

# **STRENGTHENING SEED SYSTEMS AND CLIMATE-SMART FARMING**



# 1. PROVEN FOUNDATIONS: THE APT MODEL FOR SUSTAINABLE SEED AND FOOD SYSTEMS

Over the past two decades, APT Action on Poverty—together with local partners like MAPCO—has built and tested a scalable, community-led model for improving food systems through seed banks, sustainable agriculture, and strong local governance. This model, used in multiple rural contexts, is rooted in practical experience and supported by independent evaluations.

## Seed Banks:

### The Engine of Resilient Agriculture

APT-supported seed banks provide smallholder farmers (SHFs) with access to quality seeds through a loan-and-repayment-in-kind model. Farmers borrow seeds at planting time and repay with seeds after harvest—plus a small “interest” (also in seeds).

This approach ensures:

- Growth of the seed stock over time
- Reduced dependency on external seed suppliers or costly markets
- Equity and access for women and the poorest households
- Resilience in lean seasons, when income and seed availability are lowest

Critically, the seed bank system are linked with local seed production and preservation techniques, ensuring that communities learned to grow and save climate-resilient indigenous seed varieties adapted to their environment.

Farmers are trained in seed saving to ensure seed viability and sustain seed banks. In Uganda, dedicated seed producers now supply both local and regional markets.

**“Before this training, we used to plant just rice. Now, we plant cassava, pineapples, and even bananas between the palm trees. The soil is better and we have more food.” — Farmer, Kailahun**



## Climate-Smart Agriculture and Soil Health

APT integrates climate-smart agriculture (CSA) into all training and seed system design. Farmers are trained not only to grow more, but to grow sustainably and smartly, with attention to soil fertility, biodiversity, and long-term productivity.

Key practices promoted:

- Organic composting and mulching to reduce chemical input use
- Intercropping (e.g. beans, legumes, cassava, pineapples) for soil protection, nutrients and dietary diversity
- Agroforestry techniques such as integrating fruit trees into plots
- Drought-tolerant crop varieties and timing strategies to reduce climate risk
- Conservation farming for hillside and erosion-prone areas



### 1.3. The Ecosystem that Sustains It: CBOs, Loans, and Literacy

Seed banks and CSA cannot thrive in isolation. APT's model embeds these practices within a community ecosystem of accountability, skills, and financial access.

#### Community-Based Organisations (CBOs):

- Democratically elected
- Legally established with bylaws
- Manage seed bank operations, loan disbursement, training follow-up
- Monitor repayment, resolve conflicts, link with chiefdom authorities, community leaders

#### Revolving Loan Schemes:

- Seeded with project funds and managed by the CBOs
- Offer affordable loans for farming tools, seed processing, irrigation, and small business
- Repayment cycles allow funds to grow

#### Functional Adult Literacy (FAL) and Financial Literacy:

- Essential for inclusive participation (especially for women, youth, and people with disabilities)
- Classes linked to business development, seed tracking, recordkeeping, but also human rights including child labour, gender equity

FAL students were able to assist children with homework, manage businesses, and take on leadership roles in CBOs

**"I used to sign with a thumbprint. Now I sign my name and count the money for my garden sales." — FAL Student, Jawei Chiefdom**

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### 1.4 Tangible Results Across Projects (2020–2024) – Sierra Leone, Uganda

- 80 CBOs and 80 seed banks created
- 120,000 people benefited (76% Women)
  - 21,000 trained in livelihoods and enterprise
  - 22,000+ households increased income by  $\geq 50\%$
- Revolving Loan Funds Capital growth > 200%
- Over 17,000 women and youth completed adult literacy and numeracy training
- Over 60,000 farmers trained in CSA
- 2 seed producer groups - 20 000 kg of cowpea seed, mallow, eggplant, and okra seeds → Access to seed rising from 2% to 68% of farmers in 1 year.
- post-harvest practices cut losses from 82% to 30%.
- Test of solar drying , x3 market value of vegetables

**70% of CBOs still active 5 years post-project**  
**85% of seed banks remain operational**

## 2. CASE STUDY: BUILDING COMMUNITY RESILIENCE TO END CHILD LABOUR SIERRA LEONE (2022-2025)



**Key Partners:** Planting Naturals; Goldtree; APT; MAPCO

**Budget:** 562,472€

**Reach:** 40 communities Kailahun District – 1,331 farming families (~11,000 people)

Between January 2022 and March 2025, a community-led initiative was implemented in 40 rural communities in eastern Sierra Leone. Rooted in APT's community ecosystem model, the program combined livelihood development, seed banks, climate-smart agriculture, and child protection into a single, scalable solution—implemented in partnership with a Netherlands-based palm oil company and local civil society organisations.

### Community Seed Banks: Driving Access, Growth & Autonomy

- 52 women-led green garden groups established, each linked to a community-managed seed bank.
- Over 2,944 women accessed these seed banks to grow vegetables, primarily in the off-season.

→ Women's economic independence, food security, and cooperative investment (e.g., shared tools, fencing, irrigation buckets).

- 8,063 farmers trained, (>75% women; 80% first-time gardeners).

Practices were rapidly adopted due to relevance to the local environment and clear yield improvements.

**"These gardens changed our homes. We can now save seeds, grow food, and sell in the market. I used the profits to buy school materials and help build my house."**

*Gardener Group Member, Njaluahun*

### Key Impacts in 3 Years

Food insecurity fell from 97% to <2%

98% households now eat 2–3 meals daily;  
Diets and child nutrition improved

8000 farmers trained in CSA

2,900+ women launched IGAs (gardens, trade, craft)

Monthly income rose by 35%

Child Labour prevalence dropped from 98% to 5%

95% + children attend school regularly

40 CBOs - profits invested in community projects: mill, seed storage, brick-making

100% of women reported more decision-making power and fewer conflicts

Local by-laws protect seed banks, loans, and child rights

Private company committed to sustaining and scaling the model



### 3. OUR OFFER: BUILDING RESILIENT SEED ECOSYSTEMS TOGETHER

#### Here's what makes our model effective:

- Seed banks do more than provide seeds – they become entry points for small business, local trade, and women's economic empowerment.
- Farming becomes more climate-resilient – farmers learn to protect soil, grow a wider variety of crops, and adapt to weather changes.
- Communities stay strong after the project ends – because local groups make the rules, manage resources, and lead the work themselves.
- Social change grows from economic stability – as families earn more and have enough food, we see big improvements in gender equality, literacy, and child protection.

This model strengthens entire value chains—from plot to household to processor—by reinforcing the foundation: resilient farming families.

**When communities manage their own seeds and farming systems, the impact goes far beyond just agriculture.**

#### OPPORTUNITIES FOR COLLABORATION:



##### **ADAPT THE MODEL TO LOCAL CONTEXTS**

Adapt seed bank, climate-smart training, and seed production to your farmers.

Align with existing VSLAs, women's groups, and local leadership structures

Reinforce your environmental, gender, and social impact goals



##### **TRAIN TRAINERS AND EMPOWER COMMUNITIES**

Develop community-based trainers and seed bank management committees

Establish or strengthen CBO/VSLAs to manage resources

Support Adult Literacy (FAL) for inclusive participation and local leadership




##### **STRENGTHEN LEARNING AND ACCOUNTABILITY**

Co-develop tracking tools and shared impact indicators

Support cross-community exchanges, participatory learning, creation of articles, evaluations, case studies.

Communicate lessons learned and insights through strategic dissemination.





We're dedicated to advancing community-led seed systems, climate-smart farming, and inclusive governance that protect children, empower families, and foster ethical, resilient supply chains. We welcome new partnerships, and shared learning to expand these impacts wherever they're needed.

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