

AIRTEA

Strengthening Agricultural Knowledge & Innovation Ecosystem
for Inclusive Rural Transformation & Livelihoods in Easter Africa



LESSONS AND OPPORTUNITIES

Enhancing Inclusive Market Access for
African Indigenous Vegetable Seed and
Value-added Products by Smallholder
Farmers in Uganda (AIRTEA)



UGANDA CHRISTIAN
UNIVERSITY
A Centre of Excellence in the Heart of Africa

AIRTEA
Advancing Higher Education Knowledge & Skills
for a Sustainable Future

AIRTEA

Strengthening Agricultural Knowledge & Innovation Ecosystem
for Inclusive Rural Transformation & Livelihoods in Easter Africa



Table of Contents

04

Background

05

Key Messages

06

Interventions

07

Results

08

Lessons Learned

09

Recommendations

09

Conclution

07

Results

Lessons and Opportunities: Improving market access for African Indigenous Vegetable seed and value-added products by smallholder farmers in Central and Eastern Uganda.

Africa's agriculture is mostly supported by smallholder farmers, half of whom are women. However, limited access to markets and knowledge of supply and demand prevents them from generating adequate profit margins. The expectation of low profitability discourages young people from pursuing agricultural livelihoods, limiting agricultural and rural development. The Enhancing Inclusive Market Access for African Indigenous Vegetable Seed and Value-added Products by Smallholder Farmers in Uganda (AIRTEA) initiative was piloted to address these challenges.

Background

Agriculture is fundamental to Uganda's economy, with smallholder farmers playing an important role in food production and rural livelihoods. However, these farmers frequently face severe impediments to market access, restricting their capacity to boost revenues and improve living conditions. This difficulty is especially acute for farmers growing African Indigenous Vegetables (AIVs), which, despite their nutritional and economic potential, are frequently overlooked on the market.

Recognizing the vital role of smallholder farmers in agricultural development, particularly in the African Indigenous Vegetable (AIV) value chain, The European Union-funded OACPS R&I Programme, in collaboration with the Forum for Agricultural Research in Africa (FARA), Ghana, and the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), Uganda, launched the Enhancing Inclusive Market Access for African Indigenous Vegetable Seed and Value-added Products by Smallholder Farmers in Uganda (AIRTEA) project. AIRTEA aims to improve smallholder farmers' market access and productivity in the African Indigenous Vegetables Value Chain in Central and Eastern Uganda, to increase income and promote sustainable agriculture.

In Uganda, UCU implemented the AIRTEA project to address bottlenecks in the value chain of African Indigenous Vegetables by strengthening private-led seed systems, organizing and linking smallholder producers to sustainable markets, with the potential for farmers to focus on commercial seed and assured markets for AIV value-added products. The project interventions focused on Central and Eastern Uganda, specifically in Mukono, Buikwe, Mityana, Luwero, Kayunga, Jinja, and Bugiri districts. Implemented over three years starting in 2020, the project was led by Uganda Christian University's (UCU) Faculty of Agricultural Sciences in collaboration with Syova Seed, Farm Gain Africa, and the Uganda Farmers' Federation (UNFFE).





Key Messages

- 1. Promoting Agricultural Biodiversity through AIVs:** African Indigenous Vegetables (AIVs) are an important component of Uganda's agricultural biodiversity, offering nutritional, cultural, and economic value. Supporting their cultivation and market access contributes to preserving traditional farming practices while promoting diverse, healthy diets for local communities.
- 2. Strengthening Market Access Improves Farmer Incomes:** Providing smallholder farmers with better access to both local and regional markets for AIVs enhances their income-generating opportunities. By connecting farmers directly with buyers, cooperatives, and value chains, the project ensures fairer prices and reduces the reliance on middlemen.
- 3. Building Capacity for Sustainable Production:** Through targeted capacity-building initiatives, smallholder farmers are empowered with the skills and knowledge to adopt sustainable farming practices, improve yields, and increase the quality of their AIVs. This enhances their competitiveness and ensures long-term sustainability in an ever-changing agricultural landscape.
- 4. Strengthening Local Food Systems with AIVs:** Supporting the production and market access of AIVs strengthens local food systems by diversifying the range of vegetables available, improving food security, and contributing to healthier diets. This has significant benefits for rural and urban populations alike, promoting nutrition and local food sovereignty.
- 5. Scaling Impact through Knowledge Sharing and Networking:** Through farmer cooperatives, community-based learning, and knowledge-sharing networks, the project promotes collective learning and empowers farmers to adopt best practices. This scaling of knowledge benefits the wider agricultural community and fosters a spirit of collaboration for sustainable growth.
- 6. Private-Sector Partnerships Strengthen Market Linkages:** Strengthening partnerships between farmers and private-sector players such as agribusinesses, seed suppliers, and processors facilitates stronger market linkages and creates opportunities for value addition. These collaborations ensure a more sustainable and integrated market for AIVs.
- 7. Improving Contractual Production for Stability:** By promoting improved contractual production practices, smallholder farmers are able to establish clear agreements with buyers, ensuring stable market access, timely payments, and long-term business relationships. This reduces uncertainty and enhances the reliability of market engagements.
- 8. Inclusive and Gender-Responsive Agricultural Development:** The project actively engages women, youth, and marginalized groups, ensuring that all segments of society benefit from improved market access and agricultural development. Empowering women and youth in agricultural decision-making processes boost productivity and contributes to more equitable development outcomes.



Interventions

The AIRTEA project took a diverse strategy, implementing a variety of interventions tailored to the specific needs and constraints of smallholder vegetable farmers and other value chain players. These interventions were carefully designed to have a positive influence on smallholder farmers and key actors in the agricultural sector, from seed production to product processing and marketing penetration.

Enhancing the capacity and competitiveness of Youth and Women small-scale farmers to access sizable and reliable markets. Strengthening the knowledge of members of Vegetable Production Units (VPUs) on quality production, and improved seed and value-added products was a key intervention in ensuring farmer mindset change to farming as a business. These trainings played a crucial role in enhancing the skills and economic status of farmers involved in the project, especially women and youth.

Developing a digital system to streamline UNFFE operations to link small-scale farmers with key stakeholders in the vegetable value chain.

The Management Information System (MIS) at UNFFE was developed to track performance between its headquarters and districts, hence increasing UNFFE's service delivery. At least two user training sessions, including UNFFE staff, the AIRTEA research team, VPU leaders, several UNFFE members, and other value chain actors were registered on the MIS.

Building Capacity on AIV Farming and Market Linkages. Training in General Agronomic Practices (GAP), farming as a business, value addition, and Management Information Systems (MIS) were conducted as interventions to create sustainable farming and agribusiness practices by the AIV smallholder farmers. Specific cultivation practices such as line planting, crop rotation, fertilizer use, field preparation, nursery bed management, transplanting, irrigation, mulching, harvesting, and staking, among others, were taught during farmer demonstrations and field days.

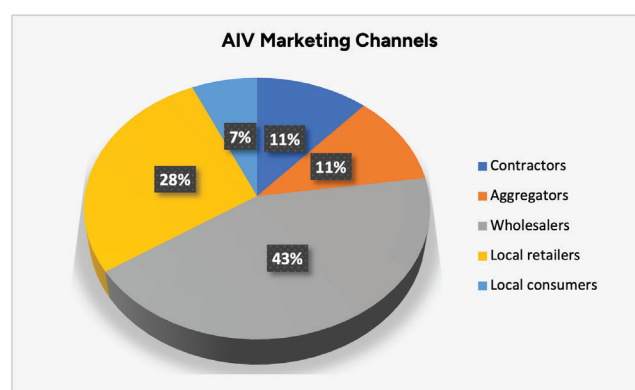
Results

By tackling fundamental obstacles in the African Indigenous Vegetable (AIV) value chain, the AIRTEA project has achieved significant success in increasing market access and the livelihoods of smallholder farmers in Uganda.

- **Established Private-Led Seed Systems:** A strong, sustainable private-seed system has been built, ensuring that smallholder farmers have consistent access to high-quality, locally adapted seeds. This approach has helped small-scale vegetable growers by increasing seed availability, cost, and crop yields, hence improving agricultural productivity and resilience.
- **Improved Market Linkages:** Smallholder farmers now have more reliable access to local, regional, and international markets. These connections have increased farmers' access to fairer pricing, reduced their reliance on middlemen, and enabled better demand-supply alignment, resulting in higher incomes and lower post-harvest losses. The initiative, which was carried out by FarmGain Africa Ltd, sourced and established 18 market links. The number of contracts rose from five to sixteen. Dani Agro, one of Uganda's top vegetable and tomato-producing enterprises, is among those with market links.
- **Targeted Capacity Building Initiatives:** Comprehensive and targeted capacity-building projects have provided smallholder farmers with the skills and information they need to implement modern farming techniques, increase production, and improve the quality of their output. These initiatives have also helped farmers develop their business management abilities, allowing them to make more informed decisions and negotiate market realities. The knowledge of effective agronomic methods grew from 70% to over 80%, contract farming from 50% to 60%, and business planning from 50% to 70%.
- **Development of an Inclusive Management Information System:** A user-friendly, inclusive Management Information System (MIS) has been created and implemented, providing farmers, cooperatives, and stakeholders with real-time data access. The project assisted small-scale producers through UNFFE by utilizing the MIS, which provided particular information and linkages for

AIV enterprises along the value chain. Members of Vegetable Production Units (VPUs) have enhanced their knowledge of quality production, seed, and value-added goods.

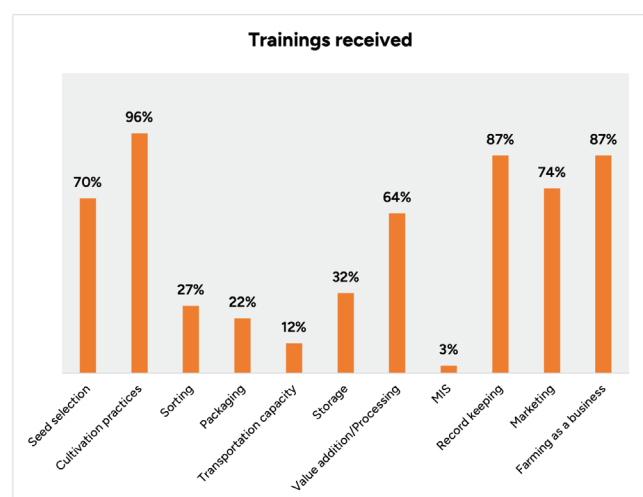
- **Improved Contractual Production Practices and Increased Competitiveness:** Improved contractual production practices have been adopted by smallholder farmers, ensuring clear agreements on quality, quantity, and delivery timelines with buyers. This has boosted the competitiveness of small-scale producers by granting them access to official marketplaces, ensuring income security, and cultivating long-term commercial ties. Furthermore, as a result of the project's interventions, the number of farmers engaging in contract farming has increased significantly, as has the overall level of commercial farming.



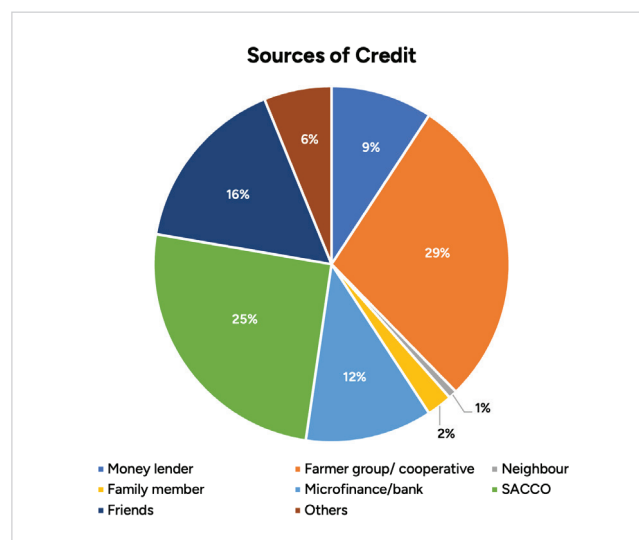
- **Engaging Women, Youth, and Marginalised Groups:** The active participation and empowerment of women, youth, and marginalized groups has resulted in widespread benefits throughout the agricultural value chain. These groups have been included in decision-making processes, provided access to resources, training, and leadership positions within farmer organizations, and have seen increased economic prospects, resulting in better social inclusion and gender equity. The AIRTEA project had a substantial impact on women's agricultural methods, increasing their participation in AIV cultivation and boosting their economic standing. Women profited from training and market access, which increased productivity and income. The project served 326 smallholder farmers. Of these, 104 were male, 138 were female, and 84 were youth.

Lessons Learned

- **Crop Diversification:** Many smallholder vegetable farmers have discovered that relying on a single crop can be problematic, especially when dealing with shifting climate conditions, pest outbreaks, or market swings. Diversifying vegetable crops, such as tomatoes, nakati, eggplants, and pumpkins, has helped smallholder farmers mitigate risk and stabilize income.
- **Value Addition:** To avoid post-harvest losses and increase returns on their crops, some farmers have turned to value addition, such as drying vegetables. Youth farmers in Mityana district are adding value by making pumpkin powder as well as treats like seeds and cakes. Farmers in Jinja have turned nakati green vegetables into powder.



- **Cooperatives and Collective Bargaining:** Many smallholder farmers have discovered the benefits of joining farmer cooperatives, which allow them to aggregate their produce, negotiate better prices, gain access to extension services, and decrease middlemen exploitation.
- **Financial Inclusion:** Smallholder farmers have faced considerable barriers to accessing loans and financial services. However, farmers have discovered that partnering with microfinance organizations, savings groups, and agricultural banks can help them get loans for seeds, fertilizers, and irrigation equipment.



- **Peer Learning and Farmer Field Days:** Farmers frequently benefit from learning from their peers. Farmer field days and community-based interventions have been successful vehicles for exchanging knowledge and experiences about crop management, new technologies, and market trends. Demonstration plots have been instrumental in knowledge transfer and hands-on experiences.
- **Improved Farming Methods:** Techniques like line planting, crop rotation, fertilizer use, field preparation, nursery bed management, transplanting, irrigation, mulching, harvesting, and staking have allowed farmers to buffer against unpredictable weather seasons, ensuring that vegetable crops are watered adequately.
- **Gender Empowerment:** Women play an important part in vegetable growing, but they frequently encounter barriers such as access to land, credit, and decision-making power. Farmers have realized that giving women access to resources and leadership positions in cooperatives boosts production, household income, and well-being.
- **Youth Engagement:** Involving young people in agriculture has become more crucial for ensuring the future of sustainable vegetable growing. Young people are keen to adopt new agricultural techniques such as digital technology and online market platforms that connect farmers to markets, as well as value-adding and transforming perishable vegetables into long-life shelf-stable healthful snacks and porridge powder.

Recommendations

- **Improve Financial Support Systems for Farmers:** Enhance smallholder farmers' access to affordable credit, savings, and insurance services tailored to their specific needs. This can be accomplished by collaborating with banks, microfinance institutions, and government agencies to create and implement financing solutions that address the unique financial challenges that smallholder vegetable value-chain actors confront.
- **Improve Payment Timeliness:** Establish systems to ensure that farmers receive timely payments for their produce. This can be achieved by introducing contract farming models and digital payment platforms that allow for faster and more secure transactions, ensuring that farmers receive fair and timely compensation for their produce.
- **Expand Training Programs for Farmers:** Expand and diversify training programs for smallholder vegetable farmers, focusing on modern farming techniques, sustainable practices, pest management, post-harvest handling, and market access strategies. This can be done by partnering with agricultural extension services, NGOs, and the private sector to provide continuous, practical training sessions through workshops, field demonstrations, and digital platforms.
- **Collaborations with private sector actors (e.g., agribusinesses, input suppliers, processors)** should be strengthened to increase market linkages, assure stable supply chains, and provide smallholder vegetable farmers with access to improved pricing structures. Encourage public-private partnerships (PPPs) to connect farmers to larger markets, enhance access to high-quality inputs, and boost private-sector investment in rural infrastructure.
- **Promoting Collective Bargaining for Fairer Pricing:** Encourage the development of farmer organizations or cooperatives to promote collective bargaining, allowing smallholder farmers to obtain higher prices for their produce while reducing their reliance on middlemen. Support the formation and capacity building of cooperatives and producer organizations to engage in collective marketing and improve price transparency.
- **Encourage Inclusive Decision-Making:** Encourage inclusive decision-making processes at both the family and community levels, with a particular emphasis on encouraging women and youth to play active roles in agricultural activities and assume leadership positions within farmer organizations. Implement gender-sensitive policies and activities that address the special challenges that women and young people experience, ensuring equal access to resources, training, and decision-making opportunities.
- **Establish regular monitoring and evaluation systems:** Monitor and evaluate agricultural projects, initiatives, and policies regularly to determine their success in enhancing smallholder farmers' livelihoods and ensuring long-term market access for African Indigenous Vegetables (AIVs) in Uganda. Create a strong monitoring and evaluation (M&E) system for tracking progress, identifying successes, and addressing difficulties. Use feedback from farmers and others to fine-tune and improve future programs.

Conclusion

The AIRTEA initiative in Uganda exemplifies the importance of adaptability, resource management, and community interaction. Regardless of the challenges that these smallholder farmers face, tailored innovations, sharing of knowledge, and diversification can boost output, raise household incomes, and promote sustainable farming. Smallholder farmers in Uganda who invest in African indigenous vegetables can benefit from improved financial systems, market linkages, training, and more inclusive, sustainable farming practices.

These efforts will help to promote equitable growth in the farming sector, improve livelihoods, and assure long-term viability for vegetable production, particularly for African Indigenous Vegetables (AIV).



Impact at
a Glance



326

Farmers Benefited,
Gender & Youth



104

Were Male



138

Were Female



84

Were Youth



About the UCU-AIRTEA Project:

The Strengthening Agricultural Knowledge and the Innovation Ecosystem for Inclusive Rural Transformation and Livelihoods in Eastern Africa (AIRTEA) project is a two-and-a-half-year initiative aimed at increasing the capacity and competitiveness of young and women small-scale farmers in accessing large and reliable markets.

Enhancing inclusive market access for African Indigenous Vegetables (AIV), seed, and value-added products by smallholder farmers in Uganda is an AIRTEA project funded by the EU through the Forum for Agricultural Research in Africa (FARA) and consists of four partners, with UCU serving as the lead partner. Other members include the Uganda National Farmers Federation (UNFFE), FarmGain Africa Ltd., and Syova (U) Ltd.

Author:

Elizabeth Balyejusa Kizito, AIRTEA Project Leader, Uganda.

Co-Authors:

Brenda Nakyewa and Mildred Julian Nakanwagi

Cover Photo:

Youth Selling Pumpkins in Katangauzzi Local Market in Nansana, Wakiso District.

Photo Credit:

Siraji Baisikwe, KAVIBE

Copywriting:

Joan Apio, KAVIBE

Design and Layout:

Gilbert Labeja, KAVIBE

Suggested Citation:

Elizabeth Balyejusa Kizito, Lessons and Opportunities: Improving market access for African Indigenous Vegetable seed and value-added products by smallholder farmers in Central and Eastern Uganda, Uganda, AIRTEA, 2024



Contact:

AIRTEA-UCU in Uganda

Plot 67-173, Mukono Hill, Bishop Tucker Road
P.O. Box 4, Mukono, Uganda
<https://ucu.ac.ug/>

Implementing Partners

