco uses the following methodologies:

- **Farmer agroecology committees and networks:** Sahel Eco supports 152 community agroecology committees, which are linked in 21 commune-level networks. They hold community dialogues, visioning, and planning meetings to identify priority farming challenges and the agroecological practices most likely to address them and to develop action plans to promote them.
- **Capacity building:** Sahel Eco supports the identification and capacity-building of lead farmer promoters, who carry out relay training on effective practices to other farmers, who further replicate the process to create cascading training.
- **Participatory and practical learning**: Practical on-farm demonstrations and exchange visits are more effective than theoretical training for farmers to learn and discuss techniques and challenges.
- **Communications**: Tools like videos with commentary, community radio, and farmer-to-farmer exchange visits quickly reach many beneficiaries, most of whom are illiterate.
- Best farmer and community competitions incentivize adoption or practices and elevate the examples of highly effective farmers for emulation across villages.
- **Non-Timber Forest Products (NTFP) groups**: Women and young people are the main actors in the processing of agroforestry NTFP. Facilitating their organization into groups that can own and benefit from these products strengthens the protection of on-farm trees and agroforestry parks.

- **Saving for Change (SFC) groups** allow participants to mobilize savings and microcredit, reducing their dependence on moneylenders who charge exorbitant interest rates.
- **Local fairs** support commercial relationships between processors and buyers of agroecology and NTFP products.
- **Culinary competitions** help create local demand for food made from agroecology and agroforestry products.
- **ICT (use of the Regreening App and geo-referencing)** of sites where FMNR and soil and water conservation are carried out are essential tools for providing reliable data in monitoring and evaluating program regreening achievements.
- **Gender**: In addition to ensuring high levels of women's participation, Sahel Eco always considers gender interests in farmers' choices of agroecology and FMNR practices. They support women's groups in negotiating with village authorities for access to plots of land for market gardening so they can increase the production, consumption, processing, and sale of vegetables and other produce.

Next steps to build on success and address challenges

- ☑ **Increase the scope and productivity of agroecological farming** to cover the food needs of populations.
- ☑ **Use new technologies to train farmers**, such as rural resource centers and agroecology demonstration fields.
- ☑ **Improve the quality and quantity of value-added processing of agroecological products**. Provide cooperatives with appropriate technology for value-added processing.
- ☑ **Strengthen local market access for agroecological products**, including the participation of women's groups in national and international fairs to cultivate customers, provision of appropriate transport for agroecological produce, and promotion and educational campaigns on consuming agroecological produce in Mali.
- ☑ **Promote rural entrepreneurship among young people and women** by financing and supporting the value-added processing and sale of agroecological produce.

Sahel Eco also suggests the following **national-level actions to build success:**

- The Government of Mali should **increase subsidies for agroecological and biological inputs instead of chemical inputs** as part of its annual plans to ensure national production. Agricultural extension agencies should continue to increase their efforts to inform farmers about the weather and the agricultural calendar.

- Government and NGOs should continue to support proven strategies for capacity-building and organization for farmers to apply and spread the adoption of agroecological practices.
- The Ministry of the Environment, Sanitation and Sustainable Development (MEADD) should adopt regulations that recognize and define farmers' rights to own, benefit from, and sustainably use on-farm trees, to incentivize FMNR, develop and adopt a national agroforestry development policy and implementation plan in Mali, and draw up a roadmap to support women's involvement in environmental protection.

SUCCESS STORY

MEET ELIE DABOU, A LEADING AGROECOLOGICAL FARMER IN THE BANKOUMA COMMUNITY

Elie Dabou was born in 1971 in Bankouma in the Mandiakuy rural commune of the Tominian cercle. He is the son of the village chief of Bankouma and is married with six children. Elie is a member of his village agroecology committee, and his wife is also an agroecology promoter for the village of Bankouma. Elie is a leading farmer who has been engaged in agroecological farming since 2018.

Despite being illiterate, he has participated in several training courses supported by Sahel Eco on agroecological practices, including rapid composting, soil and water conservation, FMNR, grafting, direct seeding, producing bio-liquid fertilizer and biopesticide, and market gardening techniques.

After initial training, Elie applied a combination of agroecological practices (zaï pits, stone contour barriers, grass strips, FMNR, rapid composting, direct seeding, etc.) to improve his agricultural production. Motivated by his love of trees, he started producing around forty mango trees early on without any experience, all of which died because he failed to master reforestation techniques. By word of mouth, he then learned from other farmers how to graft mango trees, but initially tried without success.

His first major success came after sowing shea kernels in his field as part of a Sahel Eco agroecology project. He planted 40 trees on 5 hectares. At the time, Elie was the first person in the community to take an interest in the "Regreen Africa" and agroecology projects. **Now, he is a pioneer of FMNR and regreening in his village, participating in cross-visits to other villages with successful FMNR and agroecology farmers.** He is highly motivated and committed to continuing to improve his farm.

Before he applied the agroecological techniques, productivity was low (under four metric tons per year), and he could only ensure his family's food security for 8-9 months. He compensated by buying grain from local markets, which cost up to 90,000 FCFA ($152).

Following training in agroecological techniques, **Elie improved production on his land and recovered 3 hectares of degraded land**. He now farms 8 hectares with a total yield of 6.5 tons.

TABLE 1: AGRICULTURAL PRODUCTION SITUATION IN 2017 VS 2021

N°	Crop	Area (ha)		Yield in kg		Difference (Impact)
		2017	2021	2017	2021	
1	Millet	3	3	3,000	4,500	**1,000**
2	Sorghum	2	2	3,500	5,000	**2,000**
3	Corn	0	1	0	5,200	**5,200**
4	Peanut	0	2	0	3,000	**3,000**
5	Sesame	0	1	0	800	**800**
6	Cotton	0	1	0	3,000	**3,000**

Elie's agroecological practices have generated significant benefits for his family. He now produces enough to feed his household and pay his children's school fees, saying, "***I can breathe deeply at the end of the day.***" He has been able to purchase two oxen for plowing, a horse, four carts for transport, and a motorcycle. His family's nutrition has improved as they have access to more home-grown fruits, baobab, and market garden vegetables.

Elie's income increased due to the diversified crops he grows on his farm fields (cotton, corn, sesame, groundnuts) and other new income sources (fattening three rams, twenty grafted jujube trees (Chinese dates) for fruit, etc.). He earns 1,250,000 FCFA annually ($2,081) from selling groundnuts and cotton.

News of Elie's success spread by word of mouth, and **other farmers in his village came to learn from him**, including four exchange visits hosted at his farm. He has become skilled in grafting trees and has trained five people in his community to master grafting. Elie is a respected source of knowledge in his community, and he has granted two hectares of land to the women's non-timber forest product processing group in his village to create their agroforestry park.

Members of the Dabou family preparing rapid compost

Story presented by Adama Dena

Senegal

AGRECOL Afrique

https://agrecolafrique.org/

AGRECOL Afrique, a Senegalese NGO founded in 2004, promotes agroecology, organic farming, and the social and solidarity economy (SSE) in Senegal and West Africa.

Its mission has two main objectives: to develop knowledge, practices, and experience in organic and ecological farming and SSE and to improve communication and information on these topics. AGRECOL Afrique works in synergy with all players in the agricultural value chain, including producers, value-added processors, retailers, business development services (BDS) providers, technical service providers, consumers, and the media.

In 2023, AGRECOL Afrique worked with 54 communities and 155 grassroots organizations, directly benefiting 6,892 individuals and in-directly benefitting 55,136 individuals.

Senegal faces significant developmental challenges. Despite a history of political stability compared to many of its neighbors, the country still struggles with high levels of poverty, especially in rural areas. Ranked 170th out of 191 countries on the 2024 UN Human Development Index, Senegal has a population exceeding 17 million, with nearly 40% engaged in agriculture.

However, the agricultural sector faces hurdles such as land degradation, limited access to resources, and the impacts of climate change, which make AGRECOL Afrique's work in promoting regenerative farming practices even more vital.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

AGRECOL Afrique strengthens local agricultural stakeholders' organizational and institutional development skills (groups, cooperatives, producers' associations, processors, retailers, and consumers) to support their production capacity and organization. They also offer capacity-building training on agroecology and organic farming, fruit and vegetable processing, marketing, poultry farming, beekeeping, nutrition, and more. AGRECOL staff provide technical support to individuals and groups who process and market agricultural products.

The organization uses the **farmer field school (CEP) methodology** to support farmers in their agroecological and organic farming journeys. Farmer field schools support a 'learning by doing' method and encourage the development of critical thinking and analytical skills. In the farmer field schools, participants can compare and contrast different sustainable farming techniques and adapt innovations for their context and needs.

Farmers who participate in AGRECOL Afrique programs also receive opportunities to engage in **exchange visits to learn from other successful farmers and communities**. These visits expose participants to the innovative practices of other farmers, strengthen farmer networks, and encourage peer-to-peer learning. Farmer innovations are collectively documented, and this knowledge is shared and disseminated with others.

AGRECOL Afrique supports the establishment of **women's solidarity saving and credit groups**, called gourds, as part of its work on women's empowerment. The women's groups mobilize their own resources through revolving funds to finance their agroecological and economic activities. For example, groups may use the savings to purchase inputs or create solidarity granaries for collecting, conserving, storing, and distributing local grains during the lean season. The women's solidarity groups strengthen social cohesion and create an environment of mutual trust, support, and knowledge sharing.

A key aspect of AGRECOL Afrique's work is **supporting markets for agroecological and organic products**. To do this, they assist producers in implementing market information systems and using digital platforms to market goods, help establish new channels for sales (kiosks, markets, promotional events, etc.), and facilitate contracts between producers and other value chain actors (restauranteurs, processors, consumers, etc.).

Documentation and communication of farmer experimentation and collective experiences are essential to AGRECOL Afrique's strategy. **Farmers create videos for other farmers** documenting their techniques and participate in experience-sharing workshops. Communication materials are shared on social media, radio, posters, etc.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Local markets

·**Kiosques Bio:** these are permanent points of sale to provide agroecological and organic produce for local consumers
·Regular presence at local markets to increase public awareness of agroecological products
·**Weekly organic markets** organized by AGRECOL Afrique
·Home delivery of produce to consumers which guarentees sales for producers
·Organization of group sales to access larger markets and negotiate better
·Joint logistics optimize transport costs

Biodiveristy (at the landscape and ecosystem level)

·FMNR and promoting keeping trees in fields
·Creation of non-timber forest products local enterprises to incentivize agroforestry
·Promoting use of local seeds and crops
·Creation of grain and seed banks for local varieties

Biodiversity (at farm level)

Production of market gardens with diverse vegetable crops (ex: tomato, eggplant, lettuce, potato, etc.)

Seeds

·Seed coating with biostimulants
·Use of local seed varieties

Water

·Basins for rain water collection
·Use of FMNR to help manage water holding capacity and soil moisture during periods of drought and flooding

Soil

·Farmer Managed Natural Regeneration of Trees (FMNR) to improve soil health, farm diversity, and retain soil moisture
·Supporting farmers to access non-chemical bio-input fertilizers and compost

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

AGRECOL Afrique uses several strategies to spread effective practices among farmers, communities and other stakeholders:

- Raising awareness with targeted campaigns across national channels (radio, press, social media).
- Cascading training for participants and farmers on topics like agroecological innovation, experimentation, marketing, etc.
- Farmer and community site visits and farmer-to-farmer exchange visits.
- Events to allow for agricultural value chain stakeholders to exchange knowledge and experiences.

Next steps to build on success and address challenges

- ☑ Organizing consultation and coordination meetings between agricultural stakeholders and different organizations in the food system.
- ☑ Reinforcing participants' involvement and commitment and offering new training on the importance of information sharing and knowledge exchange.
- ☑ Ensuring better organizational financial planning.
- ☑ Investing in agricultural equipment.
- ☑ Improving event logistics management.
- ☑ Investigating the possibility of organizing more frequent or larger-scale events.
- ☑ Optimizing data collection, finding ways to encourage farmer participation in data collection, and developing a more efficient and user-friendly data collection system.
- ☑ Supporting price harmonization/alignment activities.

SUCCESS STORY


©Agrecol Afrique

TESTIMONIALS ON THE SUCCESS OF THE "WEEKEND BIO" FOR PRODUCERS, RETAILERS AND CONSUMERS

The "Weekend Bio" are regular agroecological and organic markets organized by AGRECOL Afrique that incentivize and connect agroecological farmers with consumers.

"We produce in an exemplary way, but we are often faced with the problem of marketing outside conventional markets. This difficulty is real and can push us to abandon organic farming."
—Birane Sene, producer

"The Weekend Bio enables us to increase our income considerably."
—Ndeye Binta Ndiaye of Sel Sellal

These two testimonials underline the importance of these events for the economic viability of agroecological producers and processors. Organic Weekend markets offer farmers a unique opportunity to generate significant income over a short period while expanding their customer base.

Consumers also report being very satisfied with these markets. Miss Dieng, a loyal customer for over 15 years, shares her enthusiasm: "***It's a good thing to organize these Weekend Bio because they put us in touch with producers and processors."***

This positive feedback highlights another crucial aspect of Organic Weekends: they create a direct link between producers and consumers, which fosters trust, mutual understanding, and customer loyalty.


Fresh produce at the organic market in Thiès, Senegal


An exchange between a consumer and a local farmer at the weekend organic market in Thiès

Ecuador

EkoRural

https://ekorural.org/

EkoRural is an Ecuadorian research and development NGO established in 2009. EkoRural uses a people-centered approach to strengthen local capacity for continuous innovation, centering on healthy local food systems and agroecology. EkoRural works with indigenous and mestizo communities in 4 provinces (Chimborazo, Cotopaxi, Pichicha, and Imbabura) of the Ecuadorian Central Highlands.

It works through innovation nodes formed by community-based organizations, agroecological associations, youth groups, local universities, mainly the public (students, teachers), and NGOs.

The organization collaborates with 20 communities in total, **reaching approximately 500 families and 2000 families** indirectly.

Currently, Ecuador ranks 83rd (0.765) in the Human Development Index and will present an annual economic growth rate well below Haiti's by 2024.

EkoRural's intervention areas are affected by extreme poverty, criminal and political violence, and an unprecedented historical wave of migration out of rural communities.

Severe levels of migration, including that of entire families, are causing labor shortages and the abandonment of farms, decreasing the amount of land used for food production.

In tandem with large-scale conventional flower and horticulture agriculture, companies are de-centralizing their businesses, **transferring the risks to small farms.**

Continued support for conventional agriculture, which is dependent on external inputs, has led to the systematic degradation of soils, genetic crop diversity, and new forms of social exclusion.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

EkoRural takes a "people-centered" approach that does not focus on "poverty" (i.e., what one does not know or have) but on the existence of knowledge, one's resources, aspirations, and opportunities. This approach is critical to generating an action-learning process that builds farm and livelihood resilience. Working with community-based organizations, EkoRural focuses on several key methodologies as part of their approach:

Action research and transdisciplinary participation: Social learning and action research allow for collective learning. EkoRural promotes farmer experimentation using a learning-by-doing approach, including participatory methodologies such as field schools and Local Agricultural Research Committees (CIALs). EkoRural supports field schools, or CIALS, in developing curricula on various agroecological topics. There are also opportunities for transdisciplinary visits and exchanges between key stakeholders and participants, workshops, and exploration and learning tours.

Design: Applied farm design/redesign uses participatory resource analysis to understand critical subsystems of the chakra (plot) and associated factors like water availability and management, biodiversity on the farm and its surroundings, topography and landscape, management practices, etc.

The (re)design process involves ensuring the widest possible participation of household members to generate awareness and consensus on the necessary and possible changes. The farm design activity uses participatory GIS mapping and traditional visual methodologies (i.e., talking map).

Innovation funds: EkoRural established innovation funds to support agroecological innovations in the chakra, such as improving pastures and livestock rearing, local seeds, composting, fruit trees, etc. These funds are themselves an agroecological innovation that fosters organization and economic capital.

Scaling: EkoRural engages with Alternative Food Networks (RAA) to scale agroecology. RAAs are the pillar of urban-rural relations that allow a territorial and conceptual expansion of agroecology by placing "healthy food" as a connecting ingredient of local food systems. Through participatory action-research strategies, EkoRural seeks to **create relationships with food system stakeholders and actors** to generate alternative market mechanisms (baskets, direct sales, fairs, peasant outlets, municipal market stalls, door-to-door sales). RAA also provides opportunities to engage in the economics of agroecology by focusing on sales, market pricing, and cost-benefit analysis of agroecological production.

Communication: EkoRural has a powerful dissemination strategy, using scientific publications and national campaigns for training, education, and mobilization to promote responsible food production and consumption.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Soil

·Using contour lines and live fences
·Visual analysis of soil to assess soil quality (compaction, aggregation, depth, structure, etc.)
·Assess how composting improves soil microbial ratios, carbon/nitrogen (C/N) ratio, etc.
·Assessing soil health via organic matter dynamics (particulate matter, active carbon, etc.), biological activity (respiration, OM digestion dynamics), fungus/bacteria ratio, macro and mesofauna, cation exchange capacity (methylene blue), aggregate stability (slake), soil color (Land PKS), etc.
·Microscopy

Climate

·Local climate bioindicators
·Validation of weather recording tools (pachagrams)
·Training on pest and disease control related to the climate/weather, including the use of online applications and tools
·Weather and activity calendars
·Use of local and international databases with information on local climate

Local markets

·Establishment of Alternative Food Networks
·Seeking support at the state level for local government outlets and fairs
·Mapping of actors relevant to the local food system and agroecology
·Analysis of food environments and food basins

Biodiversity (at farm level)

·Farm designs and redesigns
·Agroecology innovation funds
·Establishment of vegetable gardens
·Production of biosolids and bio-inputs
·Introduction of new varieties of Andean foods
·Recovery, reintroduction of native crop varieties
·Crop rotation and diversification
·Small livestock (guinea pigs and chickens) and cattle for manure

Seeds

·Seed banks: Biodiversity prospecting aimed at halting genetic erosion
·Seed quality and seed health evaluation
·Multiplication and experimentation plots
·Seed and variety exchange fairs

Water

Water harvesting and creating water reservoirs

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

EkoRural uses the following activities and methodologies to spread effective practices:

- Maintaining ongoing farmer-to-farmer meetings with farmers from different communities.
- Dissemination of experiences through field days, exchange tours, visits to lead farms, and formal and informal exchanges between farmers.
- Support government initiatives such as the Learning Schools and Learning Communities by the Ministry of Agriculture and Livestock and the Learning Schools to receive official certification of good agricultural practices (GAP).
- Systematize, document, and publish experiences in a participatory manner.
- Lobby for scaling agroecology, creating new relationships, developing knowledge, etc.
- Creation of spaces and opportunities for information exchange between farmers, political authorities, development agents, and researchers.

Next steps to build on success and address challenges

- ☑ Expand agroecological production by identifying entry points and levers for change. Key entry points include topics like agrobiodiversity, soil, water, and alternative markets, as these link to complex political, economic, and cultural challenges that require coordination with different stakeholders.
- ☑ Continued local lobbying for policies that support agroecology through municipal ordinances and regulations.
- ☑ Follow-up support for farmers already innovating and practicing agroecology will require large investments of time, money, and human resources to work with each independent farm or farmer. Collaboration between key stakeholders will be essential for sustainable follow-up and promotion.
- ☑ EkoRural successfully developed a facilitation process for creating alternative agroecological markets. Many of these spaces closed during the COVID-19 pandemic. More political support is needed to recover alternative market spaces that support a revaluation of healthy food in urban populations.
- ☑ Given the context of migration - which threatens the physical and cultural erosion of communities - it is crucial to pay attention to youth. It is essential to create opportunities for youth leadership, elevate youth voices, and create incentives and opportunities for them.

SUCCESS STORY

MEET MARÍA HELENA GUAMÁN, A FARMER TRANSITIONING TO AGROECOLOGY

María Helena Guamán Morocho is a farmer from Tunshi Grande, in the Licto parish of Riobamba. She is one of the most active producers within her working group, which was formed with EkoRural and other organizations in the territory. María Helena has a strong history of dedication to agriculture, having been both a farmer and a day laborer. She currently sells her products in the local and wholesale markets.

She grows over 30 crop species, including medicinal plants, flowers, and vegetables. She has one cow, guinea pigs, and chickens. She and her daughter Lizbeth attend courses on guinea pig management to ensure her daughter is engaged in agriculture.

María Helena and her husband have four children, three of whom still live with her. Her first son, who is 23 years old, left Riobamba to work in the east. Her family is dedicated to farming, and everyone plays a role in it. When not at school, her daughter Lizbeth participates in EkoRural's Youth Storyteller program group and loves learning about food production.

María Helena would like to achieve fully chemical-free farming. However, most households still use chemical inputs in their community. Maria explained that it is **a long-term process to change farmers' habits**, but there have been steps towards positive change.

For example, chemical use is reducing because more people turn to bio-inputs, and many farmers in the community no longer burn stubble. María Helena hopes that bio-inputs will effectively replace agrochemical use in her community.

After participating in an exchange visit with EkoRural, María Helena learned to conduct germination tests on corn to calculate how much seed is needed for planting to assess seed quality. One of the main innovations she has implemented on her farm is breaking down guinea pig waste for manure, explaining, "***This is a big breakthrough!"***

Maria working alongside her family in her field

María hopes that her daughter will love farming and continue the work when she can no longer farm. She mentioned that "now young people want things other than farming."

She has instilled in her daughter the idea that **farm work is beautiful**. María Helena hopes farm work continues to be valued since this is how she has provided for her family all these years.

Guatemala

Asociación de Agricultores las Ilusiones del Divisadero (AGRIDIVI)

Flor del Café de la Aldea el Durazno Community Association, also known as AGRIDIVI, was funded in 2016. The organization is named after Flor del café, the predominant crop in the department of Jalapa, where the organization is based. AGRIDIVI works with Xinca and Mayan Pomocan communities, many of whom grow coffee as a key income source, to promote a transition to agroecological practices emphasizing environmental, economic, productive, cultural, and political well-being.

The Jalapa region of Guatemala is in the Dry Corridor, an agricultural production area that experiences low rainfall and prolonged drought exacerbated by climate change. For farmers, practicing agriculture in the Dry Corridor can be highly challenging due to these climatic issues and poor soil health caused by prolonged chemical use.

To support smallholder farm communities in the Dry Corridor, AGRIDIVI seeks to strengthen agroecological farming in the region, increase the participation of women in agriculture and income-generating activities, create saving and credit groups, and establish community grain and seed banks to prevent food insecurity, debt, and poverty.

AGRIDIVI currently supports 700 families in the communities of San Pedro Pinula, Montaña de Xalapan, and San Carlos Alzatate in the department of Jalapa, Guatemala.

Map source: FAO, 2023

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

AGRIDIVI uses methodologies based on the farmer-to-farmer movement, such as respecting culture, spirituality, and the natural environment while ensuring farmers see themselves as the protagonist and critical actors in all processes and programs. Thus, AGRIDIVI **promotes the recovery of traditional practices, techniques, and knowledge** of sustainable agricultural production, facilitating local exchanges of agricultural knowledge, products, and seeds between families and opportunities for building solidarity and collective community work based on traditional culture. Other methodologies AGRIDIVI uses to promote agroecological transition are workshops and training, exchanges of knowledge and experiences, educational farm visits and tours, and farmer experimentation. AGRIDIVI is also working to **address the rural migration crisis, creating campaigns to engage youth in agricultural work** to prevent them from migrating to urban centers. They offer training to youth and encourage their inclusion in crucial activities, farming, and livestock-rearing activities.

To support women, an overlooked and often marginalized group, AGRIDIVI creates spaces for women-led personal and collective development. Women are essential to agroecological transition and play critical economic roles for their households and communities. Through income-generating activities like transforming local products into jellies, flours, wines, canned fruit, dehydrated fruit, medicinal plants, poultry raising, and vegetable production, women significantly improve their families' diets and economic security. Currently, **75% of AGRIDIVI's program participants are women**, many of whom have also formed saving and credit groups. These groups provide loans and savings and are spaces for women to strengthen their leadership and organizational capacities, **taking on roles previously occupied by men**.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Biodiversity (at farm level)

·Promoting diversified plots to increase crop variety available throughout the agricultural cycle, **decreasing family's dependence** on coffee production, generating more income
·**Incorporating livestock production into farming systems** and promoting the use of pastureland for feeding

Water

·Rainwater reservoir
·Application of compost made from milpa cane (corn stalk) to help retain soil moisture
·Handmade filters for water recycling for use in home gardens
·Technical training for families on the responsible use of water

Biodiversity (at the landscape and ecosystem level)

Diversifying crops to increase the presence of migratory birds and pollinators

Local markets

·Promotion of diversified production for consumption and sale of surpluses at the local and municipal level
·Organizing women's savings and credit groups to promote the sale of local products among their members, avoiding intermediaries as much as possible
·Promoting women producers selling products from house to house, an ancestral form of product marketing
·Producers bring products their community cannot access back from municipal markets, such as meats, salt, sugar, etc.
·Promoting organic products in strategic locations and markets
·Creating alliances with other organizations and government institutions to promote market participation
·Encouraging product transformation to extend the shelf life of perishable products for family consumption

Soil

·Implementation of diversified family plots to replace coffee monoculture
·Systematic reduction of the use of highly toxic chemicals
·Reduction of post-harvest stubble burning
·Implement soil conservation techniques such as live and dead barriers
·Incorporation of organic fertilizers and lime to balance soil pH

Seeds

·Implementation of seed reserves with groups of farmers in 4 communities
·Family reserves of local native seeds
·Local seed fairs to maintain productive variability
·Campaigns on the danger of hybrid and transgenic seeds.
·Experimentation with groups of producers on native seed varieties to identify types resistant to climate changes.

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

For AGRIDIVI, all their methodologies focus on ensuring participants have the practices, knowledge, and commitment to share and replicate their experiences and learnings with other families. The goal is to share collective knowledge by:

- Creating printed materials (pamphlets, posters) on different topics to increase knowledge and motivation on agroecology practices.
- Hosting radio shows on agroecology to spread information and raise awareness.
- Sharing testimonials from participants/group members interested in agroecological issues to fulfill the principle of leading by example to create interest among other families.
- Organizing farmer field days where producers meet with a host farmer with an agroecology plot in the community and share their experiences to motivate others.

Next steps to build on success and address challenges

- ☑ Using traditional weather reporting practices to document climatic conditions in Jalapa to create adaptation strategies for periods of low rainfall.
- ☑ Participating in the agro-climatic technical board of Jalapa, where governmental and peasant organizations work together to prevent the effects of climate change in the department.
- ☑ Managing a project called "Capacity Building in Community Climate Monitoring" in the Department of Jalapa with partner association *Fastenaktion* to benefit all peasant farmers in Jalapa.

SUCCESS STORY

MEET RODOLFO, A FARMER INSPIRING COMMUNITIES TO TRANSITION TO AGROECOLOGY

Rodolfo was born in the community of Volcan La Paz in the department of Jalapa. His family had limited resources, so he could not attend school. Many years later, he decided to enter an adult literacy program, where he learned to read and write.

Like many farmers, he started working with agrochemicals. These inputs cost more than he earned from his harvests, impacting the well-being of his family. He decided to make a change, and in 2003, he began trialing organic agriculture on his own (without any institutional or NGO support). Eventually, through a connection to the World Food Program, Rodolfo was connected to an agricultural engineer and started experimenting more with his organic production. Explaining his journey, he said, "***It was not easy to participate in the trainings and workshops because of time and the economy. I had my little ducklings, and the expenses were quite a lot, but my interest and the changes [I experienced] were what motivated me to follow the process***".

Rodolfo no longer uses agrochemicals and is supported by his family to produce agroecological crops. His main crops are coffee, bananas, hass and criollo avocados, avocado criollo, peaches, oranges, tangerines, vegetables, corn, and beans. Through his changed agricultural practices, his family became aware of the critical benefits of agroecology. They realized they now consume more quality, nutritious food, have fewer agricultural expenses, and have surplus crops to sell for profit. Rodolfo was also able to ensure **his nine children received a primary school education** and was able to build a bigger adobe house.

In January 2019, Rodolfo began working with AGRIDIVI, where he shared his knowledge and experiences with his community, showing other families that it is possible to reduce their use of agrochemicals and practice agroecology.

Guatemala

Qachuu Aloom

https://www.qachuualoom.org/

The Qachuu Aloom Association, founded in 2003, currently works with over 500 participating Maya Achí families in the municipalities of San Miguel Chicaj, Rabinal, and Cubulco in the department of Baja Verapaz.

Qachuu Aloom seeks to strengthen food sovereignty and well-being through the rescue of ancestral knowledge with a focus on gender and cultural identity, improving the access of farming families to sustainable and quality food, recovering agroecological practices, and conserving native seeds.

The Qachuu Aloom organization has spent the last 21 years working with families to build a strong organization that cares for the welfare of its own people, especially women and their families, many of whom were affected by the war and genocide in the 1980s. The organization has been faithful to its guiding principles: **a focus on seeds**, which are part of the heritage of the Maya Achí people, **and respect for Mother Earth**.

The municipalities of Rabinal, Cubulco, and San Miguel Chicaj in the department of Baja Verapaz, Guatemala, are a part of the "Dry Corridor" that crosses Guatemala and Central America.

As a result, the three municipalities face harsh environmental conditions such as overexploitation of limited water and natural resources, decreased wildlife and biodiversity, and depleted and contaminated soil due to the use of agrochemicals.

The region's population now faces many challenges in practicing agriculture, including water scarcity. Recent years have been characterized by irregular rainfall and periods of unexpected precipitation. The last drought started in 2014, and 2018 saw a rainy season with **more than 70 days without rain.** The minimal rainfall barely allowed families to have enough water for personal consumption and to plant staple diet crops like corn and beans.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

Qachuu Aloom uses farmer-to-farmer, learning by doing, and **mother-to-mother methodologies**. Mother Guides are women who advise or counsel other mothers on child care, food preparation, self-care, and reproductive health. Community leaders like Mother Guides, seed promoters, and champion farmers promote traditional and agroecological practices like creating organic fertilizers, soil and water conservation techniques, farming in a milpa system, and using native seeds and seed banks. Qachuu Aloom also supports families to create home gardens, and reintroduce the traditional milpa farming system (corn, beans, and squash). These farming systems, which all use agroecological practices, help protect native plant varieties on the verge of disappearing, improve soil health, and offer families access to healthier and diverse foods for home consumption. To date, Qachuu Aloom has supported the creation of 250 home gardens, increased capacity of 110 seed producers, 116 milpa systems, and four community seed banks.

Through improved production, families now have surplus crops that they can sell (such as seeds, herbs, fruits and vegetables), strengthening local markets and economies. Qachuu Aloom has established a social enterprise branch, Multiservicios Achí, that allows for the aggregation, valued-added processing and sales of products by community members, mainly amaranth products that are nutritious and prevent malnutrition.

Advocacy is an essential aspect of Qachuu Aloom's work. They participate in several national advocacy networks, such as the Food Sovereignty Network of Guatemala (REDSAG) and the Solidarity Market Network (Red Komonil Tezulutlan).

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Soil

·Soil conservation contour barriers
·Regenerative crops
·Organic fertilizers
·Minimum tillage
·Diversified crops
·Crop rotation
·Application of bioinputs
·Use of mountain microorganism

Water

·Rainwater harvesting
·Gray water filters
·Mini-irrigation systems
·Water reservoirs
·Protection of water sources like springs and rivers
·Sand dams

Biodiversity (at the landscape and ecosystem level)

Forest protection and reforestation, clean-up campaigns

Local markets

·Formation of herb and seed producers
·Implementation of solidarity markets
·Medicinal plant nurseries
·Seed banks
·Bioinput production
·Amaranth processing
·Processing and sale of agroecological products through Multiservicios Achí social enterprise

Seeds

·Rescue and conservation of native and creole seeds
·Seed banks
·Improve seed selection, conservation, and distribution by producers

Biodiversity (on farms)

·Integrated farms
·Milpa systems
·Medicinal plant nurseries

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

For Qachuu Aloom, disseminating results and activities is essential for promoting their work. To do so, they focus on the following elements:

- **Training young community members to become communicators**. Qachuu Aloom trains youth, especially women, to strengthen their social media, video production, photography, interviewing, and editing skills. These youth storytellers create shareable communication materials that highlight the knowledge and experiences of Mother Guides (female leaders), agroecological producers, and others.
- **Maya Achí women play a fundamental role in the preservation and generational transmission of knowledge** for the conservation of native and creole seeds. As Mother Guides and midwives, they lead other women through empowerment processes and create visibility on the important roles women play in their communities. These female leaders enhance ancestral knowledge and promote women's food production and economic autonomy through model gardens, seed cultivation, and selling healthy food products.
- Community Councils for Urban and Rural Development (COCODEs) are local government entities that represent communities across Guatemala. They support program and project implementation in their communities, **providing community spaces for workshops**, encouraging familial participation, and contributing to the coordination of public activities (fairs, training days, markets, etc.).

- Exchanges between producers and farmers provide opportunities for producers to visit other agroecological plots and motivate others to try new practices.
- The **Qachuu Aloom Agroecological School** provides a space for national and international groups to learn about agroecology.
- According to the School Feeding Law 16-2017, schools must guarantee access to adequate and culturally relevant food. **Qachuu Aloom now supports two groups of mothers who produce food for 69 schoolchildren** in Rabinal.
- Qachuu Aloom participates in different national and international networks to continue to **promote food sovereignty and agroecology at regional, national, and international levels** (Rabinal Derivation Network, Maya Achi Agroecology Network, REDSAG, Latin American Amaranth Network, Rabinal Artisans Network, Groundswell Network, etc.).

Next steps to build on success and address challenges

- ☑ Work with a newly formed local Agroecology Network in Rabinal (made of four organizations) to collectively improve agroecological practices in the region. The goal is to involve state organizations to keep them informed of the joint work being done in the region by holding roundtables and creating more alliances to improve the network's activities.
- ☑ Implement new farming practices to support climate change adaptation in the Dry Corridor. Specifically, reducing environmental impacts in the region by continuing to develop locally made bio-inputs, water harvesting, and gray water filters.
- ☑ Train young people to transmit agroecological knowledge based on their Mayan spirituality and culture.

SUCCESS STORY

TRAINING AGROECOLOGICAL PRODUCERS OF NATIVE AND CREOLE SEEDS IN THE MAYA ACHÍ COMMUNITIES OF BAJA VERAPAZ

Native and creole seeds and their role in food sovereignty are essential to the organization Qachuu Aloom. "During the internal armed conflict of the 1980s, many of the native and creole seeds used by our ancestors were burned and destroyed, when the fields, the farmers' houses, the sacred places where they had stored their seeds, were burned by the army and soldiers."

Cristobal Osorio Sanchez, a founder of Qachuu Aloom, and other farmers took on the task of rescuing and conserving seeds. In 2003, 20 farmers, aware of the damage caused to the land and the social fabric of their communities, founded the organization Qachuu Aloom.

The 110 native and creole seed producers Qachuu Aloom works with have received extensive training in agroecological practices. This includes preparing organic fertilizers, soil conservation, pest management, crop diversification, and seed production over several years. Seed producers represent many different communities in the Mayan region of Guatemala, such as Pacaal, Panacal, Pichec, Chiac, Nimacabaj, Chichupac, Sauce, the upper area of Chateguá u, Chichupac, Chixim, and some communities in San Miguel Chicaj.

The seed producers are adult women of varying ages and generations: 60% are between 29 and 54, 33% are between 55 and 84, and 7% are young women ages 22 to 26. Many seed producers are mothers, heads of households, and family leaders. They all share an Achí identity and speak Mayan, their mother tongue. They come from humble and enterprising families and are survivors of the civil war.

All the seed producers consume food directly from their gardens and sell any surplus within their communities or at local markets. During the COVID-19 pandemic, they were essential in ensuring food security, selling crops, and making deliveries to neighboring communities in Baja Verapaz. Some of the plants they produce and sell include macuy, chipilín, cabbage, amaranth, onion, cilantro, radish, and lettuce. The quantity and diversity of the harvest they produce and sell depends on plot size and water availability. The average sale of the seed producers working with Qachuu Aloom is $400.

One of them says,

"For us women, native and creole seeds from food plants are our sustenance; they are what saves us from hunger, a gift from Mother Earth, from nature that she gave to our ancestors and that they left us as inheritance, which for years has been produced, conserved, shared, exchanged among neighbors, families, communities. They are resistant seeds, not contaminated, and they are better for our food so that we are resistant to diseases, pandemics, and others."

Haiti

Partenariat Pour le Développement Local (PDL)

PDL, an NGO created in October 2009, provides farmer families living in marginalized communities in Northern Haiti with educational, technical, and financial assistance to overcome extreme poverty. PDL supports these families in empowering themselves, understanding local realities, and taking action to improve their standard of living. PDL currently works with 15 peasant associations, with members in 131 villages in 15 communal sections. These cover six districts in three departments in Haiti.

Over **8,800 smallholder farmers** participated directly in PDL's agroecology programs in 2023, with over 50,000 indirect beneficiaries (family and community members).

Haiti is ranked 163rd (out of 193 countries) on the Human Development Index, with the lowest GDP in the Western Hemisphere. Rural communities have suffered from many extreme challenges that undermined their livelihoods in the last 60 years and deepened the historical legacies of slavery and extractive economic models. Haiti has a long history of harmful public policies that have damaged rural communities.

For instance, in 1970, laws were implemented that prohibited the practice of free grazing of livestock—without providing any technical and financial assistance for farmers to switch to more sustainable practices. The eradication of the native Creole pigs following the outbreak of African swine fever at the beginning of the 1980s further eroded rural families' assets. Indeed, they were replaced by a non-native species that were not viable in the local context and required resources far beyond the reach of most Haitian farmers.

Later, structural adjustment and market reforms allowed subsidized rice from the United States to flood the market and devastate national rice production. Flawed environmental and energy policies exacerbated deforestation and severe land degradation.

Climate change has also led to unpredictable rainfall patterns and increased droughts and flooding, exacerbating farmers' vulnerability and poverty. As a result, many smallholder farmers are migrating to cities and other countries to seek better living conditions.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

PDL promotes and strengthens community-based organizations, starting with the formation of gwoupman (solidarity groups) of 15 to 20 women and men who go through a reflection process and commit to working together and pooling resources to create positive changes in their lives.

Within a village, three to five basic gwoupman form a village coordination committee called a block. When five or more villages are organized at the level of a communal section (the local administrative level in Haiti), each village block committee delegates one representative to form the central coordination committee of the communal section peasant association.

Peasant associations hold annual assemblies to elect leaders, coordinate activities, and become PDL's local partners for community-driven development. Each gwoupman also mobilizes savings and credit as a community microfinance structure. Peasant associations undertake community development activities, and PDL negotiates support for their activities in line with its programs.

At the village and inter-village levels, the Peasant Associations' elected coordination committees take responsibility for key priorities such as agroecology, community health, and savings and credit.

The gwoupman solidarity groups manage savings and credit mechanisms and help each other undertake labor-intensive work like establishing soil and water conservation barriers and other activities to prepare and maintain farmland.

PDL provides training sessions to all participants on agroecological farming practices and encourages them to mutually support one another in practicing what they have learned. Farmers who successfully apply a combination of agroecological principles and practices become model farmers. The most successful ones are invited to attend advanced training to become agricultural promoters who train, accompany, and influence other farmers. These agroecological promoters are crucial in spreading effective and locally adapted agroecological practices to other farmers within their villages and peasant associations. They assist the peasant association's coordination committees in managing the agriculture programs.

Smallholder farmers put into practice at least three of PDL's fundamental agroecological practices, such as no burning of crop residue to clear land; use of good quality local seeds; diversification of crops (at least 5 species on a farm plot); establishing/restoring soil and water conservation barriers to prevent erosion and runoff; improving soil organic matter to activate microorganisms, increase soil fertility, and improve the soil's water holding capacity.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Soil

·Install erosion control structures on the hillside or sloping land (e.g., contour barriers made of rocks, crops, agroforestry residue, live plants, contour canals, etc.)
·Mulching with crop residue to reduce evapotranspiration and increase soil organic matter
·Minimum tillage
·Zero burning

Biodiversity on farms

·Crop diversification (ex: use of cereals, legumes, and fruit trees).
·Agroforestry to integrate different tree varieties on farms
·Establish micro-orchards with cocoa, coconut, lemon trees, etc.
·Use of cover crops (canavalia, velvet bean, etc.)

Water

·Contour canals to divert water from the road to cultivated fields
·Crop/agroforestry residue barriers and mulching to increase soil water retention

Local markets

·**Granting micro-loans** to allow farmers to transport perishable fruits and vegetables to the cities where there is higher demand
·Improving storage infrastructure to keep grains and seeds for the next planting season or lean period
·**Developing community micro-enterprises** to carry out value-added food processing at the community level and decrease dependence on intermediaries
·**Training small entrepreneurs** on business management.
·**Working with allies on the aggregation of produce** to sell to institutional markets

Other

Providing micro-credit to farmers to develop small businesses based on local ecosystem and value chain.

Seeds

·Seed selection of corn and other crops
·Sorting seed and grain at home when purchased from local markets
·Germination seed tests
·Community-managed seeds banks

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

PDL employs a comprehensive set of methodologies and social processes to spread its agroecological practices to more farmers and ally organizations. Central to PDL's strategy is the mass training of farmers on agroecological principles and techniques, which equips them with the knowledge and skills necessary to implement regenerative farming practices.

Groundswell International facilitates farmer field experiments, allowing farmers to test and evaluate the impacts of specific techniques firsthand. This experiential learning approach helps to solidify understanding and adoption of new methods.

The success of model farmers often inspires neighbors and relatives who are not initially a part of the peasant associations to imitate and test these successful practices, thereby creating a multiplier effect to expand the adoption of agroecological methods organically.

In addition, PDL structures farmer-to-farmer support by training agricultural promoters who can accompany and influence other farmers. This method fosters a supportive network among farmers of continuous learning and improvement of practices.

To assist vulnerable farmers, PDL provides access to essential inputs such as diverse seed varieties, plant cuttings, and credit, seeking to ensure that all farmers have the resources needed to transition to and sustain agroecological practices.

Cross visits are another key component of PDL's approach, facilitating learning and exchanges on effective practices and innovations between farmers from different areas. Through these multifaceted and community-centric strategies, PDL effectively promotes the widespread adoption of agroecological practices, strengthens organized farmers' collective knowledge, capacity, and resilience, and contributes to more sustainable and resilient agricultural systems.

Next steps to build on success and address challenges

- ☑ Documenting successful strategies and producing educational and training materials.
- ☑ Sharing materials and case studies with agricultural schools, universities, other NGOs, and development agencies working with smallholder farmers.
- ☑ Organizing cross-visits for farmers from other regions of the country to facilitate learning exchanges, enabling farmers to witness successful practices firsthand and adapt them to their contexts.
- ☑ Providing training to interested NGO allies.
- ☑ Placing a strong emphasis on promoting youth and women's involvement and leadership in agricultural entrepreneurship, recognizing their critical roles in fostering innovation and economic growth.
- ☑ Developing and accessing appropriate tools and technologies to tackle labor shortages and enhance efficiency.

Next steps to build on success and address challenges (continued)

- ☑ Facilitating access to agricultural credit to ensure that farmers have the financial resources needed to invest in and sustain agroecological practices.
- ☑ Working with allies to strengthen and improve agricultural value chains, enhancing processes from production to market to allow farmers to achieve better profits.
- ☑ Improving PDL's communications capacities to share successes with various networks and alliances, leading to broader support and more funding opportunities.

SUCCESS STORY

FROM FARMER TO LEADER OF A PEASANT ASSOCIATION: MEET ROSENIE PIERRE

Rosenie Pierre, aged 56, has six children. Two are already married, and another is studying in the Dominican Republic. She lives with her husband and their three other children in Cabanis, Communal Section of Bois Neuf, in the North Department of Haiti. She is a very active person and engages in agricultural production and the trade of household goods with her husband to meet her family's needs.

Rosenie had her first experience with a community organization through a Caritas-supported program. In 2013, she engaged with PDL staff through ten days of study and reflection circles and decided to join a mixed solidarity gwoupman of women and men named Patience. She quickly realized that PDL's program approach could contribute to the development of her community.

Rosenie gained the trust of other members of her gwoupman and was elected president of the Patience group. She later became one of the few women to be selected from the village level as a delegate to the central coordination of her peasant association at the communal section level. She served two three-year terms in that role.

Rosenie expresses her gratitude to the peasant association and PDL for allowing her to benefit from a series of training sessions. "***I was able to gain more confidence in my abilities and play a leadership role in Cabanis. I feel more positive and humane in my relationships with my family and other families around us."***

Rosenie and her family's health significantly improved since participating in the peasant organization. Through improved agroecological production and knowledge of good nutrition practices, they stopped using artificial condiments and highly processed food products in favor of locally produced foods without chemical ingredients. She cultivated a cocoa orchard with the seedlings produced by the community organization. Through involvement in community health and hygiene activities, the families in Cabanis were able to protect themselves against two waves of cholera and the COVID-19 pandemic.

In its activities, **PDL always seeks the emancipation of women and men in rural areas.** In Haitian society, people from rural communities are often viewed as inferior and incapable of critical thinking, planning, organizing, and managing. Beyond strengthening peasant farmers' innate capacities to meet their material needs, PDL seeks to **improve the social solidarity and spiritual well-being of everyone participating in their programs.**

A Haitian farmer - photo by Benn Depp

Honduras

Asociación de Comités Ecológicos del Sur de Honduras (ACESH)

The Association of Ecological Committees of Southern Honduras (ACESH), a not-for-profit organization in Choluteca, Honduras, was established in 2005 to defend food sovereignty and ensure families can produce and consume healthy food.

ACESH works to strengthen and promote the protection of natural resources, sustainability, and agroecological production as a means for families to improve their living conditions and protect collective natural assets.

ACESH supports 2,182 families, with a focus on women producers. Another 6,410 families benefit from and are engaged with program support to advocate for reduced burning and defense of natural resources at territorial levels.

The communities where ACESH works are located in the Dry Corridor of Honduras, a geographic area that experiences challenging weather patterns and climatic conditions like drought, flooding, and unpredictable rainfall. Due to climate change, temperatures are rising, and access to water is becoming increasingly difficult.

Conventional farming, mining, and other extractive industries also threaten the well-being of communities and the land.

Honduras is ranked 137 out of 191 countries on the UN Human Development Index (2021). There has been a wave of violence in Honduras in recent years due to organized crime cells, leading to insecurity and anti-social behavior that also extends to rural communities. These social and climatic factors and a lack of work opportunities lead to increased numbers of youth leaving farming behind and migrating to other countries and urban areas.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

ACESH was founded as an association of 66 community-level Committees for the Defense of Nature (CDN), which are key actors in their communities. The CDN representatives form a general assembly to coordinate ACESH operations, with a board of directors, a general coordinator, and an administration and technical team. The ACESH and the CDNs work on various projects related to community priorities, such as defending environmental rights and local territory and preserving native seeds.

ACESH uses the farmer-to-farmer methodology for agroecological learning and training, allowing farmers to be protagonists of their development. In learning exchange visits and technical follow-up and monitoring visits, farmers learn from other farmers with well-developed skills and knowledge in different agroecological practices and techniques.

Advocacy and coordination with local decision-makers are essential to ACESH's work. They have influenced municipal authorities to defend natural resources and territory, limit extractive industries, and declare support for farmers' rights to freely reproduce, store, and commercialize their native seed varieties as essential to their cultural heritage and well-being. ACESH coordinates with government agencies and other actors to benefit the communities where it works.

To date, the CDNs have created 36 native seed reserves to protect cultural heritage and improve agricultural production and food sovereignty. Twelve groups also initiated saving and credit systems, with collective assets of US$ 12,200 and a 100% loan repayment rate.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Soil

·Contour barriers for soil conservation (dead barriers of rocks, earth, etc., as well as live barriers)
·Narrow and wide-based terraces
·Cover crops/green manures
·Biofertilizers

Biodiversity (at the landscape and ecosystem level)

·Reforestation
·Natural regeneration of trees
·Reduction of burning
·Cultivating trees for fruit and timber

Biodiversity (at the farm level)

·Integration of short, medium, and long-term crops in plots
·Integration of medicinal plants and aromatics in plots

Local markets

·Sale of seeds for sowing, grains for consumption, processed corn products, and processed plantain products
·Savings and loans of community groups to access credit
·Revolving credit funds
·Sale of crop surplus
·Native seed banks for sowing
·Production and sale of seedlings

Seeds

·Access to local native seeds
·Farmer seed selection and improvement
·Improved seed protection and seed banks

Water

·Ferrocement tanks
·Improved soil fertility and water holding capacity
·Water infiltration trenches
·Small ponds

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

To disseminate learning and innovation, ACESH uses the following practices:

- The sixty-six Committees for the Defense of Nature coordinate with other actors to work on the defense of the territory and natural resources. As a result, the municipality has declared the area a protected area for native seeds as the inheritance of the population, with farmers' rights to use, reproduce, save, and sell native seeds.
- Thirty-six native seed reserves allow for the dissemination and production of local crop species such as cassava, sweet potato, bananas, plantains, medicinal plants, and aromatics. This methodology ensures farmers' access to quality seeds. It has been documented and is being replicated regionally, nationally, and internationally.
- Forty-two farmer groups are being supported with agroecological innovation and adoption.
- Four women's entrepreneurship groups are supported to ensure the continued growth of their agroecological farm activities and the processing and sale of their produce.
- Farmer-to-farmer training and activities enable producers to see the results of other agroecological farmers and spread techniques.
- Six youths (three women and three men) have been integrated into ACESH to promote the generational transfer of knowledge and training in agroecological production with other young people.
- Sharing information through the ACESH website, municipal website, and with other networks ACESH belongs to, such as the National Association of Family Farming and Agroecology (ANAFAE).

Next steps to build on success and address challenges

- ☑ Continue to empower the CDNs and other community groups and expand ACESH's coverage to more communities.
- ☑ Strengthen ACESH as an institution to address growing challenges.
- ☑ Ensure women's participation in all activities to increase their social autonomy, decision-making, and economic sovereignty. This can include opportunities for income generation through rural savings and credit funds, encouraging self-care such as ensuring women eat at meals and are well nourished, and offering spaces for self-growth and capacity building.
- ☑ Continue coordinating with government authorities on various issues that benefit the community, collaborating with other key actors, and promoting international cooperation to create joint solutions to significant climatic, social, and agricultural challenges.

SUCCESS STORY

MEET DOÑA REYNA, LIVING A BETTER LIFE IN THE COUNTRYSIDE AFTER TRANSITIONING TO AGROECOLOGY

Doña Reyna Maradiaga lives in the community of Guanacaste. She is 52 years old and a single mother of two sons. She supports her children and teaches them values and principles to improve their lives. They are a humble family that gets along well with their community.

Doña Reyna lived and worked in the city during her youth to raise her children and provide them with a good education, food, and health care. At that time, she didn't think about agriculture. Eventually, Doña Reyna returned to the countryside and became involved in community organizations, where she learned with others how to grow fresh and healthy products through agroecological practices. This new farming activity improved her family's economic status as she was able to grow her own food. She feels that life in the countryside is much better than in the city because, in the city, they had to buy everything and the food they ate was full of harmful chemicals.

Doña Reyna farms to help her achieve her goals, one of which is to see her children continue their education to get ahead and see her community develop and grow positively.

She knows that she can now support her family, and it is essential that her children can learn and carry on the legacy of this work. As a single mother and agricultural producer, she motivates other women in nearby communities to organize and work for community development. **A mother's love is the fuel that makes human beings achieve the impossible!**

A farmer youth group working with ACESH

Young people participating in a parade to protect the environment

Youth working in the field

Honduras

Vecinos Honduras

https://vecinoshonduras.org/

Vecinos Honduras (VH), founded in 2009, is a not-for-profit organization with a central office in Tegucigalpa and a regional office in Langue, Valle, Honduras. Vecinos Honduras works with rural smallholder farming families, children, youth, and women as individuals or in community organizations. Its objective is "to facilitate and accompany participatory and equitable processes of integral human development to families and organizations in rural communities, promoting the sustainable use of resources, food sovereignty, the rescue of moral and cultural values, community health, respect for nature to protect and improve the environment and quality of life of present and future generations."

Vecinos Honduras works with communities in Honduras' dry corridor, which occupies about 27% of the national territory. In 2023, Vecinos Honduras worked with 38 communities in Nacaome, Langue, Concepción de Maria, and Pespire Choluteca, **supporting 1,225 families (6,125 people)**. Currently, 368 families plant their native seeds, 393 use agroecological practices, and 345 have diversified plots with more than four species.

Honduras continues to be one of the countries with the lowest Human Development Index (HDI) in the Latin American region, with an index of 0.634 and a ranking of 137 out of 191 globally (2021). Aside from climate change, national-level inequalities heavily impact smallholder farming communities in Honduras. Powerful groups hold ninety percent of the wealth in Honduras, and the rest is in the hands of 10% of the population.

Social inequality between men and women is notable; women are more socially vulnerable with limited political, productive, economic, and labor participation. Land available for food production is decreasing, and although women make up an important part of the labor force, they receive less income due to poor access to productive assets, financial services, and technology.

Finally, there are challenges with the youth labor force: 26.2% of the country's 3.3 million young people between 12 and 30 years old do not have a job.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

Vecinos Honduras supports families of farmers through the organization of Strategic Grain Reserves (REG), Water Management Boards (JAA), Committees for the Defense of Nature (CDN), Local Agricultural Research Committees (CIALs), and productive initiatives for processing and transformation of local products. These committees and groups adopt and implement agroecological practices in farm plots and orchards, experimenting with innovations like crop diversification, soil quality improvement techniques, and the rescue and use of native seeds.

Vecinos Honduras chooses partner communities based on their geographic location and potential to share practices with neighboring villages that share their ecosystem, ethnicity, language, or other characteristics. Farmers self-identify their interest in participating in agricultural experimentation groups on priority practices within the pilot villages.

- **Community promoters:** Vecinos Honduras works with local promoters who are community leaders with strong practices in farming experimentation and knowledge. Community promoters use a "**Campesino a Campesino" (farmer-to-farmer) inspired methodology**. They commit to applying the knowledge acquired and sharing their knowledge and experience with three neighboring families. This inspires others to participate in training and learning processes to develop their agroecological skills and knowledge.

- **Strategic Grain and Native/Creole Seed Reserves:** Vecinos Honduras promotes community-managed strategic grain and seed reserves to combat the shortage of grains and seeds during periods of drought. Families manage their grain reserve according to the rainy season forecasts (using both official and traditional knowledge). Once they have ensured their next harvest, they market the grains at higher prices. The reserves ensure families have access to seeds during the planting season, and support the recovery, production and use of native seed varieties. Trained farmers produce and use metal silos and apply natural products to preserve the seeds and grains. Vecinos Honduras capitalizes small revolving funds as a financial mechanism for communities to establish their reserves, which are then managed and sustained with community contributions.

- **Local Agricultural Research Committees (CIAL):** Using the methodology of CIAL and participatory plant breeding, smallholder farmers strengthen their capacities to protect, conserve, and use native corn and bean seeds best suited to their communities' needs and environment.

- **Integrated water management** is a method to assist communities in identifying sustainable alternatives for water access, including the protection and conservation of water sources and appropriate water management practices. Active community and family participation is essential, as is the support of municipal governments and other entities to improve the construction and/or maintenance of water service infrastructure.

- **Youth Storytellers**: These are young people from rural communities, sons and daughters of farmers, and members of community-based organizations. Vecinos Honduras trains youth storytellers as part of their "Communication for Social Change" program, in which youth produce and share stories about their experiences and lessons learned as young people in rural farming communities through videos, audio, photographs, and written stories. The youth storytellers communicate and disseminate knowledge to generate positive changes in other communities and among youth interested in agroecology or communications.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Local markets

·Strategic reserves of grains and seeds
·Transformation and processing of local products
·Sales in community and municipal markets
·Establishing revolving funds as a mechanism for groups to create their capitalize their own funds
·Promoting families' products and groups using social media with the support of youth storytellers

Soil

·Visual soil analysis
·No burning of crop residue
·Integration of stubble; mulch management
·Use of mountain microorganisms (biostimulants), green manures/cover crops to improve soil health and quality

Water

·Rainwater harvesting
·Gray water filters (reuse of household water for vegetable gardens)
·Protection and improvement of water sources, water quality, and water management.

Biodiversity (at the landscape and ecosystem level)

·Declarations for the protection and conservation of natural resources
·Promotion of protected forest areas and water sources in communities
·Alliances with key actors to offer training on the defense of community territory and influencing municipal and regional decision-making

Seeds

·Identification, selection, and validation of native seeds
·Planting density, companion planting, and oriented planting

Biodiversity (on farms)

·Tree pruning, planting and integration of trees into plots

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

Vecinos Honduras supports farmers in establishing various community-based organizations to lead local initiatives. These include creating Strategic Grain and Seed Reserves, forming Local Agricultural Research Committees (CIALs), and developing networks of women community groups. We strengthen their capacities in agroecological production, the cultivation and reproduction of native seed varieties, value-added processing, and commercialization of products in local markets. We also promote opportunities and provide space for exchanging knowledge and experiences. We aim to create a critical mass, with 25% to 35% of the farmers in a community adopting agroecological practices, which then encourages a continuous multiplier effect of agroecological innovation and diffusion.

In the communities where Vecinos Honduras works, volunteer farmer promoters (men and women) play important roles in program sustainability by replicating trainings with others serving as community leaders. Community leaders and volunteer promoters are essential in disseminating knowledge, building community capacity, and creating sustainable solutions to address the prioritized community challenges.

Once farmers are involved in programs, they can opt to become agroecological promoters, either voluntarily or through incentives. Each promoter is responsible for providing training and follow-up support in their communities. Farmers are invited to learning and exchange visits in other communities, and they receive ongoing support in the form of seed varieties and training on key agroecological practices.

Next steps to build on success and address challenges

- ☑ **Build alliances** with municipal and regional authorities to protect the conservation of natural resources (seeds, water sources, forest, flora).
- ☑ **Train young people** in agroecology and technical trades relevant to rural economies to prevent migration due to a lack of economic opportunities.
- ☑ **Establish links** between academic groups, students, and farmers to promote participatory research that generates farmer knowledge, drawing on traditional practices and agroecological experimentation.
- ☑ **Increase land tenure opportunities** for smallholders. Many farmers in program communities do not own their land, and rent for one or two years, which disincentives long-term improvements in farmland. Possible solutions include establishing land management agreements between community producers and landowners, and identifying family members living outside the country who still own land.

SUCCESS STORY

THE "BLESSED WOMEN'S GROUP" SPREADING HOPE IN THE DRY CORRIDOR

"Blessed Women" is a women's group founded in 2007 and now includes 28 women producers from the Las Olivas community in the Valle, Honduras department. The women live in an area where the impacts of climate change and socio-economic challenges are severe.

Due to drought, high temperatures, floods, and unstable weather conditions, many families in the area experience food shortages, crop loss, and the extinction of local flora and fauna. To find new ways to fight these challenges, the women's group participates in training sessions on saving and credit models, agroecological production, agricultural research, strategic reserves of grains and seeds (native and creole), and the value-added processing and commercialization of local products such as tamales, quesadillas, chocolate, and natural soap. They feel these actions increase community access to diverse and healthy foods (corn, beans, sorghum, fruits) and improve the management of natural resources and their families' well-being.

Through adopting agroecological practices oriented to conserving soil life and using native and creole seeds, the women's group now has a strategic reserve of corn and beans that covers food shortages that typically affect them in September of each year.

Members have been able to contribute to the grain reserve and sustain it due to improved production on their farms. The group expresses confidence and hope in their ability to continue promoting significant changes for the development of their community. This includes expanding their work and inspiring other producers and organizations of neighboring communities to participate.

"Blessed Women" group members participating in a workshop on natural fertilizers

Mexico

Centro de Desarrollo Comunitario (Centéotl)

https://centeotl.org.mx/web/

The Centro de Desarrollo Comunitario Centéotl AC (Centéotl AC) was founded in 1990 and is headquartered in Zimatlán de Álvarez, 27 km from Oaxaca City, Oaxaca.

Centéotl works with communities to promote sustainable agriculture, the revitalization of amaranth cultivation, socio-economic development, and women's empowerment through micro-credits, community education and training, and institutional strengthening around four strategic axes: gender equity, environmental care, citizen participation, and cultural identity.

They also work with peasant communities that seek to transition from conventional to agroecological production, showing farming families that it is possible to produce our food without agrochemicals.

Little by little, through territorial expansion and diversification of programs, Centéotl has addressed social, economic, educational, and cultural issues to generate well-being for the most vulnerable population in the localities where we intervene.

Centéotl currently works in nine rural localities, collaborating with 150 farming families and 11 farmer groups in the transition from conventional agriculture to agroecology.

The Central Valley of Oaxaca is culturally diverse and this is represented in Centéotl AC's staff, many of whom are Indigenous, mainly Zapotec and Mixtec.

Since 1996, due to the severe malnutrition of rural children, Centéotl began to promote the cultivation and consumption of amaranth, a forgotten and nutritious traditional grain. This work led to the creation of Amaranto de Mesoamérica para el Mundo S. C. de R. L..

This cooperative collects amaranth produced by farming families at a guaranteed price. The cooperative generates chains of fair commercial relationships with amaranth producers and consumers in the State of Oaxaca. The products are available in 120 supermarkets and health food stores in Oaxaca City and surrounding areas.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

Centéotl uses the farmer field school methodology (ECA) for rural extension work. They connect to farmer groups through agroecological technicians assigned to farmer localities by the Technical Accompaniment Strategy (EAT) of the Production for Well-Being (PpB) program of the federal government's Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food.

This government initiative seeks to achieve self-sufficiency and food security by supporting producers and farming families to **transition towards sustainable agricultural practices and agrifood schemes**.

The technical team creates a common methodology focused on supporting farming families. They then form Modules or Centers for the Production of Bioinputs (CPB) where farmers and communities can learn, experiment, and practice different agroecological techniques. The CPBs receive training on the production of 15 different bio-inputs.

Centéotl AC leads training programs on agricultural issues, the promotion and implementation of diverse eco-technologies, and the self-managed development of community groups. Many trainings are offered at its 5-hectare Agroecological Demonstration and Training Center.

This demonstration and training center provides **a space to train farmers, students, and the general population** on diverse topics such as vegetable production, greenhouse tomato production, vermiculture, erosion control with living barriers, native beans and native corn, production of superfoods such as amaranth, chia and moringa, rainwater harvesting, reproduction of endemic trees, and local and native seed banks.

Centéotl also organizes **learning exchanges on agroecological farming** among farmers, technicians, and civil society organizations.

Since its founding, Centéotl AC has implemented systems to support farming communities through small loans. This credit system at Centéotl has evolved into the "Bancomunidad" Program, which assists women groups in extreme poverty through micro-credits in 40 municipalities in Oaxaca.

The program supports 150 women's groups with savings and credit to develop productive activities in rural, semi-urban, and urban areas in the Central Valleys of Oaxaca. There are currently 2,566 active loans ranging from 3,000 pesos (160 USD) to 30,000 pesos (1,608 USD).

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Biodiversity at the landscape and ecosystem level

·Creating micro-forests
·Reforestation of endemic trees (guamúchil, guaje)
·Reproduction of blackberry trees, guamúchil, and guaje trees

Soil

·Application of the three M's (minerals, microorganisms, and organic matter) in agricultural production
·Integration of crop residues in the fields
·Production and integration of humus and leachate from Californian red worm castings
·Reproduction and activation of mountain microorganisms as a bio-input
·Erosion control with living barriers of vetiver grass and maralfalfa

Biodiversity on farms

·Bean and native corn production
·Production of superfoods like amaranth, chia, and moringa

Local markets

·Transformation of amaranth into different products to improve family nutrition
·Organizing local markets every week in different areas
·Growing and selling products within communities

Seeds

·Seed selection
·Palletizing of seeds for sowing (corn and beans)
·Seed storage in airtight containers
·Seed exchanges between communities to diversify crops
·Local and native seed bank

Water

·Rainwater harvesting
·Establishment of live barriers on contour lines to infiltrate water into the soil
·Construction of ferrocement tanks for water storage.
·Localized irrigation (drip)

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

Centéotl uses the following activities and methodologies to spread effective practices:

- Holding meetings between different localities to share experiences.
- Continue to organize practical workshops to demonstrate new agroecological production techniques.

- Working with young people because, in the valley of Oaxaca, there is no generational transfer of farming practices in the countryside. It is mostly older adult farmers engaged in agricultural production; few young people are interested in farming. But some youth are forming networks of young storytellers. Currently, there are 15 youth storytellers from 3 localities: San Jerónimo Taviche, Teotitlán del Valle, and Jalapa del Valle.
- Motivating farming families from neighboring towns and the Central Valley Region of Oaxaca through the youth storytellers in the hopes that they will adopt practices that have been successful in other locations.
- Organizing meetings to exchange seeds.

Next steps to build on success and address challenges

Through relationships with the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food, a federal executive branch agency that is present in the rural localities of Oaxaca, and agroecological technicians, Centéotl AC seeks to support a common agenda to:

- ☑ Strengthen links with and between civil society organizations.
- ☑ Support the development of policies that enable better agricultural production.
- ☑ Better use the agricultural sector's comparative advantage.
- ☑ Integrate rural activities into the agricultural value chains of the rest of the economy.
- ☑ Stimulate the collaboration of producers' organizations with their programs and projects, as well as with the goals and objectives proposed for the agricultural sector in the National Development Plan.

SUCCESS STORY

MEET MRS. AIDA HERNANDEZ, A COMMUNITY LEADER PEOPLE LOOK UP TO

Mrs. Aida Hernandez is a native of Santa Ana Zegache, Ocotlan. Doña Aida is an active leader in her town, always looking for projects and support for the villagers.

As an organization, we have witnessed her passion for helping to improve her community and the surrounding areas.

Three years ago, when we presented the proposal for the Resilient Seeds project to her, she was very excited. She said it was an important topic for her area. She explained farmers faced many difficult situations in the countryside due to climate change and the number of young people abandoning farming. Over time, agricultural production in her area decreased.

The year we started the project in Santa Ana Zegache, Mrs. Aida began serving in the municipality as councilwoman of social development. Given her leadership position in her locality, she supported us in forming groups, invited farmers to carry out seed diagnosis, and continued supporting the project throughout its duration. Doña Aida has always farmed, and was very participative in the workshops and activities we held. As a leader in her community, despite challenging climate conditions, she established a seed plot with natural pelletized seeds, applied chelates for fertility, and practiced participatory seed selection.

Given the experience of the previous year and the good results she obtained in her plot, this year, she sown the seed she had selected the prior year, pelleted the seeds and prepared a special chelate for fertilization. It was great to see how Doña Aida integrates knowledge from the seed production workshops into her farming systems.

She has also involved her family in these activities; they support her throughout the entire process needed to produce quality seeds. Doña Aida is aware that **it is necessary to change mindsets from using conventional agriculture to alternative methods accessible to all.**

Nepal

BBP Pariwar

https://bbppariwar.org.np/

BBP Pariwar, a non-profit organization established in 1994, is dedicated to fostering sustainable community development for disadvantaged and marginalized communities in Nepal. BBP Pariwar focuses on critical areas such as reproductive health, healthcare provision, educational promotion, sustainable agriculture, animal husbandry, and developing drinking water systems and micro-irrigation.

Furthermore, BBP Pariwar runs comprehensive programs for women's empowerment and financial independence, effective natural resource management, and the upliftment of marginalized groups. By collaborating with community groups and savings and credit associations, they strive to create self-sufficient and resilient communities.

As of June 30th, 2024, BBP Pariwar has collaborated with 66 community-based savings and credit groups, supporting 1,598 smallholder farming households. These initiatives have improved agroecological farming practices on 406 hectares of land, benefitting 7,191 indirect beneficiaries.

Nepal ranks 146th on the Human Development Index, with the second lowest per capita income in South Asia. Agriculture is a cornerstone of the country's economy, employing an estimated 61% of the population. However, the nation's rugged terrain and remote locations pose substantial challenges for farmers in accessing markets and resources. Climate change compounds these difficulties by diminishing crop yields and threatening food security.

Women, who play a pivotal role in farming, often encounter considerable barriers to accessing resources and support. These obstacles impede their full participation in agricultural activities, ultimately affecting their contribution to food production and household well-being.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

BBP Pariwar provides community groups essential support to enhance their organizational capacity. Key activities include:

- the formation of women's savings and credit groups for smallholder farming households,
- planting nutritious fodder grasses, establishing kitchen gardens
- constructing micro irrigation ponds
- producing bio-fertilizers and vermicompost
- supporting fruit plantations
- offering training and necessary resources to strengthen capacities.

These efforts also focus on improving community nutrition, promoting seasonal and off-season commercial vegetable farming, and facilitating farmer-to-farmer exchange visits through women-led groups. These comprehensive activities empower communities, boost agricultural practices, and improve well-being.

Other methods BBP Pariwar uses include:

- Training and support for farmer group's capacity building
- Farmer-to-farmer learning exchange learning and demonstration plots
- Farming-based income-generating activities
- Prioritizing women and involving youths in the programs
- Establishing linkages with the local government

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Soil

·Preparation of biofertilizers and manures
·Improved compost production
·Crop diversification
·Plantation of fodder grasses for nitrogen fixation

Biodiversity (at the landscape and ecosystem level)

·Using common land for the sustainable harvesting of fruits, crops, fodder for livestock & firewood
·Terraced farming

Seeds

Training and support for local seed conservation and preservation

Water

Wastewater collection ponds

Local markets

·Saving & Credit groups
·Sale of buffalo milk to local cooperatives
·Sale of vegetables
·Sales of fruits in local markets

Other

·Technical scholarships (e.g., paravets)
·Community and reproductive health programming
·Agriculture quiz contest for groups

Biodiversity on farms

·Farmer-managed natural regeneration (FMNR)
·Improved FMNR and agroforestry by integrating nutritious fodders grasses (Leucaena leucocephala, flemingia congesta, mulberry, etc.)
·Diversification of farming (planting nutritious fruit seedlings (mango, litchi, citrus, etc.)
·Integration of livestock into farming systems (goat, swine, buck, buffalo, cow)

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

To facilitate the formation of new Savings and Credit (S&C) groups, BBP Pariwar organizes cross-visits between groups, enabling new members to learn from and exchange experiences with established group members.

One or two participants from each group are selected as lead farmers and receive the necessary support to integrate livestock-centered agricultural practices. Successful practices and experiences are shared during group meetings to encourage broader household participation.

Additionally, video documentation of activities is presented during meetings and training sessions to inspire group members and extend outreach to more communities.

Next steps to build on success and address challenges

- ☑ Ensure saving and credit groups and community members register with the relevant local government authorities and departments to secure additional support. This registration helps them independently access necessary resources and assistance in the future.
- ☑ Encourage farmers to produce and preserve local seeds instead of relying on hybrid seeds, reducing market dependency on seeds.
- ☑ Provide health, nutrition, and bio-fertilizer production training in coordination with local health workers and social mobilizers. These sessions encourage farmers to produce organic yields and maximize the use of bio-fertilizers over chemical fertilizers.

SUCCESS STORY

EMPOWERING WOMEN IN AGRICULTURE: PARBATI BHANDARI'S JOURNEY

Parbati Bhandari, a committed Jwaladevi Women Farmer Group member, exemplifies the transformative impact of BBP Pariwar's initiatives. With support from BBP Pariwar, Parbati constructed an improved livestock shed, resulting in numerous benefits, including enhanced livestock health, easier shed maintenance, and the effective use of collected urine in tunnel farming. This innovation has significantly reduced her reliance on urea.

In addition to the livestock shed, Parbati adopted tunnel farming for both seasonal and off-season vegetables. By utilizing bio-fertilizers, she has minimized the use of chemical fertilizers, promoting a healthier and more sustainable farming practice. She constructed a plastic pond for water collection to address water scarcity during the dry season.

Over six months, Parbati earned a substantial income of 36,500 Nepalese Rupees ($318.18) from selling tomatoes and other vegetables. Her success demonstrates the economic viability of sustainable farming practices and serves as an inspiration to her peers. Parbati advocates for her fellow group members, emphasizing the benefits of improved livestock sheds for those raising milking buffaloes and cows. She highlights that adopting these sheds can save time on shed cleaning, prevent livestock diseases, and provide multiple benefits for livestock and families.

Recently, Parbati received additional support through a milking buffalo, further encouraging her farming practices and maximizing her efforts.

Her story reveals the power of community support and sustainable farming innovations in transforming the lives of women farmers.

Through Parbati's journey, BBP Pariwar's role in promoting sustainable agriculture and empowering women farmers is vividly illustrated, showcasing the potential for broader community transformation.

Nepal

Rural Women Upliftment Association (RWUA)

https://rwua.com.np/

The Rural Women Upliftment Association (RWUA), located in the Sarlahi district of Nepal, seeks to create socio-economically inclusive communities that support rural women and other marginalized groups.

Its work focuses on health, education, livelihood, women's empowerment, children, people with disabilities, and human Rights Advocacy.

RWUA began its Agroecological Innovation and Extension Project to support farmers and farm communities in the Sarlahi district and improve their well-being and livelihoods through agroecology.

A significant barrier to adoption is the widespread use of chemical fertilizers and pesticides. Monocropping has become prevalent in the name of commercialization and mechanization, with government incentives promoting the use of chemical inputs.

RWUA is now working with women's groups and farmers to support their transition to agroecological farming and improve their well-being and socio-economic status.

RWUA works with 14 groups across three municipalities (Haripur, Ishworpur, and Lalbandi) on agroecological farming and saving and credit groups.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

To support agroecological production, RWUA uses participatory action research (PAR) methodologies and supports farmer experimentation and trials of techniques. They communicate and share critical knowledge and experiences through demonstration farm plots and social media.

Social formation processes are also a crucial part of RWUA's methodologies. The farmer groups participate in peer learning and exchange visits with other farmers and NGOs in the region who are doing similar work, such as **BBP Pariwar**. RWUA provides community-based workshops and training on essential agroecological practices and works to engage local community leaders and champion farmers whenever possible. As of this year, 315 households collectively cultivate 25 hectares of land using agroecology.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Before beginning work in agroecological production, there was a lack of unity and technical knowledge among farmers. The "basket of agroecological techniques and practices" farmers use now addresses priority needs effectively, considering local climate, soil types, and socio-economic factors.

Soil

·Mulching techniques
·Legume-based mixed cropping
·Use of Jholmal 1, 2, and 3 (naturally made bio-inputs)

Local markets

·Market management
·Promotion of local markets and facilitating sales within and between groups in nearby areas

Water

·Mulching for soil moisture management
·Use of organic matter in soil like compost for soil moisture management

Biodiversity (at the landscape and ecosystem level)

Building climate resilience and adaptation through diversified farming and the use of Jhomal to mitigate adverse climatic conditions

Biodiversity on farms

·Crop and livestock diversity
·Integrated farming to ensure crops get manure from livestock and livestock benefit from agricultural by-products
·Use of bio-insecticides and pesticides Neemastra (neem-based bio-input) and Brahmastra (Bio-input made from leaves from neem, custard, papaya, guava, and pomegranate trees) for pest management

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

Leveraging methodologies and social processes that promote collaboration and knowledge sharing is essential to effectively spread agricultural learning and innovation. The following approaches are used to expand effective practices to more farmers and communities:

- Promoting farmer-to-farmer learning and extension through leader/champion farmers
- Learning visits and exchanges
- Demonstration plots by leader/champion farmers
- Coordination with local government

Next steps to build on success and address challenges

- ☑ **Encouraging successful farmers and motivating others:** Highlight exemplary farmers to inspire others.
- ☑ **Animate farmers:** Raise awareness about the benefits of the practices adopted by successful farmers.
- ☑ **Policy Advocacy:** Advocate for supportive policies that promote sustainable agricultural practices.
- ☑ **Develop small infrastructure:** Invest in small-scale infrastructure to support agricultural activities.
- ☑ **Monitoring and evaluation:** Continuously monitor and evaluate progress to ensure goals are being met.
- ☑ **Promote community involvement:** Foster community participation to ensure broad-based support and sustainability.
- ☑ **Seek additional resources/funding:** Pursue further funding opportunities to expand and enhance the program.

SUCCESS STORY

MEET MS. BASANTI BK, CHAIRMAIN OF A WOMEN'S SAVING GROUP

Ms. Basanti BK resides in Lalbandi Municipality, Hirapur, Sarlahi District. As the Women Progress Saving Group chairperson, established through the Agroecological Innovation and Extension Project with RWUA, people see her as an inspiring leader and entrepreneur in her community.

Guided by the Rural Women Upliftment Association, she has fostered growth and dynamism within her group.

Before her involvement with the group, Ms. Basanti faced severe economic challenges. The community heavily relied on conventional farming, including extensive use of chemical fertilizers and pesticides. This strained their finances and posed several environmental and health risks. Traditional money lending practices, where individuals pay up to 40% or more interest, further exacerbated their financial instability.

Ms. Basanti's participation in the Women's Progress Saving Group marked a turning point. Through comprehensive training in organic farming, kitchen gardening, nursery management, and various other agricultural practices, she and her group transitioned to sustainable farming methods. These trainings significantly enhanced their knowledge, skills, and aspirations.

Ms. Basanti's family has seen substantial economic improvement. They manage 0.25 hectares of land, including leased property, and earn a net income of NRs. 350,000 (US$2,606) annually from farming, along with NRs. 50,000 (US$372) from livestock. "***Joining the group builds excellent trust among us***," says Ms. Basanti. "***We should not depend on our husbands for economic resources; we can earn money through entrepreneurship.***"

The group's shift to organic farming had widespread positive effects. The community enjoys fresher vegetables, improved soil fertility, better livestock feed, and enhanced environmental sustainability. The nutritional status of families has improved, and many have ventured into commercial vegetable farming, further boosting their economic conditions.

Ms. Basanti's story exemplifies the transformative power of community-based initiatives and sustainable farming practices. Her leadership and the group's collective efforts paved the way for economic independence and environmental stewardship, inspiring other communities to follow their lead.

India

Preservation and Proliferation of Rural Resources and Nature (PRAN)

https://ngopran.org/

Preservation and Proliferation of Rural Resources and Nature (PRAN) works among poorer districts of the country. PRAN works on the System of Root Intensification (SRI) of natural farming and agroecology and supports farmers in trialing new agricultural techniques in their fields. They also invest in skill-building and employment opportunities, second chance education, rural women's entrepreneurship, and government and NGO capacity building on agroecology.

PRAN works with Rural Women's Common Interest Groups in five districts of Jharkhand and Bihar. PRAN directly works on agroecology and SRI with 14,600 small and marginalized women farmers through 135 Common Interest Groups of Rural Women who collectively farm 2,920 hectares of land.

Through policy interventions at the state and central government levels and farmer-level experimentation, PRAN seeks to find solutions to critical problems faced by farmers due to the indiscriminate use of chemical fertilizers and pesticides after the Green Revolution in India.

Bihar and Jharkhand continue to have the top five lowest Human Development Index scores across all Indian states. Bihar is one of India's poorest states, with 80% of the population relying on agriculture. This reliance makes rural communities particularly susceptible to the effects of climate change. Irregular rainfall, prolonged droughts and floods disrupt planting and harvesting cycles, reducing crop yields and threatening food security.

Intensive farming practices and over-reliance on chemical fertilizers have also degraded the soil, impacting agricultural productivity and making it harder for farmers to sustain their livelihoods.

Women farmers are disproportionately affected by these challenges. They have less access to resources, training, and decision-making power. Socio-cultural norms can also limit their participation in agricultural activities and community leadership.

PROMOTING FARMER LEARNING AND INNOVATION

What methodologies and social processes are used to support farmer experimentation and innovation?

PRAN assists communities in forming common interest groups, specifically spaces for rural women to meet and work collectively on agroecological production and income-generating activities. PRAN then offers training and capacity building for women on producing bio-inputs, crop production, and other critical agroecological practices. PRAN also organizes exposure visits for farmers and supports farmers in trialing and experimenting with new agroecological innovations in their fields and with forestation and water management projects.

PRAN provides training and support on selling and marketing agroecological products and other income-generating activities like mushroom production to assist with economic activities.

LIST OF TECHNICAL INNOVATIONS

What is the basket of agroecological techniques and practices that effectively meets priority needs in the program area?

Biodiversity (at the landscape and ecosystem level)

·Natural regeneration of trees (Plantation) on community land
·Seed coating with bio-inputs prior to sowing
·Formation of water harvesting structures

Local markets

·Saving & Credit groups for low-interest loans/credits
·Common interest groups for marketing products
·Selling of grains and vegetables in local markets
·Seed banks for millet

Soil

·Application of natural fertilizers and pesticides
·Zero tillage using inclined plate seed drills and hand push seeders
·Natural regeneration of trees (Plantation)
·Mulching
·Intercropping

Biodiversity on farms

·Encouraging the growth of 2 to 3 crops during Kharif (rainy) season
·Agroforestry
·Integration of livestock into farming systems
·Crop diversity in kitchen gardening

Seeds

·Conserving and promoting traditional seeds
·Priming and grading seeds
·Seed treatments
·Climate resilient seed promotion

Water

·Application of natural fertilizers and pesticides
·Recharging dry borewells
·Formation of soak pits
·Mulching
·Natural regeneration of trees (Plantation)
·Formation of water harvesting structures
·Solar irrigation

Other

·Raising awareness in local schools on agroecology and other empowering activities
·Organizing district-level and national-level workshops
·Participating in government-sponsored farmer fairs and other events to share positive experiences and successful trials

DISSEMINATION OF LEARNING AND INNOVATION

What methodologies and social processes are used to spread effective practices to more farmers and communities?

For every group of 30 to 50 farmers, PRAN builds the capacity of lead farmers who support the other farmers through demonstrations and follow-up. Currently, PRAN works with 200 lead farmers or village resource persons. PRAN builds the capacity of rural women's common interest groups and leads farmers in preparing local natural fertilizers and pesticides and running various field trials.

These lead farmers are village resource persons, youth leaders, sarathi, mentors, or master trainers. State government initiatives like the State Rural Livelihood Mission and National Rural Livelihood Mission often use the knowledge and skills of lead farmers and others associated with PRAN.

Next steps to build on success and address challenges

- ☑ Work with The Ministry of Agriculture and Farmers Welfare, the Government of India, and various state governments to endorse successful farmer's field trials and create a basket of practices based on System of Root Intensification practices for natural farming of multiple crops.
- ☑ Continue to see the Indian government promote natural farming and agroecology.
- ☑ Continue to see the state government of Bihar endorses recent successful farmers' field trials of natural formulation to control pest-based damage of standing field crops.

SUCCESS STORY

MS. INDU DEVI'S TESTIMONIAL ON HER AGROECOLOGICAL TRANSITION WITH PRAN

"My name is Indu Devi from Bahasapipra. Our family of seven relies on farming for our livelihood. My husband, Binay Mehta, and I had been practicing chemical farming for years.

About ten months ago, representatives from the PRAN organization introduced natural farming in our village.

Initially skeptical, I dismissed their claims, thinking increased yields without chemicals were impossible. My husband attended their training and prepared our fields for paddy transplantation using the SRI method. I was worried about the time and labor costs, but PRAN's team assured us they'd cover additional costs if needed.

Surprisingly, the transplantation was completed efficiently. Seven days later, we used homemade fertilizers and pesticides, prompting villagers to inquire about our thriving paddy. After receiving a weeder from PRAN, our paddy became even healthier. Our crop yield was three manns per katha (120kg per 0.12 hectare, equivalent to 1,000kg per hectare).

We then successfully cultivated radish, green chilies, and wheat using the System of Root Intensification (SRI) method, achieving a wheat yield of 91 kilograms per katha (0.12 hectare), higher than our neighbors. Encouraged, we applied organic fertilizer to our onion and potato crops, resulting in larger produce with longer shelf life. **Now, villagers come to our home to buy vegetables, and inspired by our success, many have adopted natural farming practices.**"

RESOURCES TO GO FURTHER

Visit our Publications page to access essential resources on agroecology.

FERTILE GROUND

While the benefits of agroecology are well-documented, scaling it remains a significant challenge. Fertile Ground explores this challenge through nine global case studies, showcasing the innovative practices of family farmers as active agents of change. These cases offer valuable insights and strategies for transforming agriculture and food systems into more just and sustainable models. **Get your copy**.

AGROECOLOGY FARMING IN HAITI: A POVERTY CRISIS SOLUTION

Conducted in collaboration with Altus Impact and the Economics of Land Degradation (ELD), this study compared the 'land use budgets' of agroecological and conventional farmers. By surveying over 330 smallholder farming households across three communal sections in northern Haiti, the evaluation revealed significant improvements in livelihoods for those practicing agroecology, presenting it as a potent solution to fight poverty. **Read it here**.

THE CASE FOR FMNR IN GHANA

An assessment conduceted by the Economics of Land Degradation (ELD) and Altus Impact demonstrates how FMNR offers a promising low-cost and profitable strategy for re-greening northern Ghana. Following a 5-year transition period, it shows how farmers could increase crop productivity and incomes through FMNR, improving their livelihoods while regenerating their land. **Read it here**.

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