

Investment Prospectus Report

Acknowledgement

The development of this Investment Prospectus for High-Impact, High-Potential PURE Opportunities in Uganda is the culmination of a collaborative effort, and we extend our sincere gratitude to all the individuals and institutions whose support was instrumental in its completion.

We wish to express our profound appreciation to the **Ministry of Energy and Mineral Development (MEMD)** for its steadfast leadership and strategic guidance throughout this initiative. The Ministry's unwavering commitment to advancing Uganda's renewable energy and agro-industrialization agenda provided the essential policy foundation and direction for this work.

Our deep gratitude goes to the **World Resources Institute (WRI)** for its foundational partnership, technical expertise, and sustained support from inception to completion. WRI's pioneering work in developing the initial methodology and its invaluable data platform, the Energy Access Explorer (EAE), provided the critical backbone upon which this prospectus was built.

We are also deeply indebted to the diverse sector stakeholders from government, finance, technology, and agriculture who generously shared their insights and expertise. Their active participation in validation workshops and their constructive feedback were crucial in refining our tools, sharpening our analysis, and ensuring the final pipeline of opportunities is both practical and investment-ready.

Finally, we acknowledge the invaluable contributions of the farmer cooperatives and agribusiness entrepreneurs across Uganda, whose on-the-ground experiences and needs are the very heart of this prospectus. It is our hope that this document successfully channels investment and support to them, unlocking the transformative potential of renewable energy for Uganda's agricultural sector.

The collective effort of these partners has been vital in creating a roadmap for a more productive, resilient, and sustainable agricultural future for Uganda.

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The Centre for Research in Energy and Energy Conservation (CREEC) team during data collection.

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Foreword

Uganda stands at a critical juncture where renewable energy can unlock the next wave of agricultural transformation. With over 70% of our population dependent on agriculture yet constrained by limited energy access, the time is ripe to integrate Productive Use of Renewable Energy (PURE) into our agro-industrial agenda.

This Investment Prospectus, developed by the Centre for Research in Energy and Energy Conservation (CREEC) and the World Resources Institute (WRI), identifies scalable, high-impact PURE opportunities across five priority agricultural value chains: horticulture, maize, dairy, vegetable oil seeds, and fish products. Using robust multicriteria analysis, the Prospectus prioritizes investments that deliver economic viability, social inclusion, environmental sustainability, and energy integration potential.

PURE technologies such as solar irrigation, cold storage, and solar milling can revolutionize Uganda's agriculture. They reduce post-harvest losses, increase productivity, and empower rural communities, particularly women and youth, while cutting emissions. These opportunities, mapped using WRI's Energy Access Explorer, align with National Development Plan III goals and provide a clear pathway for achieving SDG 2 (Zero Hunger), SDG 7 (Clean Energy), and SDG 13 (Climate Action).

I urge investors, policymakers, and development partners to act boldly. Let us mobilize finance to de-risk and scale up PURE innovations, embed PURE into national and local planning frameworks, and foster partnerships that link cooperatives, the private sector, and government institutions.

Together, we can catalyze Uganda's transition to a climate-resilient, inclusive, and energy-powered agricultural future.

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Executive Summary

Uganda's agricultural sector holds transformative potential through the Productive Use of Renewable Energy (PURE), particularly small-scale solar technologies such as solar water pumps, mills, and cooling systems. These solutions enhance productivity, reduce post-harvest losses, and improve livelihoods while accelerating off-grid electrification. The World Resources Institute (WRI) and partners have identified high-impact, high-potential PURE opportunities aligned with Uganda's National Development Plan III (NDP III) agro-industrialization agenda.

A data-driven approach prioritized five value chains: horticulture, maize, dairy, vegetable oil seeds, and fish from Uganda's 10 NDP III commodities, using a weighted scoring framework:³

Economic Impact (30%)

Commercial viability, replicability, and scalability (e.g., SPIS³ for irrigation, solar milling).

Social Impact (20%)

Food security, livelihood improvement, and gender equity.

Environmental Impact (20%)

Greenhouse gas reduction potential (e.g. replacing diesel mills with solar).

Energy Requirement (30%) Alignment with renewable energy integration.

Key Findings

1. Top Value Chains



Horticulture: Leads with scalable SPIS and cooling technology, strong gender inclusion, and low environmental footprint.



Maize: Solar milling and irrigation show high replicability, boosting staple crop productivity.



Dairy: Solar chilling reduces spoilage and emissions, with women dominating retail and value addition.



Vegetable Oil Seeds: Mobile solar pressing machines cut diesel use in off-grid processing.



Fish: Solar cooling expands aquaculture and reduces post-harvest losses.

2. Pipeline Development

- **Data Integration:** WRI's Energy Access Explorer (EAE) maps PURE opportunities using criteria such as population density (>200/km² for milling), solar potential (>1,800 kWh/m²), and proximity to markets (<90 minutes to cities).
- Stakeholder Engagement: Targets cooperatives (100+ mapped), agribusinesses, and sub-national governments to deploy PURE projects.

Strategic Recommendations

Finance Mobilization: Leverage PAYGO and Energy-as-a-Service models for smallholder affordability.

Policy Advocacy: Integrate PURE into subnational development plans and national energy-agriculture policies.

Technology Scaling: Prioritize solar-powered irrigation, cooling, and milling with pilot-to-scale pathways.

Uganda's PURE sector offers a triple win: economic growth, social equity, and climate resilience. By focusing on bankable value chains, data-driven targeting, and inclusive business models, stakeholders can unlock over \$1.2 billion in agricultural value addition while advancing SDG 2 (Zero Hunger), SDG 7 (Clean Energy), and SDG 13 (Climate Action)⁴.

³ Solar-Powered Irrigation Systems

⁴ The 17 Goals, Sustainable Development Goals: https://sdgs.un.org/goals

1. Background

Sub-Saharan Africa possesses immense potential for economic growth through the productive use of renewable energy (PURE). Productive Use of Energy (PUE) solutions, particularly small-scale (under 1 kW) solar-powered appliances, present a significant opportunity in Uganda's off-grid solar sector. While larger PUE systems (4 kW and above) have been prevalent, the focus is shifting to smaller, more affordable options such as solar water pumps, refrigerators, and mills. These smaller appliances empower rural households and enterprises to boost their incomes and improve energy access by mechanizing previously manual tasks and increasing productivity. This increased income and energy demand also make off-grid solar home systems (SHS) more attainable for these communities, further driving electrification.

For the past four years, the World Resources Institute (WRI) and its partners have been working to address this gap. Their efforts have focused on supporting development organizations that work with smallholder farmers, helping them integrate energy solutions into their agriculture and livelihood programs through diverse business models. WRI has also leveraged its Energy Access Explorer (EAE), a geospatial tool, to provide crucial data for these initiatives. Furthermore, WRI has conducted indepth analysis to pinpoint the key obstacles hindering the scaling of PURE interventions in Sub-Saharan Africa.

Building on this foundation, WRI and its partners are embarking on a multi-year project focused on scaling PURE interventions. This project will concentrate on five key areas identified as having high potential to unlock the PURE sector:

- Data Collection and Analysis: Gathering, analyzing, and disseminating granular data on high-impact, high-potential PURE opportunities within the agriculture (including livestock) sector. This data will be integrated into the EAE for easy access by stakeholders.
- 2. **Project Pipeline Development:** Creating a pipeline of bankable, high-impact, high-potential PURE projects in agriculture and related livelihood sectors.

- 3. **Agribusiness Support:** Assisting agribusiness entrepreneurs in developing sustainable and scalable business and financing models for investments in high-impact, high-potential PURE opportunities.
- 4. **Sub-National Government Engagement:**Supporting sub-national governments in integrating PURE into their development plans and strategies.
- Policy and Regulatory Influence: Working with national governments and state agencies to influence policy and regulatory interventions that accelerate investment in the PURE sector.
- 6. Finance and Investment Mobilization: Leveraging networks and partnerships to unlock domestic and international finance and investment in the PURE sector.

2. Methodology

2.1 Selection of Priority Value Chains

The Government of Uganda outlined 10 priority commodities; coffee, tea, fisheries, cocoa, cotton, vegetable oil, beef, maize, dairy, and cassava, in the National Development Plan III (NDP III). These commodities are earmarked to foster the agroindustrialization (AGI) agenda. Agro-industrialization is one of NDP III's 18 programs to be realized between 2020 and 2025, and it is also one of the 18 programs in the new NDP IV (2025-2030). The initiative is designed to capitalize on Uganda's agricultural background and is additionally viewed as a major channel through which Uganda can achieve its aspiration of increased household income and improved quality of life. The aim of AGI is to add value to Uganda's agricultural produce, much of which is currently exported in raw form.

To scope down to five priorities, a High Impact–High Potential criteria ranking matrix was developed, led by the WRI team and supported by the CREEC team. This framework focused on four main criteria: economic impact, social impact, environmental impact, and energy potential.

The term *impact* is a multidimensional concept. According to the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD), impact is defined as:

"Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended."

On the other hand, *potential* in PURE opportunities is reflected in agricultural value chains with high energy integration needs. The working definition adopted in our PURE work leans toward achieving positive impact at scale through various interventions. In this regard, High Impact–High Potential Opportunities are the value chains that demonstrate the strongest prospects for delivering long-term, beneficial effects on livelihoods and the environment through the implementation of development initiatives aimed at achieving positive results at scale.

Table 1 below shows the selection criteria and scoring approach.

Table 1: Selection and scoring criteria used to rank top 5 value chains.

Dimension	Weight (%)	Key Metrics	Scoring (0-3)
Economic 30% Impact		Commercial viability, replicability, scalability	0 = Non-existent, 1 = Weak, 2 = Intermediate, 3 = Strong
Social Impact	20%	Food security, livelihood improvement, gender equity	0 = Non-existent, 1 = Weak, 2 = Intermediate, 3 = Strong
Environmental Impact	20%	GHG ³ emission reduction, eco-friendly waste management	0 = Non-existent, 1 = Weak, 2 = Intermediate, 3 = Strong
Energy Requirement	30%	Direct energy needs, productivity gains, energy efficiency	0 = No need, 1 = Low, 2 = Moderate, 3 = High

³ Greenhouse gas



2.2 Agro-ecological Zones

Uganda is mainly divided into 10 agro-ecological zones namely Northeastern Dry Lands, Northeastern Savannah Grasslands, Northwestern Savannah Grasslands, Para Savannah, Kyoga Plains, Lake Victoria Crescent, Western Savannah Grasslands, Pastoral Rangelands, Southwestern Farmlands, Highland Ranges ⁴. For the selected value chains, the team majorly prioritized their prevalent agro-ecological zones as seen in Table 3 below.

Table 2: Surveyed agro-ecological zones for selected priority value chains.

Value Chains	Zone	Districts (Visited)
Fruits &	Kyoga Planes	Kalaki, Bugiri, Kamuli, Ngora, Amolatar, Kole, Kumi
Vegetables	Western Savannah Grasslands	Masaka, Kasanda
	Southwestern Farmlands	Ntungamo
	Other districts	Lwengo, Amuru, Lira, Gulu
Maize	Kyoga Planes	Kamuli, Kalaki, Soroti, Kumi, Soroti
	Western Savannah Grasslands	Mubende, Kasanda, Mityana
	Other districts with high maize production	Lira, Kole, Bugiri, Iganga, Mbale, Kole, Lwengo
Dairy	Pastoral Rangelands	Lyantonde, Kiruhura, Kazo, Mbarara, Ntungamo, Lwengo, Rakai, Sembabule, Gomba, Bugiri, Masaka, Mubende
Vegetable Oil	Northeastern Savannah Grasslands	Kole, Lira, Gulu
Seeds	Lake Victoria Crescent	Bugiri
	Other districts	Kamuli, Kalaki, Kasanda
Fish & fish	Lake Victoria Crescent	Soroti, Ngora, Kumi
products	Western Savannah Grasslands	
	Kyoga Planes	

⁴ National Adaptation Plan for Agricultural Sector – MAAIF: https://www.agriculture.go.ug/wp-content/uploads/2019/09/National-Adaptation-Plan-for-the-Agriculture-Sector.pdf



2.3 Ranked Value Chains

Table 3: Ranked value chains

Value Chain	Economic Impact (30%)	Social Impact (20%)	Environmen- tal Impact (20%)	Energy Require- ment (30%)	Overall Score	Comments (Justification for Scoring)
Horticulture	0.70	0.60	0.40	0.80	2.50	 SPIS and modular cooling technologies deliver commercially viable solutions for year-round production and post-harvest management. The sector enhances nutrition and has a strong gender participation in production and trade Manual cultivation maintains a light footprint, while SPIS reduces irrigation emissions. Renewable-powered SPIS replaces conventional pumps, though post-harvest cooling remains energy-intensive, with solar-chilled storage emerging as a sustainable solution.
Maize	0.90	0.53	0.40	0.60	2.43	 SPIS and solar milling technologies demonstrate commercial viability, with high replicability at production and processing stages. As a staple crop, maize enhances food security while irrigation-driven yield increases with balanced gender participation across the value chain. Significant GHG reduction potential exists through solar-powered mill replacements. Energy needs concentrate on irrigation and milling.
Dairy	0.80	0.47	0.4	0.7	2.37	 Solar milk coolers and water pumping demonstrate commercial viability, with high replicability in production and post-harvest handling, As a nutritionally critical product, dairy enhances food security while creating inclusive livelihoods through youth employment in collection and women's dominance in value-addition and retail. Solar cooling reduces GHG emissions significantly, though transport emissions persist. High energy needs for, cooling and pasteurization are offset by spoilage reduction benefits.
Oil seeds	0.70	0.53	0.40	0.60	2.23	 SPIS and mobile oil presses show strong commercial potential, with high replicability among smallholders and scalable SPIS models. Vital for edible oil security, boosts farmer incomes, and empowers women in production and processing. Solar-powered processing can cut diesel emissions, especially in off-grid northern regions. Processing is energy-intensive but offers efficiency gains through renewable-powered crushing and refining.
Fish & Fish products	0.70	0.53	0.2	0.50	1.93	 Retail cooling and emerging cold storage show viability, with strong replicability in aquaculture and scaling potential in preservation. Vital protein source boosting nutrition security and women-led retail employment while reducing post-harvest losses. Low-impact aquatic production with emission reduction potential via solar cooling replacements. Efficient water pumping and cooling needs, with waste-reduction gains at storage stage.

Value Chain	Economic Impact (30%)	Social Impact (20%)	Environmen- tal Impact (20%)	Energy Require- ment (30%)	Overall Score	Comments (Justification for Scoring)
Coffee	0.70	0.33	0.20	0.60	1.83	 Production stage scalable through high-water requirement encouraging SPIS but post-harvest stage yet to be proven Encourages intercropping, potential high-income earnings but income sharing is not transparent. Environmentally, coffee cultivation encourages large land clearance hence a high GHG impact. Energy requirement is high at both production and processing stages
Tea	0.50	0.60	0.44	0.50	1.64	 PURE technologies not yet viable for post-harvest such as drying and firing Low food security since it is a cash crop and does not support intercropping. High GHG footprint due to the heavy reliance on firewood for firing the boilers. Has a large energy requirement at all stages of the value chain.
Bananas	0.40	0.47	0.4	0.30	1.57	 Not an energy demanding crop, mostly seasonal dependent and sold off in its raw/un-processed form. High food security since it is a staple food in some regions and also a fruit. Very few GHG practices currently being implemented in the value chain. Weak energy requirement because not enough applications for strong energy utilization except for the fruit bananas cold storage
Cocoa	0.50	0.33	0.2	0.50	1.53	 Insufficient business models to facilitate adoption at different stages Being a cash crop, it's not of priority nutritional value Low GHG footprint because current practices are largely manual and seasonal dependent, processing is mostly done on grid. High energy requirement especially at processing stage such as grinding and roasting.
Cotton	0.40	0.27	0.2	0.6	1.47	 Due to its drought-resistant capabilities, it does not favor SPIS and other technologies. Does not promote food security since earnings are channeled into other expenses such as school fees. Has a low GHG footprint since its processing is largely grid-tied. Has a high energy requirement at the processing stage.

The selected value chains were the top 5 ranked value chains i.e., horticulture, maize, dairy, vegetable oil seeds, and fish & fish products.



2.4 Data Collection

Over 400 cooperatives were mapped from Uganda Farmers Guide repository. These were then organized according to the 5 commodity products identified for this study to make it easier to apply stratified random sampling.

Statistical sampling was conducted using Cochran's sampling formula at 90% confidence interval and 10% margin of error.

$$n = \frac{\frac{Z^2 * p(1-p)}{e^2}}{1 + \frac{Z^2 * p(1-p)}{e^2 * N}}$$

Equation 1: Data sampling equation for cooperatives selection.

Where:

e is the desired margin of error, +/- 10%,

p is the estimated judgment of the correct value, 50% (conservative bound),

 $\it Z$ is the Z-score value equal to 1.645 at 90% confidence interval,

n is the sample size (to be calculated,

 ${\it N}$ is the overall population, i.e., number of claims submitted by company.

This was applied at each strata level as seen in Table ${\it A}$

Table 4: Sampling of targeted value chains.5

ID.	Commodity	Total Population	Sample Size (CI=90%)
1.	Maize	234	52
2.	Fruits	32	22
3.	Dairy	25	18
4.	Vegetable Oils	13	11
5.	Fish	3	>3

 $^{^5\,}$ Up-to 93 cooperatives were excluded as these had other priority commodities and so sampling was only done from cooperatives dealing in the study's priority commodities.

2.5 PURE Project Prioritization Index

Table 5: PURE project prioritization index.

Data Added	Weight	Filters	Comment
PURE Project (IP)	5	< 2 km from PURE Project	Proximity to identified PURE project.
Population Density	3	> 200 ppl/km ² , < 100 ppl/km ²	High preferred for value addition opportunities
Relative Wealth Index	3	>= 0	Equal to or above the national average
Inland water cover, Wetland water cover	5	>5%-Inland water, >15%-Wetland water (Applicable for SPIS PURE opportunities)	High water cover indicates potential for SPIS
Distribution Lines	5	>=10 km	For crop value addition and SPIS
Solar Potential (GHI)	5	>1800 kWh/m²	Favorable of solar powered PURE opportunities.
Accessibility to Cities	4	<90 minutes	Measures accessbility to markets.
Financial Institutions	4	< 15 km	Ease of access to finance for prospective PURE opportunities.
Number of members in cooperative	5	>100	High membership favors high production hence encouraging PURE deployment.

2.5.1 EAE Map of IP locations with additional layers

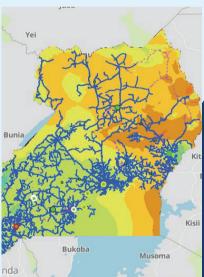
Figure 1: Top locations for Irrigation PURE opportunities.



Figure 2: Top locations for Crop value addition opportunities.



Figure 3: Specific locations of All investment PURE opportunities.





3. PURE Application Status

3.1 Irrigation PURE Opportunities

3.1.1 Summary of Farmer Groups

Table 4: Summary of farmer groups / cooperatives surveyed during field visits.

Value Chain	Farmer Group / Cooperative	District	Female Members	Male Members	Other
Fruits & Vegetables	Awoo-Nyim Diary and Grains Farmers' Cooperative Society Limited	Gulu	50	25	5 PWD
	Bala Women And Youth Farmers Cooperative Society	Lira	1850	1061	200 Youth, 66 PWDs
	Bwavunsolo Farmers Cooperative		12	18	5 youth, 1 PWD
	Itek Sub county Pur en Lonyo Oil seeds Growers Cooperative Society Limited	Lira	551	313	497 Youth, 35 PWDs
	Kabos Horticulture Irrigation Scheme	Serere	15	10	6 Youth
	Kamuli Nankulya Farmers' Cooperative	Kamuli	80	40	20 Youth, 3 PWDs
	Lubanga Lakica Fresh Foods and Vegetable s Cooperative	Amuru	25	5	
	Marongo Cooperative	Lwengo	600	500	200 Youth
	Masaka District Farmers Association	Masaka	900	450	150 Youth
	Namukuhu Farmers Cooperative	Kamuli	96	160	
	Ngora Town Council Citrus Fruits Growers Cooperative Society	Ngora	15	40	5 Youth
	Otuboi Integrated Cooperative Society	Kalaki	200	100	
	Kobwin Juwai Farmers Association	Ngora	15	15	
Vegetable	Aboke Grain Farmers Cooperative Society Limited	Kole	90	210	
Oil Seeds	Awoo-Nyim Dairy and Grains Farmers' Cooperative Society Limited	Gulu	50	25	5 PWD
	Bala Women and Youth Farmers Cooperative Society	Lira	1850	1061	200 Youth, 66 PWDs
	Bululu United Farmers Cooperative Society	Kalaki	120	95	85 Youth
	Greater Kamuli Farmers Cooperative Society	Kamuli	88	208	
	Itek Sub county Pur en Lonyo Oil seeds Growers Cooperative Society Limited	Lira	551	313	497 Youth, 35 PWDs
	Otuboi Integrated Cooperative Society	Kalaki	200	100	-
Maize	Aboke Grain Farmers Cooperative Society Limited	Kole	90	210	-
	Bala Women and Youth Farmers Cooperative Society	Lira	1850	1061	200 Youth, 66 PWDs
	Byembogo Farmers Cooperative Ltd	Lwengo	30	14	6 Youth
	Kyabigondo Grain producers cooperative Limited	Rakai	24	315	65 Youth
	St. Ludovic Foundation	Lwengo	2400	3000	200 PWDs, 65 Elderly
	Bugiri district Farmers Association	Bugiri	2500	200	
Dairy	Awoo-Nyim Dairy and Grains Farmers' Cooperative Society Limited	Gulu	50	25	5 PWD



3.1.2 Fruits and Vegetables

Up-to 15 cooperatives and farmer groups visited were engaged in horticulture farming as displayed in the portfolios below.

3.1.2.1 Bululu United Farmers' Cooperative Society

Table 6: Bululu United Farmers' cooperative society

Project Name	Bululu United Farmers' Cooperative Society		
Contact person	Okello Denis		
Phone number	+256789035133		
GPS Coordinates	1.7411937 33.3730979 1037.0 5.0		
Project Description	Bululu United Farmers Cooperative Society is located in Kalaki District, in the Eastern Region of Uganda.		
	It has a membership of up to 215 farmers, including 120 women, 85 youth, and 95 men.		
	The cooperative specialises in the production of vegetable oil seeds such as sesame and soya beans. On average, each farmer owns up to 10 acres of land. Collectively, the cooperative harvests approximately 255 metric tonnes per season (100 tonnes of soya beans and 155 tonnes of sesame), generating revenues of over UGX 300 million.		
	Irrigation on the farms is currently met through petrol pumps, though some members have expressed interest in adopting solar-powered irrigation systems. The average daily irrigation demand is estimated at 15,000 liters.		
	The cooperative supplies both local and national markets, with produce aggregated at the cooperative store.		
Investment	Processing soya beans into flour 100 tonnes per season		
Needs	• 10-50 Solar Irrigation systems for 10 to 50 members:		
Proposed	Total: 900,000 USD		
Investment Ticket Size	Solar powered irrigation systems: USD 180,000 – USD 900,000.		
Investment Structure	SPIS: Blended finance structure through a 50% share.		
Impact	 High potential for value addition as the group currently sells unprocessed produce in raw form. High potential for livelihood improvement through value addition especially since this cooperative is largely dominated by women. 		
	CO ₂ emission savings of over 19 MT.		
Enablers	Up-to 215 organized members and large production quantities.		

3.1.2.2 Otuboi Integrated Cooperative Society

Table 7: Otuboi Integrated Cooperative Society

Project Name	Otuboi Integrated Cooperative Society	
Contact person	Edimu Edmond	
Phone number	+256766263573	
GPS Coordinates	1.8848389 33.2849549 1082.5 4.2	

Project Name	Otuboi Integrated Cooperative Society
Project	Otuboi Integrated Cooperative Society is located in Kalaki District, in the Eastern Region of Uganda.
Description	It has a membership of up to 300 farmers, comprising 200 women and 100 men.
	The cooperative primarily produces fruits and vegetables such as watermelons, tomatoes, cabbages, and onions. It also engages in the production of sesame and soya beans. On average, each farmer owns up to 5 acres of land. Collectively, members harvest around 2 metric tonnes of oil seeds and 500 kilogrammes of fruits and vegetables per season, alongside significant maize yields of up to 40 metric tonnes per season.
	Irrigation is currently carried out manually, though members are keen to adopt solar-powered water pumps. The average daily irrigation demand is estimated at 15,000 liters.
	The cooperative supplies both local and national markets, with produce aggregated at the union store twice a year.
Investment	 Processing of oil seeds (for up to 2 metric tonnes per season):600-700 kg/h
Needs	Milling (for up-to 40 metric tonnes per season)
	300 small solar water pumps
Proposed	Total:180,000 USD
Investment Ticket Size	Oil seeds, maize processing: USD 51,000Solar Irrigation systems: USD 129,000
Investment	Processing equipment: 50% co-financing
Structure	Solar Water Pumps: Pay As You Go
Impact	Potential to create gender equity due to the dominance of women in the cooperative, 67%.
Enablers	Large group of farmers, up to 300 members with potential to increase production.

3.1.2.3 Aboke Grain Farmers Cooperative Society Limited

Table 8: Aboke Grain Farmers Cooperative Society Limited

Due le et Neue	Abob Onio Formano Octobration Octobration in the
Project Name	Aboke Grain Farmers Cooperative Society Limited
Contact person	Otim Macklin
Phone number	+256772665291
GPS Coordinates	2.2805998 32.6815022 1040.39999999999 4.563
Project Description	Aboke Grain Farmers Cooperative Society Limited is located in Kole District, in the Northern Region of Uganda.
	It has a membership of up to 300 farmers, comprising 210 men and 90 women.
	The cooperative focuses on the production of maize and vegetable oil seeds such as sesame and soya. On average, each farmer owns up to 2 acres of land. Collectively, the cooperative aggregates approximately 30 metric tonnes per season, generating revenues of over UGX 20 million.
	Irrigation is largely rain-fed, with a few members supplementing this using petrol pumps. The average daily irrigation demand is estimated at 1,000 liters.
	The cooperative supplies both local and national markets, with produce aggregated at the cooperative store.
Investment Needs	Maize mill machine: 600-700 kg/hStorage for maize
Proposed	Total: 51,000 USD
Investment Ticket Size	Maize mill: USD 51,000
Investment Structure	Patient loan payment structure.
Impact	Over 300 farmers involved hence potential livelihood improvement.
	Potential for more job creation beyond the current 50 jobs created.
	• CO₂ emission savings of over 55 MT.
Enablers	Up-to 30 metric tonnes in harvest hence sufficient quantities for processing.

3.1.2.4 Namukuhu Farmers' Cooperative

Table 9: Namukuhu Farmers' Cooperative

Project Name	Namukuhu Farmers' Cooperative		
Contact person	Waiswa Martin		
Phone number	+256757595754		
GPS Coordinates	0.8106539 33.0543457 1038.300000000002 4.15		
Project Description	Namukuhu Farmers' Cooperative is located in Masaka District, in the Central Region of Uganda. It has a membership of up to 50 farmers, comprising 30 men and 20 women. The cooperative mainly produces vegetables such as tomatoes and cabbages. On average, each		
	farmer owns up to 2 acres of land. Collectively, members harvest about 50 bags of cabbages and 60 bags of tomatoes per season, generating revenues of approximately UGX 15 million.		
	Water needs are met through rain-fed agriculture.		
	The cooperative supplies only the local market, with produce aggregated at the cooperative store.		
Investment	2 MT Solar powered cold room for cooling of the vegetables		
Needs	50 small Solar Powered Irrigation Systems for 50 farmers		
Proposed	Total: 36,500 USD		
Investment Ticket Size	Solar Irrigation systems: USD 21,500Cold-room: USD 15,000		
Investment	Pay As You Go Model for SPIS		
Structure	Leasing for cold rooms to market aggregators in a lease to own model		
Impact	With the ambition to produce tomato sauce, there is potential to tap into the national market thus greater revenues for the members.		
	 Potential for higher yields due to irrigation thus resulting in higher farmer revenues for over 50 members. 		
Enablers	Masaka district is located in great climatic zone with favorable rainfall seasons up-to twice a year and is fertile zone.		

3.1.2.5 Masaka District Farmers Association



Figure 4: Masaka district farmer's association passion fruit farm.

Table 10: Masaka District Farmers Association

Project Name	Masaka District Farmers Association			
Contact person	Naggawa Prossy			
Phone number	+256742950975			
GPS Coordinates	-0.3299 31.74556166666667 1262.1 4.9			
Project	Masaka District Farmers Association is located in Masaka District, in the Central Region of Uganda.			
Description	It has a membership of up to 1,350 farmers, comprising 900 women, 450 men, and 150 youth.			
	The cooperative mainly produces fruits and vegetables such as passion fruits, green peppers, and tomatoes. On average, each farmer owns up to 2 acres of land. Collectively, members harvest over 10 metric tonnes per season, generating revenues of about UGX 60 million.			
	Water needs are met through a mix of rain-fed agriculture and solar-powered irrigation systems.			
	The cooperative supplies only the local market, with produce aggregated at the cooperative store.			
Investment	5 MT Cold room for fruits and vegetables			
Needs	100 Solar Powered Irrigation Systems			
Proposed	Total: 68,000 USD			
Investment Ticket Size	Solar Powered irrigation systems: USD 43,000Cold-room: USD 25,000			
Investment Structure	 Pay As You Go Model for SPIS Lease to own model for the cold-room to the cooperative 			
Impact	Livelihood improvement for over 1500 farmers			
Enablers	Large group of farmers in the cooperative, up-to 1500 members			

3.1.2.6 Kamuli Nankulya Farmers' Cooperative

Table 11: Kamuli Nankulya Farmers' Cooperative

Project Name	Kamuli Nankulya Farmers' Cooperative
Contact person	Batwawula George
Phone number	+256753677637
GPS Coordinates	0.8111134 33.0531923 1074.2 4.22
Project	Kamuli Nankulya Farmers' Cooperative is located in Kamuli District, in the Eastern Region of Uganda.
Description	It has a membership of 120 farmers, dominated by 80 women, 40 men, 20 youth, and 3 persons with disabilities.
	The cooperative produces grain crops such as maize and vegetables such as tomatoes and cabbages. On average, each farmer owns up to 8 acres of land. Collectively, members harvest about 6 metric tonnes of tomatoes per year, generating revenues of over UGX 20 million. Maize production is more pronounced, with yields of up to 40 metric tonnes per year, averaging 20 metric tonnes per season.
	Irrigation is met through both solar-powered and petrol pumps.
	The cooperative supplies produce to both local and national markets.
Investment Needs	Maize milling
Proposed	Total: 15,000 USD
Investment Ticket Size	Maize mill 700 kg/hr: 15,000 USD
Investment Structure	Lease to own
Impact	Since the cooperative is largely dominated by women, potential impact on promoting gender inclusivity and empowerment
	Since their largest market is the national market (80%) possibility of higher revenue gains
	More job creation with currently up to 50 involved in the cooperative's value chain.
Enablers	Local and national market

3.1.2.7 Kobwin Juwai Farmers Association

Table 12: Kobwin Juwai Farmers Association

Project Name	Kobwin Juwai Farmers Association
Contact person	Amun Omongole Samson
Phone number	+256784160674
GPS Coordinates	1.3811556 33.7442941 1037.69999999999 4.04
Project Description	Kobwin Juwai Farmers Association is located in Ngora District, in the Eastern Region of Uganda. It has a membership of up to 30 farmers, equally split between 15 women and 15 men. The association mainly produces vegetables such as tomatoes and eggplants, alongside grains such as maize. On average, each farmer owns up to 3 acres of land. Collectively, members harvest about 2.5 metric tonnes per season, half of which is sold, generating revenues of approximately UGX 2 million. Irrigation is currently done manually using watering cans and manual pumps. However, the association is in the process of installing an irrigation system to meet its needs. The average daily irrigation
	demand is estimated at 1,000 liters, especially during the dry season. The association supplies both local and national markets, with produce aggregated at their store on a monthly basis.
Investment Needs	General drying2 MT Cold room for cooling of vegetables
Proposed Investment Ticket Size	Total: 8,000 USD • Cold room: USD 8,000
Investment Structure	Lease to Own model for the Association
Impact	Increased revenue for farmers through modern post-harvest handling
Enablers	Equal balance of male and women representation thus having more inclusivity and diversity in terms of development ideas

3.1.2.8 Kabos Horticulture Irrigation Scheme



Figure 5: Cabbages in the farm.

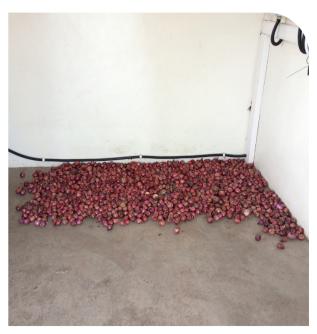


Figure 6: Storage of harvested onions at the cooperative.

Table 13: Kabos Horticulture Irrigation Scheme

Project Name	Kobwin Juwai Farmers Association
Contact person	Ouma Elijah
Phone number	0779747634
GPS Coordinates	1.6022540797954696, 33.24748515897497
Project Description	Kabos is a community located in the Teso sub-region, less than 100 metres from the shore of Lake Kyoga in Amolotar District.
	The community has 26 members, including 15 women, 11 men, and 6 youth.
	Vegetables are the main value chains handled, including tomatoes, onions, eggplants, sukuma wiki, cabbages, green pepper, and watermelon. Other crops grown include cassava, sorghum, maize, groundnuts, millet, green gram, amaranth, and sweet potato, largely rain-fed. On average, each farmer manages about 9 acres of land, with a collective seasonal output of 135 metric tonnes, generating revenues of over UGX 300 million.
	Through partnerships with the Ministry of Water and Environment (MoWE), an irrigation scheme has been established to support the community. In addition, students from Busitema University have piloted innovative technologies such as micro-furrows, micro-basins, and movable rain gun systems. Adoption of irrigation has increased productivity from about 1 metric tonne per acre to between 5 and 10 metric tonnes.
	This initiative has created over 40 jobs. The community also maintains a dedicated sales department that conducts market research and trains farmers on improved farming practices.
Investment Needs	10 MT Solar powered cold room facility to mitigate post-harvest losses.
Proposed Investment	Total: 38,000 USD
Ticket Size	Solar powered cold room: USD 38,000
Investment Structure	Lease to own structure to the association
Impact	 More job creation as over 200 are reported to be involved directly in this value chain Reducing food losses of about 27 metric tonnes annually
Enablers	Very organized and efficient farming community

3.1.2.9 Marongo Area Cooperative Enterprise Limited

Table 14: Marongo Area Cooperative Enterprise Limited

Project Name	Marongo Area Cooperative Enterprise Limited
Contact person	Ssenozi Peregreno
Phone number	+256701610372
GPS Coordinates	-0.38337333333333333 31.313033333333337 1261.7 5.0
Project Description	Marongo Area Cooperative Enterprise Limited is located in Lwengo District, in the Central Region of Uganda.
	It has a membership of up to 1,100 farmers, comprising 600 women, 500 men, and 200 youth.
	The cooperative produces maize, mangoes, oranges, and cabbages. On average, each farmer owns up to 3 acres of land. Collectively, members harvest about 10 metric tonnes of mangoes, over 1,200 metric tonnes of cabbages, and up to 50 metric tonnes of maize per season. Revenues range between UGX 155 million and UGX 300 million.
	Irrigation is met through rain-fed agriculture, watering cans, and solar-powered pumping. The average daily irrigation demand is estimated at 1,000 liters.
	The cooperative supplies both local and national markets, with produce aggregated at the cooperative store.
Investment Needs	 10-20 MT cold room storage facility for fruits and vegetables Solar Powered Irrigation system for irrigation for 150 farmers
Proposed	Total: 315,000 USD
Investment Ticket Size	 Solar powered irrigation system: USD 225,000 Cold room: USD 45,000 – USD 90,000
Investment Structure	 SPIS – Pay As You Go Model Cold room: Lease to Own managed by the cooperative
Impact	About 1 metric ton saved rather than being wasted
Enablers	Large group of farmers in the cooperative, up-to 1,300 members

3.1.2.10 St. Ludovic Foundation

Table 15: St. Ludovic Foundation

Project Name	St. Ludovic Foundation
Contact person	Godfrey Sebwoma
Phone number	+256786936385
GPS Coordinates	-0.383196666666667 31.310583333333337 1257.4 5.0
Project Description	St. Ludovic Foundation is located in Lwengo District, in the Central Region of Uganda.
	It has a membership of up to 5,400 farmers, comprising 2,400 women, 3,000 men, and 200 persons with disabilities.
	The cooperative specialises in cabbage production. It owns up to 20 acres of land, harvesting between 100 and 150 metric tonnes per season, with revenues of over UGX 20 million.
	About 15 farmers use solar-powered irrigation systems (SPIS), while most members rely on rain-fed agriculture. The average daily irrigation demand is estimated at 10,000 liters.
	The cooperative supplies both local and national markets, with produce aggregated at the cooperative store.
Investment Needs	Small solar irrigation systems for 2500 farmers
Proposed	Total: 1,075,000 USD
Investment Ticket Size	Solar Powered irrigation Systems: USD 1,075,000
Investment Structure	Pay As You Go payment structure
Impact	Livelihood improvement for over 5000 farmers.
Enablers	Large group of farmers with good gender representation.

3.1.2.11 Bugiri District Farmers Association

Table 16: Bugiri District Farmers Association

Project Name	Bugiri District Farmers Association
Contact person	Kyere Kizibu Samuel Bamutya
Phone number	+256772356718
GPS Coordinates	0.5554057 33.749349 1202.8 4.82
Project Description	Bugiri District Farmers Association is located in Bugiri District, in the Eastern Region of Uganda. It has a membership of up to 4,500 farmers, comprising 2,500 women and 2,000 men. The association mainly produces maize. On average, each farmer owns 2 to 5 acres of land. Collectively, the cooperative harvests about 65 metric tonnes per season, generating revenues of over UGX 50 million. Irrigation is met through rain-fed agriculture and solar-powered systems. The average daily irrigation demand is estimated at 1,000 liters.
	The cooperative supplies both local and national markets, with produce aggregated at the cooperative store.
Investment Needs	Small Solar Powered Irrigation systems (for over 2000 farmers)
Proposed Investment Ticket Size	Total: 860,000 USD • Solar Powered irrigation Systems: USD 860,000
Investment Structure	Pay As You Go payment structure
Impact	Livelihood improvement for over 5000 farmers.
Enablers	Large community of farmers

3.1.2.12 Itek Sub County Pur en Lonyo Oil seeds Growers Cooperative Society Limited

Table 17: Itek Sub County Pur en Lonyo Oil seeds Growers Cooperative Society Limited

Project Name	Itek Sub County Pur en Lonyo Oil seeds Growers Cooperative Society Limited
Contact person	Jasper Okabo
Phone number	+256771298437
GPS Coordinates	2.2084815 33.0780112 1073.7 4.946
Project Description	Itek Sub County Pur en Lonyo Oil Seeds Growers Cooperative Society Limited is located in Lira District, in the Northern Region of Uganda.
	It has a membership of 864 farmers, comprising 551 women, 313 men, 497 youth, and 35 persons with disabilities.
	The cooperative produces vegetables such as tomatoes, eggplants, green peppers, cabbages, and onions. It also grows sesame and soya beans, though not on as large a scale. On average, each farmer manages about 3 acres of land. Collectively, members produce up to 31 metric tonnes per season, generating revenues of over UGX 55 million. Produce is aggregated monthly at the cooperative store.
	Water needs are met through a mix of rain-fed agriculture and solar-powered irrigation systems.
	The cooperative has partnerships with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and the National Agricultural Advisory Services (NAADS), which have provided additional funding for irrigation schemes. At least 10 direct and indirect jobs have been created.
Investment	• 1 Cold room: 5 MT
Needs	300 Solar Powered Irrigation Systems for 3-acre categories
Proposed Investment Ticket Size	Total: 19,000 USD • Cold room: USD 19,000 • Solar Irrigation systems: USD 450,000
Investment Structure	 Cold-room best to use a lease to own model with the cooperative as the aggregator SPIS through Pay As You Go model with farmers
Impact	Impact of 864 farmers inclusive of women, youth and PWDs.More jobs could be created from the current 10 jobs created.
Enablers	The cooperative has already established partnerships with MAAIF, NAADS to scale interventions and build capacity.

3.1.2.13 Byembogo Farmers' Cooperative Ltd

Table 18: Byembogo Farmers' Cooperative Ltd

Project Name	Byembogo Farmers' Cooperative Ltd
Contact person	Kayombya Patrick
Phone number	+256703261349
GPS Coordinates	-0.3643816666666666 31.25813333333333 1305.6 4.6
Project Description	Byembogo Farmers' Cooperative Ltd is located in Lwengo District, in the Central Region of Uganda.
	It has a membership of up to 44 farmers, including 30 women, 14 men, and 6 youth.
	The cooperative mainly produces maize. On average, each farmer owns between 2 and 5 acres of land. Collectively, members harvest about 25 metric tonnes per season, generating revenues of over UGX 16 million.
	Irrigation is met through a mix of rain-fed agriculture and petrol pumps. The average daily irrigation demand ranges between 1,000 and 5,000 liters.
	The cooperative supplies both local and national markets, with produce aggregated at the cooperative store.
Investment Needs	Solar powered irrigation systems (for about 50 members)
Proposed Investment	Total: 21,500 USD
Ticket Size	Solar Powered Irrigation Systems: USD 21,500
Investment Structure	Pay As You Go Model
Impact	 Potential to increase farmer revenues through increased production. CO₂ emission savings of over 12 MT.
Enablers	Diverse and inclusive group containing gender and youth fair representation.

3.1.2.14 Lubanga Lakica Fresh Foods and Vegetables Cooperative

Table 19: Lubanga Lakica Fresh Foods and Vegetables Cooperative

Project Name	Lubanga Lakica Fresh Foods and Vegetables Cooperative
Contact person	Anena Dorcus
Phone number	+256788858838
GPS Coordinates	2.9950484 32.1414263 500.3000183105469 2.7
Project Description	Lubanga Lakica Fresh Foods and Vegetables Cooperative is located in Amuru District, in the Northern Region of Uganda.
	It has a membership of 30 farmers, comprising 25 women and 5 men.
	The cooperative produces vegetables such as tomatoes, cabbages, onions, and eggplants. On average, each farmer owns about 3 acres of land. Collectively, members harvest up to 20 metric tonnes per season, generating revenues of about UGX 50 million.
	Irrigation is largely done through rudimentary manual means such as watering cans, alongside rain-fed agriculture. The average daily irrigation demand is estimated at 1,000 liters.
	The cooperative supplies both local and national markets in nearly equal measure.
Investment	5 MT Cold room for the vegetables
Needs	10 Solar Powered Irrigation equipment for land size 3 acres
Proposed	Total: 34,000 USD
Investment Ticket Size	Cold room: USD 19,000Solar Powered Irrigation System: USD 15,000
Investment Structure	 Cold-room would be best approached through cooling as a service SPIS systems through cash payments
Impact	Livelihood improvement for the mostly women involved in this cooperative.
Enablers	Already existing networks established into the local and national markets

3.1.2.15 Kanyum Area Cooperative Enterprise



Figure 7: Some of the petrol pumps utilized to pump water for irrigation needs.

Table 20: Kanyum Area Cooperative Enterprise

Project Name	Kanyum Area Cooperative Enterprise
Contact person	Okoboi Aloysius
Phone number	+256775982519
GPS Coordinates	1.3638391 33.9433525 1113.0 4.916
Project Description	Kanyum Area Cooperative Enterprise is located in Kumi District, in the Eastern Region of Uganda. It has a membership of up to 426 farmers, including 250 men and 176 women. The cooperative primarily produces citrus fruits, especially oranges. On average, each farmer owns up to 2 acres of land. Collectively, members harvest about 12 metric tonnes per season, generating revenues of about UGX 22 million.
	Irrigation is currently met through petrol pumps and rain-fed agriculture, though members plan to transition to solar-powered systems.
Investment Needs	 The cooperative supplies both local and national markets, with the majority going to the local market. Juice processing and extraction Solar water pumps (for over 100 farmers)
Proposed Investment Ticket Size	Total: 150,000 USD • Solar Powered Irrigation Systems: Over USD 150,000 in potential sales.
Investment Structure	Pay-As-You-Go model through the cooperative however, the payment structures should be adjusted to match the seasons
Impact	 Potential to improve livelihoods for over 400 farmers CO₂ emission savings of over 79 MT per season.
Enablers	Potential to penetrate further into the national market

3.1.2.16 Greater Kamuli Farmers' Cooperative Society

Table 21: Greater Kamuli Farmers' Cooperative Society

Project Name	Greater Kamuli Farmers' Cooperative Society
Contact person	Emmanuel Kipwapwa
Phone number	+256754582612
GPS Coordinates	0.9438901 33.1227518 1114.0999755859375 4.5
Project Description	Greater Kamuli Farmers' Cooperative Society is located in Kamuli District, in the Eastern Region of Uganda.
	It has a membership of up to 296 farmers, comprising 208 men and 88 women.
	The cooperative produces vegetable oil seeds such as sesame and soya beans. On average, each farmer owns about 2.5 acres of land. Collectively, members harvest about 5 metric tonnes per season, generating revenues of approximately UGX 3 million.
	Irrigation is met through a mix of rain-fed agriculture, petrol pumps, and solar-powered irrigation systems. The average daily irrigation demand is estimated at 550 liters.
	The cooperative supplies both local and national markets, with produce aggregated at the cooperative store.
Investment	Processing equipment for soya beans into flour (5 metric tonnes per season):100 kg/h
Needs	60 small solar powered irrigation systems for about 60 farmers
Proposed	Total: 35,800 USD
Investment Ticket Size	Solar Powered Irrigation Systems: USD 25,800Soya bean mill: USD 10,000
Investment Structure	SPIS: Pay As You Go ModelProcessing Unit: Green Energy Access Loan
Impact	High potential for value addition as the group currently sells unprocessed produce in raw form.
	 High potential for livelihood improvement through value addition. CO₂ emission savings of over 27 MT
Enablers	Up-to 296 organized members and large production quantities







Figure 9: Bala women and Youth Milling and aggregation center.

3.1.2.17 Bala Women and Youth Farmers' Cooperative Society

Table 22: Bala Women and Youth Farmers' Cooperative Society

Table 22. Bala WO	imen and Youth Farmers Cooperative Society
Project Name	Bala Women and Youth Farmers' Cooperative Society
Contact person	Aida Abia
Phone number	+256779118865
GPS Coordinates	2.1918947 32.7499189 1046.39999999999 2.362
Project Description	Bala Women and Youth Farmers' Cooperative Society is located in Kole District, in the Northern Region of Uganda.
	It has a membership of 3,177 farmers, comprising 794 men, 2,383 women, 477 youth, and 318 persons living with disabilities.
	The cooperative engages in three value chains: fruits and vegetables, vegetable oil seeds, and maize. On average, each farmer owns about 2 acres of land, with production of up to 5 tonnes, generating revenues of up to UGX 10 million per season.
	The cooperative has a dedicated storage facility for produce aggregation and also operates a milling station for maize flour production. Solar-powered irrigation is the main method used.
	Overall, the cooperative has created 20 direct and indirect jobs within the community.
Investment Needs	 1 Cold room of 1 - 2 MT for storage of fruits & vegetables to mitigate post-harvest losses. Need larger maize mill to handle more capacity of produce.
	 Solar dryer 0.5 MT to 1 MT Need for a grid connection to overcome expenses on diesel genset
	Access to markets through e-mobility.
	Target farmers:3177
Proposed	Total: 257,200 USD
Investment	• Cold room: 3800-7,600 USD
Ticket Size	Grid connection: 12,000 USD
	• Solar dryer: 3,800-7600 USD
	• E-mobile vehicles: 100,000-230,000 USD
Investment Structure	Leased to market aggregators and distributors who can lease the cold room with an aim to own it.
Impact	• 2911 farmers impacted
	50 kg realized in savings that were previously wasted.
Enablers	Bala Women and Youth Farmers' Cooperative Society is well organized and has scale for widespread impact across its 3,177 farmers

3.1.2.18 Awoo-Nyim Dairy and Grains Farmers' Cooperative Society Limited

Table 23: Awoo-Nyim Dairy and Grains Farmers' Cooperative Society Limited

Project Name	Awoo-Nyim Dairy and Grains Farmers' Cooperative Society Limited
Contact person	Okwera Patrick
Phone number	+256782662100
GPS Coordinates	2.9608276 32.2405508 968.0 5.0
Project	This cooperative is located in Gulu District, in the Northern Region of Uganda.
Description	It has a membership of up to 75 farmers. On average, each farmer owns between 3 and 5 acres of land. Crops include fruits and vegetables such as tomatoes (9 tonnes), eggplants (6 tonnes), cabbages (24 tonnes), onions (1.5 tonnes annually), and maize.
	Average revenue is about USD 70 per farmer per season. The cooperative has created about 4 direct jobs and 8 indirect jobs.
	Irrigation is currently conducted through rain-fed agriculture, with a few farmers using petrol pumps.
Investment	5 MT Cold room for storage of fruits & vegetables
Needs	Juice processing and extraction plant
	• 75 Solar Irrigation system for 75 farmers: 600 liters per day pump for a land size of 3 – 5 acres.
Proposed	Total: 115,750 USD
Investment Ticket Size	Cold room: USD 19,000Solar irrigation systems: USD 96,750
Investment Structure	 Pay As You Go: This model would be ideal for the farmers to acquire the SPI systems Leased to market aggregators and distributors who can lease the cold room with an aim to own it.
Impact	Up-to 75 farmers impacted
	Over 100 kg realized in savings that were previously lost due to post harvest losses.
	Over 5 tonnes of CO2 eliminated per month.
Enablers	Gulu district is well positioned to tap into neighboring South Sudan market for export

3.1.2.19 Bwavunsolo Farmers' Cooperative

Table 24: Bwavunsolo Farmers' Cooperative

Project Name	Bwavunsolo Farmers' Cooperative
Contact person	Tibatya Johnson Kato
Phone number	+256757683208
GPS Coordinates	Not Captured
Project Description	Bwavunsolo Farmers' Cooperative is located in Masaka District, in the Central Region of Uganda. It has a membership of 36 farmers, including 12 women, 18 men, 6 youth, and 1 person with a disability. The cooperative mainly produces fruits such as mangoes, oranges, and bananas. On average, each farmer manages 15 acres of land, with a combined production capacity of up to 60 metric tonnes, generating revenues of over UGX 70 million per season. Solar-powered irrigation is the main method used at the farm.
Investment Needs	 5 MT Solar powered cold room for storage of fruits & vegetables seeing that they produce large quantities. 1/2 MT solar dryer.
Proposed Investment Ticket Size	Total: 22,798.34 USD • Cold room: USD 19,000 • Solar dryer: USD 3,798.34
Investment Structure	 Leased to market aggregators and distributors who can lease the cold room with an aim to own it. Solar dryer could be purchased with cash up front.
Impact	 36 farmers inclusive of women, youth and PWDs. More jobs could be created from the current 15 jobs created.
Enablers	Bwavunsolo Farmers' Cooperative is small cooperative in terms of members but is characterized by high efficiency.

3.1.2.20 Ngora Town Council Citrus Fruits Growers Cooperative Society

Table 25: Ngora Town Council Citrus Fruits Growers Cooperative Society

_	
Project Name	Ngora Town Council Citrus Fruits Growers Cooperative Society
Contact person	Akol Andrew Gervase
Phone number	+256772948892
GPS Coordinates	Not captured
Project Description	Ngora Town Council Citrus Fruits Growers Cooperative Society is located in Ngora District, in the Eastern Region of Uganda.
	It has a membership of up to 55 farmers, including 40 men, 15 women, and 5 youth.
	The cooperative mainly produces fruits such as mangoes and oranges. On average, each farmer owns up to 10 acres of land. Collectively, members harvest about 6 metric tonnes per season, half of which is sold, generating revenues of about UGX 3 million.
	Irrigation is mainly met through petrol pumps, with an average daily demand of 1,000 liters per farmer.
	Produce is aggregated twice a year at the union store and sold to a juice processing factory.
Investment Needs	Small solar water irrigation systems for 55 farmers
Proposed Investment Ticket Size	Total: 23,650 USD
	• 55 solar water pumps: 55 x USD 430 = USD 23,650
Investment Structure	Pay As You Go Model
Impact	Over 100 jobs at the factory
	At farm level, between 10 to 20 jobs created, direct and indirect
	• CO ₂ emission savings of over 19 MT
Enablers	

3.1.2.21 Tuikat Investors Association

Table 26: Tuikat Investors Association

Project Name	Tuikat Investors Association
Contact person	Chemonges Geoffrey
Phone number	+256788266521/789517521
GPS Coordinates	Not captured
Project Description	Tuikat Investors Association is located in Kween District, in the Eastern Region of Uganda.
	It has a membership of 20 farmers, comprising 10 women and 10 men.
	The association mainly produces vegetables such as cabbages and onions. On average, each farmer owns about 10 acres of land. Collectively, members harvest approximately 160 metric tonnes per season, broken down as follows: 10 tonnes of maize, 30 tonnes of cabbages, 20 tonnes of onions, and 100 tonnes of Irish potatoes.
	Irrigation is currently carried out using diesel-powered pumps, with potential for transitioning to solar-powered systems.
	The association supplies both local and national markets, with produce aggregated monthly at its own store.
Investment Needs	Large Solar Powered Irrigation systems (for up to 20 members)
	10-20 MT Cold-room for up-to 50 tonnes per season
Proposed Investment Ticket Size	Total: 470,000 USD Solar Powered Irrigation Systems: USD 380,000 Cold-room: USD 45,000 – USD 90,000
Investment Structure	Lease to Own model or purchase through an energy access loan
Impact	 1 metric ton of produce wasted annually could be saved. CO₂ emission savings of over 7 MT
Enablers	Highly efficient group

3.1.2.22 Kyabigondo Grain Producers Cooperative Limited

Table 27: Kyabigondo Grain Producers Cooperative Limited

	·
Project Name	Kyabigondo Grain Producers Cooperative Limited
Contact person	Henry Kamurasi
Phone number	+256752694903
GPS Coordinates	Not captured
Project Description	Kyabigondo Grain Producers Cooperative Limited is located in Masaka District, in the Central Region of Uganda.
	It has a membership of 665 farmers, comprising 315 men, 285 women, and 65 youth.
	The cooperative primarily produces maize. On average, each farmer owns between 2 and 3 acres of land. Collectively, members harvest up to 150 metric tonnes per season, generating revenues of over UGX 100 million.
	Irrigation is achieved through a mix of solar-powered systems, rain-fed agriculture, and petrol pumps, with average water needs of about 1,000 liters per day per farmer.
	The cooperative supplies both local and national markets, with produce aggregated at the cooperative store.
Investment Needs	Maize mill machine: 600-700 kg/h
Proposed Investment	Total: 51,000 USD
Ticket Size	Maize processing (flour): USD 51,000
Investment Structure	Through a patient loan structure
Impact	Livelihood improvement for over 600 farmers.
	• CO ₂ emission savings of over 32 MT.
Enablers	Improved household incomes for over 600 farmers
LIIGOICIO	improved household incomes for over ood farmers





3.2 Crop Value Addition

3.2.1 Summary of Farmer Groups

Table 28: Summary of farmer groups / cooperatives surveyed during field visits.

Farmer Group / Cooperative	District	Female Members	Male Members	Other
Nyakihanga Fruits And Vegetable Growers Cooperative Society Limited	Ntungamo	200	300	-
Kanyogoga Farmers' Cooperative	Mubende	246	205	15 PWD
Arapai Grain Growers And Marketers' Multipurpose Cooperative	Soroti	83	26	-
Ojom Oculoi-Olwelai Joint Farmers' Cooperative Society Limited	Soroti	203	153	112 Youth
EJBFA Produce And Marketing Cooperative Society	Kumi	8	12	-
Namanyonyi Farmers' Cooperative	Mbale	170	150	45 Youth
Ndifakulya Kapyanga Farmers' Cooperative Society Limited	Bugiri	253	204	-
Kasita Kyowola Omwavu Growers Cooperative Society.	Bugiri	800	1200	-
Buzaaya Growers Cooperative Union Society.	Kamuli	936	3991	90 Youth
Bulubandi Farmers And Agro Processors Cooperative Society	Iganga	336	364	315 Youth
Kasanda Kwegatta Growers' Cooperative	Kasanda	76	217	28 Youth
Kasanda Maize Millers' Cooperative	Kasanda	237	173	102 Youth
Bala Women And Youth Cooperative Society	Lira	2383	794	477 Youth 318 PWD
Akalo Producers' Cooperative Society	Kole	204	196	90 Youth 10 PWD
Alito Joint Farmers Multipurpose Cooperative Ltd	Kole	5045	11770	10089 Youth 2522 PWD
Myek Women Farmers' Cooperative Society Limited	Lira	360	233	9 PWD
Nyeko Rac Community Farmers' Cooperative Society Limited	Lira	1915	1085	1026 Youth 73 PWD
Bulera Maize And Coffee Farmers' Cooperative Society Ltd	Mityana	-	-	1500 members in total
Kyabigondo Grain Producers Cooperative Limited	Masaka	285	315	65 Youth



3.2.2 Investment Projects Across the Crop Value Addition

Up-to 18 cooperatives and farmer groups performing crop value addition were engaged as displayed in the portfolios below.

3.2.3 Production Status

3.2.3.1 Bala Women and Youth Cooperative Society

Figure 10: Bala Women and Youth Cooperative Society maize processing plant.

Table 29: Bala Women and Youth Cooperative Society

Project Name	Bala Women and Youth Cooperative Society			
Contact person	Pastor Solomon Okirori			
Phone number	+256771446054			
GPS Coordinates	2.1919511 32.7499154 1044.0 5.0			
Project Description	The cooperative consists of 794 men and 2,383 women, including 477 youth and 318 persons living with disabilities. It owns and operates a maize processing plant located in Kole District, Northern Uganda.			
	The plant was established with an initial investment of USD 8,330 through grants from the Sasakawa Africa Association and the Ministry of Foreign Affairs of Japan.			
	The cooperative currently operates a maize and rice mill machine of 21.88 kW and a winnower machine of 1.5 kW. The plant handles 600 tonnes of maize annually, with machines running 24 hours a day throughout the year, though mainly during daytime.			
	Processed maize is sold at an average price of USD 0.44 per kilogramme. Monthly maintenance costs for the machinery are about USD 138.89.			
	The machines are powered by a diesel generator, with monthly fuel costs of approximately USD 4,208.62.			
	The plant has created 8 direct jobs and 2 indirect jobs.			
Project Risks	• Large expenses on fuel for the generator totaling 4,208.62 Per Month. This increases the cost of production.			
	Machine breakdown, which results into interruptions during processing			
Project Enablers	Provision of tractors for the farmers to boost agricultural production.			
·	• Establishment of training facilities for local farmers on modern methods of farming in order to increase their harvest.			
	 Increased supply of maize raw material from the local communities to increase processing capacity. 			
	 Providing for more favorable financing options for commercial manufacturers to acquire production technology. 			
Investment Needs	• 1 Cold room of 1 - 2 MT for storage of fruits & vegetables to mitigate post-harvest losses.			
	Need larger maize mill to handle more capacity of produce.			
	Solar dryer 0.5 MT to 1 MT			
	Need for a grid connection to overcome expenses on diesel genset			
	Access to markets through e-mobility Target famers: 3177			
Proposed Investment	Total: 257,200 USD			
Ticket Size	• Cold room: 3800-7,600 USD			
	Grid connection: 12,000 USD Solar drugs: 3,800,7600 USD			
	 Solar dryer: 3,800-7600 USD E-mobile vehicles: 100,000-230,000 USD 			
Proposed Investment	• Models:			
Structure	 » Lease to own, this is a very viable and feasible model to accelerate the acquisition of equipment that may not easily be paid for at once by the cooperatives. » Co-financing of production technology with the development partners and government. » Debt financing to increase affordability of processing technology. » Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time. 			
	• Instruments:			
	» Debt; Grant; Blended			
Potential Impact	Provision of alternative reliable and emissions free electricity.			
	Reduction of the monthly electricity bills because of solarization of the processing plant.			
	Increased revenue from increased production at low electricity costs.			
	Increase skilling to the farmers on modern methods of farming.			
	Creation of more jobs for all those involved in processing value chain.			
	Increased profit for farmers because of increased access to financing in production.			
	• CO ₂ emission savings of over 1.8 MT per month.			

3.2.3.2 Kanyogoga Farmer's Cooperative

Table 30: Kanyogoga Farmers' Cooperative

Project Name	Kanyogoga Farmers' Cooperative		
Contact person	Edward Kanyarugano		
Phone number	+256779484831		
GPS Coordinates	0.4162233333333333333333333333333333333333		
Project Description	The cooperative comprises 205 men, 246 women, and 15 persons living with disabilities. It owns and operates a maize processing factory located in Mubende District, Central Uganda.		
	The plant was established with a grant of USD 58,000 provided by the Government of Uganda.		
	It currently operates three machines: a mill (50 kW), a huller (40 kW), and a cleaning machine (70 kW). The plant handles about 1,000 tonnes per month, with machines running 12 hours daily throughout the year, mostly during daytime.		
	Processed maize is sold at an average of 800 kg per day at a price of USD 0.28 per kilogramme. Monthly maintenance costs are approximately USD 55.		
	The machines are powered by the national grid, with monthly energy expenses of about USD 555.		
	The plant employs about 1,335 people in its operations.		
Project Risks	High energy expenses totaling USD 555 Per Month. This increases the cost of production.		
	Machine breakdown, which halts the processing.		
	High operational costs amounting to USD 1257.		
Project Enablers	Acquiring more financing to expand the production capacity preferably grants.		
	Increasing the supply of maize from the community farmers.		
	 Opening a farmers shop to assist the farmers in easily getting the agricultural inputs like improved seeds and fertilizers. 		
Investment Needs	 Purchase of more processing equipment (maize mill-30MT/day, maize huller -3MT/day) to handle more maize produce. 		
	Acquisition of a yogurt making machine to add to the processing capability.		
	Target farmers: 451		
Proposed Investment	Total: 25,000 USD		
Ticket Size	Maize mill: 20,000 USDMaize huller: 5,000 USD.		
Proposed Investment	Models:		
Structure	» Lease to own business model.		
	» Co-financing from development partners and government for expensive equipment		
	Instruments:		
	» Debt; Grant; Blended		
Potential Impact	Reduction of the post-harvest losses for maize.		
	Increased food security in the local and external community.		
	Increased revenue because of increased production and supply capacity.		
	More jobs created both direct employment and indirect.		
	Increased incomes for smallholder farmers		

3.2.3.3 Buzaaya Growers Cooperative Union Society

Table 31: Buzaaya Growers Cooperative Union Society

Project Name	Buzaaya Growers Cooperative Union Society
Contact person	Isiko Stanslous
Phone number	+2567541333672
GPS Coordinates	0.810633 33.0543014 1025.0 4.2
Project Description	The cooperative consists of 3,991 men, 936 women, and 90 youth. It owns and operates a maize processing plant located in Kamuli District, Eastern Uganda. The plant was established with an initial investment of USD 555,556, supported by USAID and the Uganda Development Corporation.
	The plant currently operates a maize huller rated at 50 kW. It processes about 456 tonnes annually, with machines running 8 hours per day throughout the year, mostly during daytime.
	Processed maize is sold at an average of 3,100 kg per day at a price of USD 0.306 per kilogramme. Maintenance costs are reported to be negligible, as the machines rarely break down.
	Power is supplied by the national grid, with monthly energy expenses of about USD 1,187.21. The plant employs 18 staff.
Project Risks	High expenses on electricity totaling to USD 1,187.21 Per Month. This increases the cost of production.
	High operation costs amounting to USD 1389.
	Machine breakdown, which halts the processing.
Project Enablers	 Establishment of an agricultural laboratory for testing the quality of the produce. Increased maize production from the local community to provide more processing inputs. Providing for more favorable financing options for commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 55 kWp solar PV system) to minimize electricity costs. Acquisition of a solar drier (2 MT capacity) to assist in drying of their produce. Target farmers: 4927
Proposed	Total: USD 70,670.17
Investment Ticket Size	Purchase and installation of solar PV: USD 68,370.17 Purchase of a solar drier: 2300 USD.
Proposed Investment Structure	 Models: Lease to own model is a feasible model to ease acquisition of processing equipment and other technologies. Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time. Co-financing from development partners and the government to increase affordability of the expensive processing technology. Instruments: Debt; Grant; Blended
Potential Impact	 Provision of alternative reliable and cost-effective electricity. Reduction of post-harvest losses as a result of adoption of post-harvest handling technologies like solar driers. Reduction of the monthly electricity bills because of solarization of the processing plant. Increased revenue from increased production at low electricity costs. Creation of more jobs for all those involved in processing value chain. Increased profit for farmers because of mechanization of the agricultural production processes

Figure 11: Otuboi agro processing farmers' cooperative society limited maize processing plant.



3.2.3.4 Otuboi Agro-Processing Farmers' Cooperative Society Limited

Table 32: Otuboi Agro Processing Farmers' Cooperative Society Limited

Project Name	Otuboi Agro Processing Farmers' Cooperative Society Limited
Contact person	Obas William Weloka
Phone number	+256781092925/758316223
GPS Coordinates	1.8809796 33.2826115 1105.0 4.752
Project Description	The cooperative comprises 242 men and 325 women. It owns and operates a maize processing plant located in Kalaki District, Eastern Uganda.
	The plant was established with an initial investment of USD 126,944, secured through a Government of Uganda district commercial development office grant.
	The facility operates a drying rack, a maize mill machine (22.371 kW), and a huller (29.828 kW). The plant handles about 35 tonnes per week, with machines running 13 hours per day over a 5-month production season, mainly in the evenings.
	Processed maize is sold at an average of 3 tonnes per day at a price of USD 0.556 per kilogramme. Monthly maintenance costs are about USD 138.89.
	Power is supplied by the national grid, with energy costs of approximately USD 208.33 per month
	The plant employs 7 staff: 4 machine operators, 1 security guard, 1 store manager, and 1 cleaner.
Project Risks	 High expenses on electricity totaling to USD 2,044.50 per Month. This increases the cost of production.
	Machine breakdown, which halts the processing.
Project Enablers	• Increased maize production from the local community to provide more maize raw materials for the processing plant.
	 Providing more favorable financing options for commercial manufacturers to acquire production technology and alternative electricity supply that is solar PV.
Investment Needs	 Solarization of the processing plant (Estimated need of 53 kWp solar PV system) to minimize electricity costs.
	Purchase of 3 production machinery like tractors.
	Target farmers: 892
•	Total: USD 215,883.98
Ticket Size	 Purchase and installation of solar PV (53 kWp): USD 65,883.98 Purchase of production machinery like tractors: USD 150,000
Proposed Investment	Models:
Structure	 Co-financing business model to increase production technology equipment affordability. Lease to own model is a potentially feasible model to increase the affordability of the different production and processing technology equipment Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and cost-effective electricity.
	Reduction of the emissions through avoiding reliance on diesel generator
	Increased revenue from increased production at low electricity costs.
	Increased profits for farmers because of the mechanization of production.
	More jobs created along the agricultural supply chain

3.2.3.5 EJBFA Produce and Marketing Cooperative Society

Table 33: EJBFA produce and Marketing cooperative society

Project Name	EJBFA produce and Marketing cooperative society
Contact person	Oumo Daniel
Phone number	+256772375446
GPS Coordinates	1.4941026 33.9324652 1141.199951171875 4.0
Project Description	The cooperative consists of 12 men and 8 women. It owns and operates a maize processing plant located in Kumi District, Eastern Uganda.
	The plant was established with an initial investment of USD 83,333, raised through member contributions.
	The facility operates a maize huller (26 kW) and grinder (30 kW). It handles about 20 tonnes per month, with machines running 8 hours per day throughout the year, mostly during daytime.
	Processed maize is sold at an average of 500 kg per day at a price of USD 0.389 per kilogramme.
	The machines are powered by the national grid, with monthly energy expenses of about USD 1,277.34.
	The plant employs 20 staff.
Project Risks	 High expenses on electricity totaling to USD 1,277.34 Per Month. This increases the cost of production.
	Machine breakdown, which halts the processing.
Project Enablers	 Increased maize production from the local community to provide more maize raw materials for the processing plant.
	 Providing for more favorable financing options for commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 60 kWp solar PV system) to minimize electricity costs.
	Purchase of more production equipment like a large mill machine (30 MT/day).
	Target farmers: 20
	Total: USD 94.585.64
Ticket Size	 Purchase and installation of solar PV: USD 74,585.64 Purchase of large mill machine: USD 20,000
Proposed Investment	Models:
Structure	» Debt financing business model to increase the affordability of processing equipment.
	» Lease to own is also a potential solution to acquisition of costly assets like production machines and increases product affordability.
	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and cost-effective electricity.
	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.

3.2.3.6 Arapai Grain Growers and Marketers Multipurpose Cooperative

Table 34: Arapai Grain Growers and Marketer's Multipurpose Cooperative

Project Name	Arapai Grain Growers and Marketer's Multipurpose Cooperative
Contact person	Elabu Isaac
Phone number	+256773533254
GPS Coordinates	1.8531623 33.6265845 1104.0 4.859
Project Description	The cooperative consists of 83 men and 26 women. It owns and operates a maize processing factory located in Soroti District, Eastern Uganda.
	The factory was established with an initial cash investment of USD 1,653 raised by members.
	It operates two machines: a grinder and a mill, each rated at 11.76 kW. The facility handles about 43.6 tonnes per month, with machines running 12 hours daily throughout the year, mainly during evening hours.
	Processed maize is sold at an average of 10 kg per day at a price of USD 0.28 per kilogramme. Monthly maintenance costs are about USD 28.
	The machines are powered by a diesel generator using about 72 liters per day, with daily energy expenses of USD 91.49. Additional operating costs amount to about USD 8 per day.
Project Risks	 High expenses on purchasing fuel for the generator totaling to USD 2,744.75 Per Month. This increases the cost of production.
	Machine breakdown, which halts the processing.
	Relatively high operational costs amounting to USD 8 per day
Project Enablers	 Increased maize production from the local community to provide more maize raw materials for the processing plant.
	 Providing for more favorable financing options for commercial manufacturers to enhance productivity
Investment Needs	 Solarization of the processing plant (Estimated need of 30 kWp solar PV system) to minimize fuel costs and emissions.
	Purchase of bulk grinding machine(20MT/day).
	Target farmers: 110
	Total: USD 52,292.82
Ticket Size	 Purchase and installation of solar PV: USD 37,292.82 Purchase of bulk grinding machine: USD 15,000
Proposed Investment	Models:
Structure	 » Lease to own business model for the processing equipment » Energy as a service model for solarization of the processing plant. » Co-financing for the expensive production technology. » Debt financing model to ease affordability of the PURE technology.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and cost-effective electricity.
	Reduction of the emissions through avoiding reliance on diesel generator
	Increased revenue from increased production at low electricity costs.
	• CO ₂ emission savings of over 623 kg per month.

Figure 12: Maize milling with a diesel genset at Myek Women Farmers' Cooperative.





3.2.3.7 Myek Women Farmers' Cooperative Society Limited

Table 35: Myek Women Farmers' Cooperative Society Limited

Project Name	Myek Women Farmers' Cooperative Society Limited
Contact person	Ogwang Isaac
Phone number	None
GPS Coordinates	2.2900016 33.0344074 1106.0 5.0
Project Description	The cooperative consists of 233 men and 360 women, including 9 persons with disabilities. It owns and operates a maize processing plant located in Lira District, Northern Uganda.
	The plant was established with an initial investment of USD 62,500, raised through member contributions and donations.
	The facility operates a maize mill and huller, each rated at 25 kW. It processes about 13 tonnes annually, with machines running 8 hours per day throughout the year, mostly during morning hours.
	Processed maize is sold at an average of 8,000 kg per day at a price of USD 0.556 per kilogramme. Monthly maintenance costs are approximately USD 69.4.
	Power is supplied by a diesel generator, with monthly fuel expenses of about USD 3,831.22.
	The plant employs 7 staff and has created about 12 indirect jobs.
Project Risks	• Relatively high expenses on fuel for the generator total USD 3,831.22 per month. This increases the cost of production.
	Increased levels of pollution from the use of Diesel generator.
	Machine breakdown, which results into interruptions during processing.
Project Enablers	 Increased supply of maize raw material from the local communities to increase processing capacity.
	 Providing more favorable financing options for commercial manufacturers to acquire production equipment.
	Implementation of training and capacity building programs for farmers.
	Government interventions like providing tax waivers on production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 55 kWp solar PV system) to minimize fuel costs and carbon emissions.
	Establishment of local storage facilities for agricultural produce and processed goods.
	Target farmers: 593
Proposed Investment Ticket Size	Total: USD 68,370.17
	Purchase and installation of solar PV: USD 68,370.17
Proposed Investment Structure	
Structure	» Debt financing especially for the expensive PURE technology.
	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and emissions free electricity.
	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	 Reduction of post-harvest and post processing losses as a result of construction of storage facilities for proper handling of the produce and processed products.
	Creation of more jobs for all those involved in processing value chain.
	 Increased profit for farmers due to increased supply of agricultural produce to processing plant. CO₂ emission savings of over 130 kg per month.

3.2.3.8 Akalo Producers' Cooperative Society

Table 36: Akalo Producers' Cooperative Society

Project Name	Akalo Producers' Cooperative Society
Contact person	Otana Moses
Phone number	+256788182339
GPS Coordinates	2.1525612 32.8220595 1071.0 4.6
Project Description	The cooperative consists of 196 men and 204 women, including 90 youth and 10 persons with disabilities. It owns and operates a maize processing plant located in Kole District, Northern Uganda.
	The plant was established with an initial investment of USD 142,500, supported by grants from the United States African Development Foundation and the Government of Uganda.
	It operates a maize mill and cassava chipper, each rated at 14.71 kW. The facility handles about 50 tonnes annually, with machines running 9 hours per day throughout the year, mostly during daytime.
	Processed products are sold at an average of 15,000 kg per day at a price of USD 0.56 per kilogramme. Monthly maintenance costs are about USD 277.77.
	Power is supplied by a diesel generator, with monthly fuel expenses of about USD 2,401.66.
	The plant employs 8 staff and has created about 24 indirect jobs.
Project Risks	 Large expenses on fuel for the generator totaling USD 2,401.66 Per Month. This increases the cost of production.
	Machine breakdown, which results into interruptions during processing.
Project Enablers	 Increased supply of maize raw material from the local communities to increase processing capacity.
	 Providing more favorable financing options for commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 30 kWp solar PV system) to minimize fuel costs and carbon emissions.
	Purchase of an additional maize milling machine (10 MT/day).
	Purchase of an oil processing machine (15 kg/hr. of raw materials)
	Purchase of a transportation vehicle.
	Target farmers: 400
Proposed Investment Ticket Size	Total: USD 49,292.82
TIORCE OIZE	Purchase and installation of a solar PV system: USD 37,292.82 Purchase of an additional region million machine. USD 10,000.
	 Purchase of an additional maize milling machine: USD 10,000 Purchase of an oil processing machine: USD 2000
Dranged Investment	
Proposed Investment Structure	 Models. Co-financing models especially for the expensive technology.
	 Lease to own, this is a very viable and feasible model to accelerate the acquisition of
	equipment that may not easily be paid for at once by the cooperatives.
	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts at one-time.
	Instruments:» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and emissions free electricity.
r otential impact	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	• Ease of transportation of agricultural produce to the processing plant because of acquisition of transportation means
	Creation of more jobs for all those involved in processing value chain.
	• Increased profit for farmers due to increased supply of agricultural produce to processing plant.
	• CO ₂ emission savings of over 450 kg per month.

3.2.3.9 Kasita Kyowola Omwavu Growers Cooperative Society

Table 37: Kasita Kyowola Omwavu Growers cooperative society

Project Name	Kasita Kyowola Omwavu Growers cooperative society
Contact person	Mataala Twahiri Mwasse
Phone number	+256756 251671
GPS Coordinates	0.5653128 33.7528498 1119.699951171875 4.26
Project Description	The cooperative consists of 1,200 men and 800 women. It owns and operates a maize and oilseed processing plant located in Bugiri District, Eastern Uganda.
	The plant was established with an initial investment of USD 416,667, funded through government donations.
	It operates a maize huller (30 kW), rice huller (26 kW), maize mill (30 kW), and rice mill (26 kW). The facility handles about 40 tonnes per season, with machines running 12 hours daily throughout the year, mostly during daytime.
	Processed products are sold at an average of 1,333 kg per day at a price of USD 0.42 per kilogramme. Monthly maintenance costs are about USD 416.67.
	Power is supplied by the national grid, with monthly energy expenses of about USD 4,278.23. The plant employs 150 staff.
Project Risks	High expenses on electricity totaling to USD 4,278.23 Per Month. This increases the cost of production.
	Limited supply of agricultural raw materials.
	Machine breakdown, which halts the processing.
Project Enablers	Establishment of more agricultural input selling points to ease agricultural production work.
	 Increased maize and rice production from the local community to provide more processing inputs.
	 Providing for more favorable financing options for commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 120 kWp solar PV system) to minimize electricity costs.
	Target farmers: 2000
	Total: USD 149,171.27
Ticket Size	Purchase and installation of solar PV system: USD 149,171.27
Proposed Investment	
Structure	» Debt financing to increase the affordability of the expensive processing equipment.
	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	» Co-financing from the development partners and the government to increase equipment affordability.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and cost-effective electricity.
	• Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	Creation of more jobs for all those involved in processing value chain.
	Increased profit for farmers because of mechanization of the agricultural production processes

3.2.3.10 Bulubandi Farmers and Agro-Processors Cooperative Society

Table 38: Bulubandi Farmers and agro Processors Cooperative Society

Project Name	Bulubandi Farmers and agro Processors Cooperative Society
Contact person	Kyeyago Ismail
Phone number	+256772400870
GPS Coordinates	0.6041086 33.4896113 1108.0 4.603
Project Description	The cooperative consists of 364 men and 336 women, including 315 youth and 70 persons with disabilities. It owns and operates a maize and rice processing plant located in Iganga District, Eastern Uganda.
	The plant was established with an initial investment of USD 125,000, raised through member contributions and government grants.
	It operates a maize huller (6.64 kW), rice huller (6.64 kW), and maize mill (6.64 kW). The facility handles about 70 tonnes in the first season and 40–50 tonnes in the second season, with machines running 8 hours daily for 4 months per year, mostly during daytime.
	Processed products are sold at an average of 400 kg per day at a price of USD 0.472 per kilogramme. Monthly maintenance costs are approximately USD 97.2.
	Power is supplied by the national grid, with monthly energy expenses of about USD 522.37.
	The plant employs 30 staff.
Project Risks	 High expenses on electricity totaling to USD 522.37 per Month. This increases the cost of production.
	Machine breakdown, which halts the processing.
Project Enablers	Establishment of local storage facilities for harvest to reduce post-harvest losses.
	Increased supply of maize raw material to increase processing capacity.
	 Providing for more favorable financing options for farmers during production and commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 22 kWp solar PV system) to minimize electricity costs.
	Target farmers: 700
Proposed Investment	Total: USD 27,348.07
Ticket Size	Purchase and installation of solar PV system: USD 27,348.07
Proposed Investment	Models:
Structure	» Co-financing from the donors and development partners to increase product affordability.
	» Debt financing for the expensive processing technological equipment.
	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and cost-effective electricity.
	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	Creation of more jobs for all those involved in processing value chain.
	Increased profit for farmers because of increased access to financing in production.

3.2.3.11 Ndifakulya Kapyanga Farmers' Cooperative Society Limited

Table 39: Ndifakulya Kapyanga Farmers' Cooperative Society Limited

Project Name	Ndifakulya Kapyanga Farmers' Cooperative Society Limited
Contact person	Oboth Silive
Phone number	+256706022805
GPS Coordinates	0.5729241 33.7456601 1118.2999267578125 4.966
Project Description	The cooperative consists of 204 men and 253 women. It owns and operates a maize and soybean processing plant located in Bugiri District, Eastern Uganda.
	The plant was established with an initial investment of USD 22,222, funded through donations by UNDP and support from the Government of Uganda under the Ministry of Agriculture, Animal Industry and Fisheries.
	It operates a huller rated at 30 kW and a mill rated at 25 kW. The facility processes about 2 tonnes of maize and soybeans per day, with machines running 7 hours daily throughout the year, mostly during daytime.
	Processed flour is sold at an average of 200 kg per day, at prices of USD 0.44 per kilogramme of maize flour and USD 0.97 per kilogramme of soybean flour. Monthly maintenance costs are about USD 83.33.
	Power is supplied by the national grid, with monthly energy expenses of about USD 1,145.14.
	The plant employs 50 staff.
Project Risks	 High expenses on electricity totaling to USD 1,145.14 Per Month. This increases the cost of production.
	Machine breakdown, which halts the processing.
Project Enablers	 Increased maize and soyabean production from the local community to provide more processing inputs.
	 Providing more favorable financing options for commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 55 kWp solar PV system) to minimize electricity costs.
	 Purchase of agro machinery i.e. 3 tractors(50hp) to boost production of maize and soyabean Target farmers: 457
Proposed Investment	Total: USD 218,370.17
Ticket Size	Purchase and installation of solar PV: USD 68,370.17
	Purchase of tractors: USD 150,000
Proposed Investment	• Models:
Structure	» Lease to own is also a potential solution to acquisition of costly assets like production machines and increases product affordability.
	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	» Debt financing especially for the expensive equipment.
	Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and cost-effective electricity.
	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	Increased profit for farmers because of mechanization of the agricultural production processes

3.2.3.12 Ojom Oculoi-Olwelai Joint Farmers' Cooperative Society Limited

Table 40: Ojom Oculoi-Olwelai Joint Farmers' Cooperative Society Limited

Project Name	Ojom Oculoi-Olwelai Joint Farmers' Cooperative Society Limited
Contact person	Esuju James
Phone number	+256744191832
GPS Coordinates	1.8380893 33.5771805 1074.0 5.0
Project Description	The cooperative consists of 153 men and 203 women, including 112 youth. It owns and operates a maize processing plant located in Soroti District, Eastern Uganda.
	The plant was established with an initial investment of USD 8,333, raised through member contributions and grants.
	It operates a maize mill rated at 14.914 kW and a solar dryer. The facility handles about 10 tonnes per month, with machines running 5 hours daily throughout the year, mostly during evening hours.
	Processed maize is sold at an average of 140 kg per day at a price of USD 0.194 per kilogramme. Monthly maintenance costs are about USD 33.33.
	Power is supplied by a diesel generator, consuming about 20 liters per day, with daily energy expenses of USD 25.
	The plant employs 2 direct staff.
Project Risks	 High expenses on purchasing fuel for the generator totaling to USD 24.02 per day. This increases the cost of production.
	Lack of reliable transportation means for the products.
	Machine breakdown, which halts the processing.
Project Enablers	• Increased maize production from the local community to provide more maize raw materials for the processing plant.
	 Providing for more favorable financing options for commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 16 kWp solar PV system) to minimize fuel costs and emissions.
	Purchase of 2 vehicles to transport the produce.
	Target farmers: 356
Proposed Investment	Total: USD 119,889.50
Ticket Size	Purchase and installation of solar PV: USD 19,889.50
	Purchase of vehicles for transportation of produce: USD 100,000
Proposed Investment	Models:
Structure	» Co-financing business model works especially for the expensive equipment.
	» Debt financing to ease affordability of the PURE technology.
	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying one-time huge amounts.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and cost-effective electricity.
	Reduction of the emissions through avoiding reliance on diesel generator.
	Increased revenue from increased production at low electricity costs.
	CO ₂ emission savings of over 830 kg per month





Figure 13: Nyakihanga fruits and vegetables processing plant.

3.2.3.13 Nyakihanga Fruits and Vegetables Growers Cooperative Society Limited

Table 41: Nyakihanga Fruits and vegetables Growers Cooperative Society Limited

Table 41: Nyakihanga	Fruits and vegetables Growers Cooperative Society Limited
Project Name	Nyakihanga Fruits and vegetables Growers Cooperative Society Limited
Contact person	Rachkara Alan Sadicki
Phone number	+256786380914
GPS Coordinates	-0.757756666666667 30.309618333333333 1446.5 4.0
Project Description	The cooperative consists of 300 men and 200 women. It owns and operates a fruit processing factory located in Ntungamo District, Western Uganda. The factory is owned by the Government of Uganda, which invested USD 2,800,000 in its establishment.
	The facility operates a pulper, pasteuriser, automatic filling machine, capping machine, and homogeniser, each rated at 180 kW. It handles about 12 tonnes per season, with machines running 24 hours per day for 7 months annually, mostly during daytime.
	Processed products are sold at an average of 50 cartons per day at a price of USD 2.5 per carton. Monthly maintenance costs are about USD 1,388.9.
	Power is supplied by the national grid, with monthly energy expenses of about USD 8,984.29. The plant employs 4 staff and has created about 20 indirect jobs.
Project Risks	 High energy expenses totaling USD 8984.29 per Month. This increases the cost of production. Machine breakdown, which halts the processing. High operational costs amounting to USD 416.7.
Project Enablers	 Acquiring more financing to expand the production capacity preferably grants. Increasing the supply of maize from the community farmers. Opening a farmers shop to assist the farmers in easily getting the agricultural inputs like improved seeds and fertilizers.
Investment Needs	 Purchase of more upgraded fruit processing equipment (1 MT/hr) to handle more fruit produce. Solarization of the processing plant (estimated size 500 kW) Target farmers: 500
Proposed Investment Ticket Size	Total: USD 577,955 • Fruit processing equipment: USD 60,000 • Solar PV system: USD 517,955.80
Proposed Investment Structure	 Models: Equity financing from the private investors to increase working capital and affordability of the PURE solutions. Lease to own a business model for the expensive technologies. Energy as a service for solarization of the processing plant. Instruments: Equity
Potential Impact	 Reduction of the post-harvest losses for fruits. Increased revenue because of increased production and supply capacity. More jobs created both direct employment and indirect. Increased incomes for smallholder farmers.

3.2.3.14 Kasanda Maize Millers' Cooperative

Table 42: Kasanda Maize Millers' Cooperative

Project Name	Kasanda Maize Millers' Cooperative
Contact person	Ssenanoba Moses
Phone number	+256752492834
GPS Coordinates	0.5500722 31.8198517 1233.5 4.729
Project Description	The cooperative consists of 173 men and 237 women, including 102 youth and 5 persons with disabilities. It owns and operates a maize processing plant located in Kassanda District, Central Uganda.
	The plant was established with an initial investment of USD 4,450, raised through member contributions and support from the Government of Uganda and Caritas Uganda.
	It operates a maize huller rated at 40 kW and a maize mill rated at 50 kW. The facility handles about 7,500 tonnes per season, with machines running 12 hours per day throughout the year, mostly during daytime.
	Processed maize is sold at an average of 50 kg per day at a price of USD 0.56 per kilogramme. Monthly maintenance costs are about USD 111.11.
	Power is supplied by the national grid, with monthly energy expenses of about USD 3,565.19.
	The plant employs more than 5 staff.
Project Risks	 Large expenses on electricity totaling USD 3,565.19 Per Month. This increases the cost of production.
	Machine breakdown, which results in interruptions during processing.
Project Enablers	Establishment of a local shop for inputs for farmers.
	 Increased supply of maize raw material from the local communities to increase processing capacity.
	 Providing for more favorable financing options for farmers during production and commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 100 kWp solar PV system) to minimize electricity costs.
	 Purchase of more processing machines (Maize huller, Mill (30MT/day) and others) Target farmers: 410
Proposed Investment	Total: USD 144,309.39
Ticket Size	Purchase and installation of solar PV: USD 124,309.39
	Purchase of a maize mill machine: USD 20,000
Proposed Investment	• Models:
Structure	» Lease to own, this is a very viable and feasible model to accelerate the acquisition of equipment that may not easily be paid for at once by the cooperatives.
	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	» Co-financing from donors and development partners.
	» Debt financing especially for the expensive production technology.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and cost-effective electricity.
	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	• Easy acquisition of farm inputs like fertilizers by the farmers because of the establishment of a farm input shop, which increases agricultural production.
	Creation of more jobs for all those involved in processing value chain.
	Increased profit for farmers because of increased access to financing in production.



Figure 14: Maize processing plant Nyeko Rac Community Farmers' Cooperative Society Limited.

3.2.3.15 Nyekorak Community farmers 'cooperative society Limited

Table 43: Nyeko Rac Community Farmers' Cooperative Society Limited

Project Name	Nyeko Rac Community Farmers' Cooperative Society Limited
Contact person	Opio Denis
Phone number	+256775875098
GPS Coordinates	2.2457068828279554 32.89683127386022
Project Description	The cooperative consists of 1,085 men and 1,915 women, including 1,026 youth and 73 persons with disabilities. It owns and operates a maize and oilseed processing plant located in Lira District, Northern Uganda.
	The plant was established with an initial investment of USD 250,000, funded through grants from the United States African Development Foundation and the Ministry of Finance.
	It operates a maize mill rated at 153 kW, a cleaner (10 kW), grader (4 kW), oil extractor (7 kW), oil cleaner (1.5 kW), and oil filter (1.5 kW). The facility processes about 200 tonnes of maize and 300–400 tonnes of oilseeds annually, with machines running 8 hours per day throughout the year, mostly during night hours.
	Processed products are sold at an average of 198 kg of maize flour per day at USD 0.42 per kilogramme, and 300–390 tonnes of oil at USD 1.67 per liter. Monthly maintenance costs are about USD 125.
	Power is supplied by the national grid, with monthly energy expenses of about USD 1,053. The plant employs 15 staff and has created about 3,000 indirect jobs.
Project Risks	Relatively high expenses on electricity totaling USD 125 Per month. This leads to high production costs
	Interruptions due to production machine breakdown.
Project Enablers	 Increased supply of maize and oil seed raw materials from the local communities to increase processing capacity.
	 Providing more favorable financing options for commercial manufacturers to acquire production equipment.
	$\bullet \ \ \text{Establishment of linkages between processors and marketing platforms like ecommerce platforms}.$
	Government incentives like providing tax waivers on production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 157.5kWp solar PV system) to minimize fuel costs and carbon emissions.
	Target farmers: 3000
•	Total: USD 195,787.29
Ticket Size	Purchase and installation of solar PV (157.5 kWp): USD 195,787.29
Proposed Investment	Models:
Structure	 Co-financing from development partners and donors to increase PURE technology affordability. Lease to own option is a viable option to ease acquisition of the production equipment. Energy as a service is also a feasible option to cater for the energy needs since it doesn't involve paying one-time huge amounts.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	Creation of more jobs for all those involved in processing value chain.
	Increased profit for farmers due to increased supply of agricultural produce to processing plant.

3.2.3.16 Namanyonyi Farmers' Cooperative

Table 44: Namanyonyi Farmers' Cooperative

Project Name	Namanyonyi Farmers' Cooperative
Contact person	Manana Bashir
Phone number	+256783417543
GPS Coordinates	1.0889913 34.179607 1109.7999267578125 4.262
Project Description	The cooperative consists of 150 men and 170 women, including 45 youth. It owns and operates a maize processing plant located in Mbale District, Eastern Uganda.
	The plant was established with an initial investment of USD 166,667, obtained through government grants and crowdfunding.
	It operates a maize mill rated at 50 kW. The facility processes about 340 tonnes per month, with machines running 14 hours per day throughout the year, mostly during daytime.
	Processed products are sold at an average of 280,000 kg of maize flour and 800 kg of maize bran per day, at prices of USD 0.389 per kilogramme and USD 0.194 per kilogramme respectively. Monthly maintenance costs are about USD 138.89.
	Power is supplied by the national grid, with monthly energy expenses of about USD 2,288.32.
	The plant employs 16 staff.
Project Risks	High expenses on electricity totaling USD 2,288.32Per Month. This increases the cost of production.
	Machine breakdown, which halts the processing.
Project Enablers	• Increased maize production from the local community to provide more maize raw materials for the processing plant.
	 Providing for more favorable financing options for commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 55 kWp solar PV system) to minimize electricity costs.
	 Purchase of more production equipment like large mill machine (30 MT/day). Target famers: 320
Proposed Investment	Total: USD 88,370.17
Ticket Size	Purchase and installation of solar PV: USD 68,370.17
	Purchase of large mill machine: USD 20,000
Proposed Investment Structure	 Models: Co-financing from the development partners and the government. Debt financing to increase affordability of processing technology. Lease to own is also a potential solution to acquisition of costly assets like production machines and increases product affordability. Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	Instruments:
	» Debt; Grant; Blended
Potential Impact	 Provision of alternative reliable and cost-effective electricity. Reduction of the monthly electricity bills because of solarization of the processing plant. Increased revenue from increased production at low electricity costs.

3.2.3.17 Alito Joint Farmers Multipurpose Cooperative Ltd

Table 45: Alito Joint Farmers Multipurpose Cooperative Ltd

Project Name	Alito Joint Farmers Multipurpose Cooperative Ltd
Contact person	Achuku Jennifer
Phone number	+256777673951
GPS Coordinates	2.3575518 32.850495 1051.0 5.0
Project Description	The cooperative consists of 11,770 men and 5,045 women, including 10,089 youth and 2,522 persons with disabilities. It owns and operates a maize processing plant located in Kole District, Northern Uganda.
	The plant was established with an initial investment of USD 55,556, supported by grants from SNV, PALEDIA, and the Government of Uganda.
	It operates a maize mill rated at 30 kW and two oil processing machines rated at 26 kW and 20 kW respectively. The facility handles about 58 tonnes per season, with machines running 8 hours per day for 6 months each year, mostly during daytime.
	Processed products are sold at an average of 20,000 kg per day at a price of USD 0.694 per kilogramme. Monthly maintenance costs are about USD 277.77.
	Power is supplied by a diesel generator, with monthly fuel expenses of about USD 7,892.30.
	The plant employs 22 staff and has created about 30 indirect jobs.
Project Risks	• Large expenses on fuel for the generator total USD 7,892.30 Per month. This increases the cost of production.
	Increased levels of pollution from the use of Diesel generator.
	Machine breakdown, which results into interruptions during processing.
Project Enablers	 Increased supply of maize raw material from the local communities to increase processing capacity.
	 Providing more favorable financing options for commercial manufacturers to acquire production equipment.
	Government interventions like providing tax waivers on production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 110 kWp solar PV system) to minimize fuel costs and carbon emissions.
	Purchase of a transportation vehicle.
	Target farmers: 16000
•	Total: USD 156,740.33
Ticket Size	Purchase and installation of a solar PV system: USD 136,740.33
	Purchase of a transportation vehicle: 20,000
Proposed Investment Structure	
Structure	» Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying huge amounts one-time.
	» Co-financing to increase the affordability of technological processing equipment.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative reliable and emissions free electricity.
. I some mipace	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	• Ease of transportation of agricultural produce to the processing plant because of acquisition of transportation means
	Creation of more jobs for all those involved in processing value chain.
	• Increased profit for farmers due to increased supply of agricultural produce to processing plant.
	• CO ₂ emission savings of over 2.7 MT per month.

3.2.3.18 Bulera Maize and Coffee Farmers' Cooperative Society Ltd

Table 46: Bulera Maize And Coffee Farmers' Cooperative Society Ltd

Project Name	Bulera Maize And Coffee Farmers' Cooperative Society Ltd
Contact person	Ssekandi Hudson
Phone number	+256772472817
GPS Coordinates	0.3998599 32.0427747 1244.5 4.385
Project Description	The cooperative consists of 1,500 members, though gender and age distribution is not specified. It owns and operates a maize processing plant located in Mityana District, Central Uganda.
	The plant was established with an initial investment of USD 16,667, raised through member contributions and donations.
	It operates a maize mill rated at 50 kW and a maize huller rated at 30 kW. The facility handles about 600 tonnes annually, with machines running 10 hours per day throughout the year, mostly during daytime.
	Processed maize is sold at an average of 167 kg per day at a price of USD 0.556 per kilogramme. Monthly maintenance costs are about USD 115.56.
	Power is supplied by the national grid, with monthly energy expenses of about USD 2,887.81.
	The plant has created over 100 jobs.
Project Risks	High expenses on electricity totaling USD 2,887.81 Per month. This increases the cost of production.
	Machine breakdown, which results in interruptions during processing.
Project Enablers	 Increased supply of maize raw material from the local communities to increase processing capacity.
	Provision of advanced training for farmers to increase production
	Government interventions like providing tax waivers on production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 90 kWp solar PV system) to minimize fuel costs and carbon emissions.
	Establishment of local storage facilities for agricultural produce and processed goods.
	Purchase of a car for transportation of their products.
	Target farmers: 1500
Proposed Investment Ticket Size	Total: USD 111,878.45
	Purchase and installation of solar PV: USD 111,878.45
Proposed Investment Structure	
Ottablato	 Debt financing with long-term payment to increase affordability. Energy as a service is a feasible option to cater for energy needs since it doesn't involve
	paying huge amounts one time.
	• Instruments:
	» Debt; Grant; Blended
Potential Impact	Provision of alternative free electricity.
	Reduction of the monthly electricity bills because of solarization of the processing plant.
	Increased revenue from increased production at low electricity costs.
	 Reduction of post-harvest and post processing losses as a result of construction of storage facilities for proper handling of the produce and processed products.
	Creation of more jobs for all those involved in processing value chain.
	 Increased profit for farmers due to increased supply of agricultural produce to processing plants.





Figure 15: Kasanda Kwegatta Growers' Cooperative maize milling plant.

3.2.3.19 Kasanda Kwegatta Growers' Cooperative

Table 47: Kasanda Kwegatta Growers' Cooperative

Project Name	Kasanda Kwegatta Growers' Cooperative
Contact person	Gilbert Nilinjiyeman
Phone number	+256740690288
GPS Coordinates	0.5499868 31.8197967 1233.0 4.933
Project Description	The cooperative consists of 217 men and 76 women, including 28 youth and 5 persons with disabilities. It owns and operates a maize processing plant located in Kassanda District, Central Uganda.
	The plant was established with an initial investment of USD 166,667, funded through government grants.
	It operates a maize huller and a maize mill, each rated at 30 kW. The facility handles about 40 tonnes annually, with machines running 11 hours per day throughout the year, mostly during daytime.
	Processed maize is sold at an average of 100 kg per day during holidays and 1,000 kg per day during school terms, at a price of USD 0.5 per kilogramme. Monthly maintenance costs are about USD 69.4.
	Power is supplied by the national grid, with monthly energy expenses of about USD 1,967.99.
	The plant employs more than 5 staff, including a manager, cashier, and operators.
Project Risks	Large expenses on electricity totaling USD 500 Per Month. This increases the cost of production.
	High operational costs which amount to USD 1,967.99
	Machine breakdown, which results in interruptions during processing
Project Enablers	Establishment of local storage facilities for harvest to reduce post-harvest losses.
	 Increased supply of maize raw material from the local communities to increase processing capacity.
	 Providing for more favorable financing options for farmers during production and commercial manufacturers to acquire production technology.
Investment Needs	 Solarization of the processing plant (Estimated need of 65 kWp solar PV system) to minimize electricity costs.
	Purchase of more processing machines (Maize Mill (20MT/day)
	Purchase a tractor and 2 transportation vehicles.
	Target farmers: 293
Proposed Investment	Total: USD 95,801.10
Ticket Size	Purchase and installation of a solar PV system: USD 80,801.10
	Purchase of a Maize mill: USD 15,000

Project Name	Kasanda Kwegatta Growers' Cooperative
Proposed Investment Structure	 Models: » Debt financing for the expensive technology. » Lease to own, this is a very viable and feasible model to accelerate the acquisition of equipment that may not easily be paid for at once by the cooperatives. » Energy as a service is also a feasible option to cater for energy needs since it doesn't involve paying one-time huge amounts. • Instruments:
	» Debt; Grant; Blended
Potential Impact	 Provision of alternative reliable and cost-effective electricity. Reduction of the monthly electricity bills because of solarization of the processing plant. Increased revenue from increased production at low electricity costs. Easy aggregation of the farm produce as a result of acquisition of reliable transportation means for the farm produce. Creation of more jobs for all those involved in processing value chain. Increased profit for farmers because of increased access to financing in production.





3.3 Fish production

3.3.1 Summary of Farmer Groups

Table 48: Summary of farmer groups / cooperatives surveyed during field visits.

Farmer Group / Cooperative	District	Female Members	Male Members	Other
Omarii Women's Group	Soroti	29	1	-
Ngora Town Council Fish Farming Association	Ngora	1	11	-
Kacilun Fish Farmers Group	Kumi	11	10	1 PWD
Lunyolya Fisheries Association	Mityana	15	20	5 PWD
Buwama Aquatic Fisheries Cooperative		8	22	-
Mpigi Fish Farmers Association	Mpigi	17	28	-
Homa Farms Limited	Gulu	4	2	-
Agali Fish Farmers Association	Lira	48	12	-
Lapetie Pewal Fish Mongers	Amur	53	1	2 Youth, 3 PWD

3.3.2 Investment Projects Across the Priority Value Chains

Up-to 9 cooperatives and farmer groups visited were engaged in fish production as described below.

3.3.2.1 Ngora Town Council Fish Farming Association

Table 49: Ngora Town Council Fish Farming Association

Project Name	Ngora Town Council Fish Farming Association
Contact person	Malinga Micheal
Phone number	+256776146406
GPS Coordinates	1.4572141 33.7748989 1099.199951171875 4.886
Project Description	The association consists of 12 members, including 11 men and 1 woman. It operates in Ngora District, Eastern Uganda.
	The group collectively owns 36 catfish ponds, each measuring 120 m², with individual members managing 3 ponds each. Initial investment per pond was about UGX 2,250,000.
	Annual harvests total about 14.4 metric tonnes, generating revenues of approximately UGX 72,000,000. Water needs are estimated at 360,000 liters per day, supplied from a swamp through petrol pumps.
	Key investment needs include cooling, drying, processing, and improved water pumping systems.
	The cooperative has created 10 jobs across its operations.
Investment Needs	Cold room for storage of fish for up-to 5 MT of produce.
	Drying of fish (2 - 3 MT Dryer)
	Water pumping
	Target farmers: 12
Proposed Investment	• Cold room: 19,000 USD
Ticket Size	Solar dryer: USD 7,700.00
Investment Structure	• Leased to market aggregators and distributors who can lease the cold room with the aim to own it.
Impact	• 12 farmers impacted
	Potential to tap into the export market with minimal PHL.
Enablers	Large quantities produced therefore it is possible to scale PURE initiatives here.

3.3.2.2 Kacilun Fish Farmers Group

Table 50: Kacilun Fish Farmers Group

Project Name	Kacilun Fish Farmers Group
Contact person	Akukudo Gresim
Phone number	+256777265915
GPS Coordinates	1.3700511 33.8906505 1082.0 5.0
Project Description	The cooperative is located in Kumi District, Eastern Uganda. It has 21 members, including 11 women, 10 men, and 1 person with a disability.
	Members mainly farm catfish in ponds ranging from 200 m² to 600 m² each. On average, every farmer manages about 14 ponds, with a seasonal harvest of 4.6 metric tonnes per farmer, generating revenues of over UGX 23,000,000 per season.
	Initial investment per pond was about UGX 5,700,000. Water needs are estimated at 1,170,000 liters per day, drawn from swamps using petrol pumps.
	Key investment needs include cooling and canning facilities for export. The cooperative has created about 60 jobs across its operations.
Investment Needs	 Cold room for fish preservation (10 MT) Solar water pumps: 2-3 kW per farmer for 10 farmers Target farmers: 21
Proposed Investment Ticket Size	• Cold-room: USD 38,000 • Pumping: USD 22,000 – 34,000
Investment Structure	Leased to the cooperative as the aggregator with an aim to own it.
Impact	 Potential for increased job creation or job sustenance for the existing 60 jobs Potential for tapping into export market thus further enhancing farmer revenues. CO₂ emission savings of over 957 kg per month.
Enablers	Highly efficient group with large production.Highly inclusive group gender wise



Figure 16: Some of the petrol pumps used in the community.





Figure 17: Fishing ponds at Buwama fisheries cooperative

3.3.2.3 Buwama Aquatic Fisheries Cooperative

Table 51: Buwama Aquatic Fisheries Cooperative

Project Name	Buwama Aquatic Fisheries Cooperative
Contact person	Kiyingi Peter
Phone number	+256703846385
GPS Coordinates	0.066666 32.103038 1170.2999267578125 5.0
Project Description	The cooperative is located in Mpigi District, Central Uganda. It has 30 members, including 8 women and 22 men.
	Members farm catfish, harvested twice a year. The group collectively operates a 360 m² pond, established with an investment of about UGX 6,000,000. Seasonal harvests range between 2 and 3 metric tonnes, generating revenues of over UGX 20,000,000 per farmer per season.
	Water needs are estimated at 14,000 liters per day, supplied through a solar-powered pumping system and river water.
	The greatest investment need is cooling for fish preservation. The cooperative has created 5 jobs.
Investment Needs	 Cold room (5MT) to cater for the preservation of fish Target farmers: 30
Proposed Investment Ticket Size	Solar Powered cold room: USD 19,000
Investment Structure	Lease to own agreement for cold-room
Impact	Potential for increased farmer revenues and food security due to large production.
Enablers	Highly productive group with potential for tapping into export market.

3.3.2.4 Lapetie Pewal Fish Monger

Table 52: Lapetie Pewal Fish Mongers

Project Name	Lapetie Pewal Fish Mongers
Contact person	Angewo Christine Okumu
Phone number	0779947855
GPS Coordinates	2.9996394 32.1424927 1025.0 5.0
Project Description	The cooperative is located in Amuru District, Northern Uganda. It has 54 members, including 53 women, 1 man, 2 youth, and 3 persons with disabilities.
	The group primarily trades catfish, handling about 100 kg daily. It also owns a 300 m² pond harvested twice a year. However, post-harvest losses account for about 10 kg of fish per season.
	Daily water needs are estimated at 150,000 liters, drawn from a river using a diesel-powered pump.
Investment Needs	Cooling system: 1 MT refrigerator
	Water pumping system: 3 kW
	Target beneficiaries: 54
Proposed Investment	Refrigerator: USD 10,000
Ticket Size	Water pumping system: USD 3,400
Investment Structure	Cash payment for cooling system
	3 structured installments for pumping system
Impact	Reduced post-harvest losses and increased farmer revenue especially among women who make up the group
Enablers	The group's incomes are not seasonal and there is high potential for growth.

3.3.2.5 Mpigi Fish Farmers Association

Table 53: Mpigi Fish Farmers Association

Duning the Name	Mului Fish Farmana Association
Project Name	Mpigi Fish Farmers Association
Contact person	Saalinge Tattu
Phone number	+256759381881
GPS Coordinates	0.075928333333333333333333333333333333333333
Project Description	The cooperative is located in Mpigi District, Central Uganda. It has 45 members, including 17 women and 28 men.
	Members farm tilapia and catfish, with each farmer operating about three ponds of 40 m², harvested twice annually. Seasonal harvests can reach 1,000 kg per farmer, generating UGX 6–8 million.
	However, post-harvest losses of up to 200 kg per season, about 20% at farm level, are reported. Investment needs include cooling and drying systems.
Investment Needs	Modern fish smoking kiln (300-500kg per batch)
	Solar drier to dry salted fish(2MT)
	Feed processing equipment
	Market access to refrigerated trucks
	Target farmers: 45
	Modern fish smoking kiln: 12,000 USD
Ticket Size	Solar drier: 7400 USD
	Feed processing equipment: 30,000 USD
	Market access refrigerated trucks:100,000-230,000 USD
Investment Structure	Cold-room would be best approached through cooling as a service model
	Solar dryer should be supplied with a lease to own model
Impact	Post-harvest losses mitigated
	Increased farmer revenues due to reduced losses for both men and women in the association
Enablers	Large producing group

3.3.2.6 Omarii Women's Group

Table 54: Omarrii Women's Group

Project Name	Omarrii Women's Group
Contact person	Angina Hellen
Phone number	+256761940772
GPS Coordinates	1.8536396 33.6083958 1102.0 4.824
Project Description	The cooperative is located in Soroti District, Eastern Uganda. It has 30 members, including 29 women and 1 man.
	Members farm catfish in ponds averaging 200 m², with each farmer managing 2 ponds. Initial investment per pond was about UGX 4,600,000. Improved breeds allow up to 3 harvests annually, while local breeds produce about 2 harvests.
	Seasonal harvests average 300 kg per farmer, with about 260 kg reaching the market and generating UGX 1,300,000 daily. Approximately 40 kg is lost per season.
	The group has created about 6 direct jobs in feeding, aggregation, record keeping, and coordination. Water needs are estimated at 400,000 liters per day, pumped from nearby swamps.
Investment Needs	Cooling: 2 MT cold room
	Drying: 0.5 MT solar dryer
	Target farmers: 30
Proposed Investment	Cold room: USD 8,000
Ticket Size	Solar dryer: USD 3,800
Investment Structure	Lease to own model would be ideal for sustainability planning
Impact	Increased revenues for women
	 1,200 kg of produce saved from post-harvest losses
Enablers	The cooperative is well organized and structured.
	Water sources are readily available

3.3.2.7 Homa Farms Limited



Figure 18: Homa Community Training Centre



Figure 19: Fishpond for Homa Farms Limited.

Table 55: Homa Farms Limited

Project Name	Homa Farms Limited
Contact person	Awii Deogratias
Phone number	+256777399333
GPS Coordinates	2.8603343 32.5772903 1006.1 4.55
Project Description	The cooperative is located in Gulu District, Northern Uganda. It has 6 members, including 4 women, 2 men, and 1 PWD.
	The group farms tilapia and catfish in 5 ponds of 375 m ² each, harvested once a year. Initial investment per farmer was about UGX 10,000,000. Seasonal harvests reach 5,000 kg per farmer, generating revenues of about UGX 50 million.
	Post-harvest losses of over 300 kg per season are reported due to lack of modern storage facilities. Fish is currently stored in water tanks before transport to market.
	Daily water needs are estimated at 750,000 liters, supplied from a dam and underground pumps. The group partners with NGOs such as Save the Children and AVSI and also operates as a community training center for agriculture and aquaculture.
Investment Needs	Cold room for fish preservation: 2 MT capacity
	Target beneficiaries: 6
Proposed Investment Ticket Size	Cold room: USD 9,500
Investment Structure	Cold room: Lease to Own managed by the cooperative.
Impact	The group already employs 50 personnel engaged in the different activities at the farm and this offers opportunity for increased revenues for both the farmers and the employees.
Enablers	Large production.

3.3.2.8 Agali Fish Farmers Association

Table 56: Agali Fish Farmers Association

Project Name	Agali Fish Farmers Association
Contact person	Opyene Denis Mecmbuga
Phone number	+256774680737
GPS Coordinates	2.2422539 32.8979454 1090.7999267578125 4.275
Project Description	The cooperative is located in Lira District, Northern Uganda. It has 60 members, including 48 women and 12 men.
	Members farm tilapia, catfish, and lungfish, with each farmer managing one pond of about 300 m². Initial investment per pond was about UGX 3,600,000. Seasonal harvests range between 1 and 2 metric tonnes, generating over UGX 5.2 million per farmer.
	Post-harvest losses of about 50 kg per season are reported. Key investment needs include cooling systems.
	Daily water needs are estimated at 130,000 liters, supplied from dams and swamps. The cooperative employs about 10 members.
Investment Needs	Cooling: 2 MT cold room
	Target farmers: 60
Proposed Investment Ticket Size	Cold room: USD 9,500
Investment Structure	• Cash
Impact	Improved farmer revenues due to reduced post-harvest losses.
	Gender empowerment as the group contains 80% women representation.
Enablers	Large, organized group with potential for growth in terms of output.

3.3.2.9 Lunyolya Fisheries Association

Table 57: Lunyolya Fisheries Association

Project Name	Lunyolya Fisheries Association
Contact person	Muwonge Francis
Phone number	+256771490114
GPS Coordinates	0.435465 32.20836833333333 1171.5 4.8
Project Description	The cooperative is located in Mityana District, Central Uganda. It has 35 members, including 15 women, 20 men, and 5 PWD.
	Members farm tilapia in a shared 100 m² pond, with seasonal harvests of about 1 metric tonne generating revenues of over UGX 10,000,000. Initial investment was about UGX 4,000,000.
	Water needs are estimated at 10,000 liters per day, supplied from swamps through flow channels.
	Key investment needs include cooling and drying facilities for preservation. The cooperative has created 5 jobs.
Investment Needs	Cooling for fish produced (500L refrigerators)
	Target farmers: 35
Proposed Investment Ticket Size	• 500 L refrigerators: USD 1,600
Investment Structure	Cash payment for solar powered refrigerator
Impact	With fish preservation, there is an opportunity to scale with security.
	Increased revenue for farmers including women who are well represented in the group.
Enablers	Established group structure





3.4 Dairy production

3.4.1 Summary of Farmer Groups

Table 58: Summary of farmer groups / cooperatives for Dairy production surveyed during field visits

Farmer Group / Cooperative	District	Female Members	Male Members	Other
Kinuuka Dairy Farmers Cooperative Society	Lyantonde	6	11	-
Kyabbuza Dairy Cooperative	Lyantonde	22	34	-
Kabula Farmers' Cooperative	Lyantonde	7	21	7 Youth
Kyebando Dairy Farmers Cooperative	Sembabule	12	33	15 Youth
Pearl Dairy Farmers' Cooperative	Sembabule	4	13	-
Obwengara Farmers' Cooperative Society Milk And Produce	Kazo	12	28	-
Mwenya Farmers' Group	Kazo	1	5	-
Kazo Milk Producers' Cooperative Society Limited	Kazo	2	11	-
Kyakabunga Dairy Farmers' Cooperative Society	Kiruhura	111	186	84 Youth
Nyakahita Dairy Farmers Cooperative	Kiruhura	30	40	-
Maddo Dairy Limited	Masaka	-	-	-
Gulu Community Dairy Farmers' Cooperative Society Ltd	Gulu	65	15	1 PWD 7 Elderly
Maddu Farmer's Cooperative Society Ltd	Gomba	10	48	2 PWD
Nakitembe Dairy Farmers' Cooperative	Gomba	280	700	20 PWD
Nakunda Dairy Farm	Gomba	3	2	-
Mubende Bulk Milk Collection Centre	Mubende	-	20	10 Youth
Nabukalu Farmers Dairy Association	Bugiri	395	948	-
Kobwin Dairy Farm	Ngora	-	10	-
Gulu Uganda Country Dairy Limited	Gulu	1	1	-

3.4.2 Investment Projects Across Dairy

Up-to 18 cooperatives and farmer groups performing crop value addition were engaged.



3.4.3 Production Status

3.4.3.1 Kyakabunga Dairy Farmers Cooperative Society

Table 59: Kyakabunga Dairy Farmers Cooperative Society

Project Name	Kyakabunga Dairy Farmers Cooperative Society
Contact person	Isaac Kanzira
Phone number	+256779037282
GPS Coordinates	-0.3453133333333333 31.08420833333333 1307.9 4.6
Project Description	The cooperative is located in Kiruhura District, Western Uganda. It has 186 men and 111 women, including 84 youth. It was established through member fund mobilization, with a total initial investment of USD 83,333.3. The cooperative operates milk chillers rated at 3.2 kW, 10.175 kW, and 5.4 kW, with a combined capacity of 11,000 liters. The machines are mainly operated during daytime. Members supply between 100–200 liters of milk per farmer during the dry season and 200–500 liters per farmer during the rainy season. Milk is purchased directly from farmers, so storage fees are not applied. Monthly maintenance costs are about USD 83.33. Energy is supplied from the grid, with monthly expenses of USD 833.33. The cooperative employs 11 staff.
Project Risks	 High energy expenses totaling USD 833.33 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout Relatively high additional operational costs amounting to USD 5,555.6
Project Enablers	 Acquiring more financing to acquire more milk handling technologies and general business expansion. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation
Investment Needs	 Solarization of the dairy cooperative (Estimated need of 32 kWp solar PV system with 132 kWh of Li-ion storage) General business expansion. Target farmers: 297
Proposed Investment Ticket Size	 Total USD 567,000 General business expansion: USD 500,000 Solar PV system: USD 67,400
Proposed Investment Structure	 Models Energy As a service Business model ensures that this cooperative obtains the required Solar PV system from a PURE supplier company while only paying for the used energy. Equity financing from private investors to increase working capital. Instruments: Equity
Potential Impact	 Increased reduction of the post-harvest losses for milk produced in the community. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers







Figure 21: Milk processing plant at Gulu community dairy farmers cooperative

3.4.3.2 Gulu Community Dairy Farmers' Cooperative Society Limited

Table 60: Gulu Community Dairy Farmers' Cooperative Society Limited

Table 60: Gulu Community Dairy Farmers' Cooperative Society Limited		
Project Name	Gulu Community Dairy Farmers' Cooperative Society Limited	
Contact person	Odwa Margret	
Phone number	+256772693082	
GPS Coordinates	2.7860633 32.2716182 1063.0 5.0	
Project Description	The cooperative is located in Gulu District, Northern Uganda. It has 15 men and 65 women, including 1 PWD and 7 elderly members. It was established with grants and support from the Government of Uganda in partnership with the United States African Development Foundation, with an initial investment of USD 277,800. The cooperative operates a milk pasteurizer rated at 38 kW with a capacity of 23,000 liters, mainly operated in the morning. It stores an average of 12 liters per farmer and charges USD 0.167 per liter for storage. Power is supplied by the grid, with monthly energy expenses of USD 896. The cooperative employs 18 staff.	
Project Risks	 High energy expenses totaling USD 896 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout 	
Project Enablers	 Acquiring more financing to purchase more milk handling and processing technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation 	
Investment Needs	 Purchase of a yogurt making machine (5000 liters capacity). Solarization of the dairy cooperative (Estimated need of 54 kWp solar PV system with 360 Li-ion battery storage) Target farmers: 80 	
Proposed Investment Ticket Size	 Total USD 182,000 Yogurt making machine: USD 5000 Solar PV system: USD 177,000 	
Proposed Investment Structure	 Models » Lease to own business model for acquisition of PURE technology. » Energy As A Service business model for solarization of the cooperative • Instruments: » Grant 	
Potential Impact	 Addition of value to the milk produced and stored. Increased reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers 	

3.4.3.3 Kyebando Dairy farmers Cooperative

Table 61: Kyebando Dairy farmers' Cooperative

Project Name	Kyebando Dairy farmers' Cooperative
Contact person	Tushabe Staron
Phone number	+256779120630
GPS Coordinates	-0.0519768 31.392301 1246.53125 4.551
Project Description	The cooperative is located in Sembabule District, Central Uganda. It has 33 men and 12 women, including 15 youth.
	It was established through loans and member fund mobilization, with an initial investment of USD 75,000. The cooperative is currently supported by Brookside Dairies.
	It operates a milk chiller rated at 15 kW with a capacity of 5,000 liters, mainly operated in the morning.
	The cooperative stores an average of 100 liters per farmer, charging USD 0.042 per liter.
	Monthly maintenance costs are about USD 139, while grid energy expenses average USD 424.64.
	The cooperative has created about 100 direct and indirect jobs.
Project Risks	 High energy expenses totaling USD 424.64 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation
Investment Needs	 Purchase of a milk chiller (5000L capacity) and pasteurizer (3000L capacity) Solarization of the dairy cooperative (Estimated need of 36 kWp solar PV system with 180 kW Li-ion battery storage) Expanding the building infrastructure for the cooperative. Target farmers: 45
Proposed Investment Ticket Size	 Total USD 342,327 Milk chiller (Capacity 5000L): USD 5000 Milk Pasteurizer (3000L capacity): USD 3500 Solarization of the Cooperative 36 kWp: USD 97,326.72 (Payback period ~ 8 years) Building infrastructure: USD 200,000
Proposed Investment Structure	 Models Co-financing business models offer a reliable solution to increase affordability. Debt financing for the expensive PURE technological equipment. Onboarding of private investors which increases the cooperative's capital to expand the business. Instruments:
	» Blended funding (60% grant,25% equity,15% debt)
Potential Impact	 Increased reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers

3.4.3.4 Nakitembe Dairy Farmers' Cooperative

Table 62: Nakitembe Dairy Farmers' Cooperative

Project Name	Nakitembe Dairy Farmers' Cooperative
Contact person	Tumukunde David
Phone number	+256702356800
GPS Coordinates	0.1888146 31.5620975 1224.39999999999 4.95
Project Description	The cooperative is located in Gomba District, Central Uganda. It has 700 men and 280 women, including 20 PWD.
	It was established with government support, with an initial investment of USD 97,222. The cooperative operates a milk chiller rated at 11.2 kW with a capacity of 3,400 liters, mainly operated during daytime.
	It stores an average of 5 liters per farmer, charging USD 0.28 per liter.
	Monthly maintenance costs are about USD 833, while grid energy expenses are about USD 510.
	The cooperative employs 10 staff.
Project Risks	 Very high energy expenses totaling USD 510 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage due to power blackouts
Project Enablers	 Provision of favorable financing to farmers to boost milk production and cooperatives to purchase more milk handling technologies.
	 Increasing the supply of milk from the community dairy farmers.
	Establishment of good transport infrastructure to ease milk transportation
Investment Needs	 Solarization of the dairy cooperative (Estimated need of 36 kWp solar PV system) Purchase of milking machines (25-liter capacity each, estimated number 20), mowing machine (mowing width 850mm), 5 silage cutting machines (Capacity 0.55-1 MT/h each) and yogurt making machine (5000 liters capacity).
	Target farmers: 1000
Proposed Investment Ticket Size	 Total USD 142,750 Solar PV system: USD 117,750 (Payback period ~8 years) Milking machines: USD 10,000 Silage cutting machines: USD 5000 Yogurt making machine: USD 5000 Mowing machine: USD 5000
Proposed Investment Structure	 Models Co-financing for the expensive PURE production technology. Lease to own business model to increase affordability Energy As A Service for Solarization of the cooperative. Instruments: Grant
Potential Impact	 Increased milk production as a result of mechanization. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers

3.4.3.5 Kyabbuza Dairy Cooperative

Table 63: Kyabbuza Dairy Cooperative

Project Name	Kyabbuza Dairy Cooperative
Contact person	Kakooza Vicent
Phone number	+256785207378
GPS Coordinates	-0.4055301 31.1608831 1226.1456298828125 4.854
Project Description	The cooperative is located in Lyantonde District, Western Uganda. It has 34 men and 22 women. It was established through loans and member fund mobilization, with an initial investment of USD 1,250,000. The cooperative operates a milk chiller rated at 5 kW with a capacity of 3,000 liters, mainly operated during daytime. It stores an average of 200 liters per farmer, charging USD 0.03 per liter. Monthly maintenance costs are about USD 417, while grid energy expenses average USD 555. The cooperative has created about 40 direct and indirect jobs.
Project Risks	 High energy expenses totaling USD 555.55 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout High additional operational costs amounting to USD 194.4.
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation
Investment Needs	 Purchase 2 more milk chillers (capacity 3000 L each). Purchase of transportation vehicles (capacity 5 Tonnes each) (3) Solarization of the dairy cooperative (Estimated need of 14.4 kWp solar PV system to accommodate additional milk chillers) Target farmers: 56
Proposed Investment Ticket Size	 Total USD 129,098.64 Milk chillers: USD 7000 Solar PV system: USD 47,098.64 Milk transportation vehicles: USD 75,000
Proposed Investment Structure	 Models » Debt financing to ease acquisition of the production equipment. » Lease to own business model especially for the equipment requiring high investment. • Instruments: » Debt
Potential Impact	 More reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers due to increased profit margins.

3.4.3.6 Mwenya Farmers' Group

Table 64: Mwenya Farmers' Group

Project Name	Mwenya Farmers' Group
Contact person	Engineer Mark
Phone number	+256775876482
GPS Coordinates	-0.04843333333333333 30.759921666666667 1313.4 5.0
Project Description	The cooperative is located in Kazo District, Western Uganda. It has 5 men and 1 woman. It was established through member fund mobilization, with an initial investment of USD 22,222.2. The cooperative operates a milk chiller rated at 4.5 kW with a capacity of 2,400 liters, mainly operated in the morning. It stores an average of 40 liters per farmer, charging USD 0.167 per liter. Monthly maintenance costs are about USD 138.9, while grid energy expenses average USD 263.9. The cooperative has created 16 direct and indirect jobs.
Project Risks	 High energy expenses totaling USD 263.9 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout High additional operational costs amounting to USD 777.78
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation.
Investment Needs	 Purchase of an additional milk chiller (3000 liters capacity) Solarization of the dairy cooperative (Estimated need of 12 kWp solar PV system with 60 kWh Li-ion battery storage) Target farmers: 6
Proposed Investment Ticket Size	 Total USD 36,000 Milk chiller: USD 3500 Solar PV system: USD 32,500
Proposed Investment Structure	 Models » Debt financing to bridge the affordability gap. » Co-financing from development partners and the government reduces the costs incurred on the acquisition of the technological equipment by the Cooperative. • Instruments: » Grant
Potential Impact	 Increased reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers

3.4.3.7 Nankunda Dairy Farm

Table 65: Nankunda Dairy Farm Group

Project Name	Nankunda Dairy Farm Group
Contact person	Natukunda Olivia
Phone number	+256702429000
GPS Coordinates	0.2716147 31.6085449 1235.5 3.763
Project Description	The group is located in Gomba District, Central Uganda. It has 2 men and 3 women, and operates both a farm and a milk collection and selling point. It was established through member contributions, with an initial investment of USD 166,667. The group operates a milk chiller rated at 8.7 kW with a capacity of 3,200 liters, mainly operated during daytime. It stores an average of 150 liters per farmer, charging USD 0.28 per liter. Monthly maintenance costs are about USD 416.7, while grid energy expenses average USD 430. The cooperative employs 7 staff.
Project Risks	 High energy expenses totaling USD 430 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage due to power blackouts High additional operational costs totaling to USD 416.7
Project Enablers	 Provision of favorable financing to farmers to boost milk production and cooperatives to purchase more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation
Investment Needs	 Solarization of the dairy cooperative (Estimated need of 35 kWp solar PV system with 203 kWh of battery storage) Purchase of 3 milk chillers (5000 liters capacity each) Target beneficiaries: 5
Proposed Investment Ticket Size	 Total USD 119,000 Solar PV system: USD 104,000 Milk chillers: USD 15,000
Proposed Investment Structure	 Models » Equity financing from private investors will increase the working capital » Co-financing for the expensive PURE technology. Instruments: » Blended (30% grant, 70% equity)
Potential Impact	 Reduced post-harvest losses to the farmers and the group. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers

Figure 22: Milk chiller at Nankunda Dairy farm group located in Gomba district Central Uganda.



3.4.3.8 Maddu Farmer's Cooperative Society Ltd.

Table 66: Maddu Farmer's Cooperative Society Ltd.

Project Name	Maddu Farmer's Cooperative Society Ltd.
Contact person	Bijemamo Isaac
Phone number	+256757621908
GPS Coordinates	0.2179216666666668 31.669305 1199.5 5.0
Project Description	The cooperative is located in Gomba District, Central Uganda. It has 48 men and 10 women, including 2 PWD.
	It was established through grant funding.
	The cooperative operates a milk chiller rated at 11.2 kW with a capacity of 1,500 liters, mainly operated in the morning.
	It stores an average of 25 liters per farmer and does not charge for storage.
	Monthly maintenance costs are about USD 250, while grid energy expenses average USD 97.2.
	The cooperative employs 6 staff.
Project Risks	Significant energy expenses totaling USD 97.2 per Month. This increases the cost of operation.
	Equipment breakdown, which halts the operations.
	Milk wastage due to power blackouts
Project Enablers	 Provision of favorable financing to farmers to boost milk production and cooperatives to purchase more milk handling technologies.
	 Increasing the supply of milk from the community dairy farmers.
	Establishment of good transport infrastructure to ease milk transportation
Investment Needs	Solarization of the dairy cooperative (Estimated need of 100 kWp solar PV system)
	General expansion of the cooperative infrastructure
	Target beneficiaries: 58
Proposed Investment Ticket Size	Total USD 249,500
	Solarization of the Cooperative (100kWp): USD 49,500
	Establishment of the infrastructure: USD 200,000
Proposed Investment Structure	• Models
	» Energy As A Service business model
	» Co-financing for PURE technological assets aquisition.
	Instruments:
	» Grant
Potential Impact	Provision of reliable power to run the cooperative.
	Ease of transportation for the milk
	More jobs created both direct employment and indirect.
	Increased incomes for the cooperative and smallholder farmers

3.4.3.9 Pearl Dairy Farmers' Cooperative

Table 67: Pearl Dairy Farmers' Cooperative

Project Name	Pearl Dairy Farmers' Cooperative
Contact person	Leticious Ahereza
Phone number	+256777664127
GPS Coordinates	-0.0857791 31.4625253 1279.09912109375 4.551
Project Description	The cooperative is located in Sembabule District, Central Uganda. It has 13 men and 4 women and is owned by the Bahindi people. It was established through loans and member fund mobilization, with a total initial investment of USD 213,889. The cooperative operates a milk chiller rated at 5 kW with a capacity of 5,000 liters, mainly operated during morning hours. It stores an average of 150 liters per farmer, purchased directly from farmers. Monthly maintenance costs are about USD 75, while grid energy expenses average USD 277.8. The cooperative has created over 100 direct and indirect jobs.
Project Risks	 Relatively high energy expenses totaling USD 277.8 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout High additional operational costs amounting to USD 555.6
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation
Investment Needs	 Purchase of a milk chiller (5000 L capacity), 2 packaging machines (200-1000ml, 4200-6000 pouches/hour each) and 3 transport vehicles (capacity 5 MT each). Solarization of the dairy cooperative (Estimated need of 32.4 kWp solar PV system with 162 kWh of Li-ion storage) Target farmers: 17
Proposed Investment Ticket Size	 Total USD 167,594 Milk chiller (5000L): USD 5000 Packaging machines: USD 30,000 Transportation vehicles: USD 45,000 Solar PV system: USD 87,594.04
Proposed Investment Structure	 Models » Lease to own financing for milk handling technologies. » Debt financing model for the expensive equipment. • Instruments: » Debt
Potential Impact	 Enhancement of value addition on the milk produced. Increased reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative and increased profit margins. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers



Figure 23: Pearl dairies cooperative located in Sembabule district



Figure 24: Milk handling technologies at Pearl dairies Sembabule.

3.4.3.10 Kabula Farmers' Cooperative

Table 68: Kabula Farmers' cooperative

Project Name	Kabula Farmers' Cooperative
Contact person	Kyalimpa Mustapha
Phone number	+256751196802
GPS Coordinates	-0.4050381 31.1546079 1259.475341796875 4.551
Project Description	The cooperative is located in Lyantonde District, Western Uganda. It has 21 men and 14 women, 7 of whom are youth.
	It was established through loan acquisition, with a total initial investment of USD 111,111, and is currently supported by Brookside Dairies.
	The cooperative operates a milk chiller rated at 5 kW with a capacity of 3,000 liters, mainly operated in the morning.
	It stores an average of 120 liters per farmer and does not charge for storage.
	Since the machine is still new, no maintenance costs have been incurred. Grid energy expenses average USD 125 per month.
	The cooperative has created 65 direct and indirect jobs.
Project Risks	 High energy expenses totaling USD 125 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout Additional operational costs amounting to USD 55.55
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation
Investment Needs	 Purchase of a milk chiller and pasteurizer (each 3000 L capacity). Solarization of the dairy cooperative (Estimated need of 18 kWp solar PV system to handle increased capacity with up to 75 kWh of Li-ion storage) Establishment of more building infrastructure for the cooperative. Target farmers: 35
Proposed Investment Ticket Size	 Total USD 254,100 Milk chiller: USD 3500 Pasteurizer: USD 3500 Solarization of the Cooperative: USD 47,098.64 (payback ~ 10 years) Building infrastructure: USD 200,000
Proposed Investment Structure	 Models Co-financing between the cooperative and private investors. Debt financing to ease acquisition of the production equipment.
	Instruments: Debt, Equity
Potential Impact	 Expansion of the milk handling capacity of the cooperative. More reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers

3.4.3.11 Kazo Milk Producers' Cooperative Society Limited

Table 69: Kazo Milk Producers' Cooperative Society Limited

Project Name	Kazo Milk Producers' Cooperative Society Limited
Contact person	Mwesiga Tom
Phone number	+256783108799
GPS Coordinates	-0.05226 30.75652833333333 1368.5 5.0
Project Description	The cooperative is located in Kazo District, Western Uganda. It has 11 men and 2 women. It was established through member fund mobilization, with a total initial investment of USD 41,666.7. The cooperative operates a milk chiller rated at 5 kW with a capacity of 3,000 liters, mainly operated during daytime. It stores an average of 230 liters per farmer and does not charge for storage. Monthly maintenance costs are about USD 34.7, while grid energy expenses average USD 138.9. The cooperative employs 2 direct staff.
Project Risks	 High energy expenses totaling USD 138.9 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout Relatively high additional operational costs amounting to USD 111.11
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation
Investment Needs	 Purchase of a yogurt making machine (10,000 L). Solarization of the dairy cooperative (Estimated need of 18 kWp solar PV system with 105 kWh storage) Target farmers: 13
Proposed Investment Ticket Size	 Total USD 61,800 Yogurt making machine: USD 8000 Solar PV system: USD 53,800
Proposed Investment Structure	 Models Lease to own business model ensuring extended payment period. Equity financing from external private investors increases the business capital to purchase the required PURE technologies. Instruments: Equity
Potential Impact	 Addition of value to the milk produced and stored. Increased reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers

3.4.3.12 Kinuuka Dairy Farmers Cooperative Society

Table 70: Kinuuka Dairy Farmers Cooperative Society

Project Name	Kinuuka Dairy Farmers Cooperative Society
Contact person	Samuel Asiimwe
Phone number	+256763828157
GPS Coordinates	-0.4089051 31.144495 1241.5985107421875 4.854
Project Description	The cooperative is located in Lyantonde District, Western Uganda. It has 11 men and 6 women.
	It was established through joint member funding and loans, with a total initial investment of USD 41,667.
	The cooperative operates a milk chiller rated at 3 kW with a capacity of 3,000 liters, mainly operated in the morning.
	It stores an average of 50 liters per farmer at a storage fee of USD 0.35 per liter.
	Monthly maintenance costs are about USD 138.8, while grid energy expenses average USD 278.
	The cooperative has created 18 direct jobs.
Project Risks	 High energy expenses totaling USD 277.78 per Month. This increases the cost of operation. Equipment breakdown, which halts their operations. Milk wastage when there is a power blackout High additional operational costs amounting to USD 100.
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Provision of training and capacity building to farmers to boost milk production.
Investment Needs	 Purchase of 3 milk chillers (Capacity-3000L each). Solarization of the dairy cooperative (Estimated need of 10.8 kWp solar PV system) Designed to handle 3 milk chillers in total. Target beneficiaries: 17
Proposed Investment Ticket Size	 Total USD 23,865 Milk chillers: USD 10,500 Solar PV system: USD 26,135.03
Proposed Investment Structure	 Models Lease to own business model can ease the affordability of these technological solutions as it ensures ownership in the end. Debt financing will bridge the affordability gap for the cooperative. Instruments:
	» Debt
Potential Impact	More reduction of the post-harvest losses for milk.
	Provision of reliable power to run the cooperative.
	 More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers realized after increased profit margins due to elimination of monthly expenditures on electricity.

3.4.3.13 Nabukalu Farmers Dairy Association

Table 71: Nabukalu Farmers Dairy Association

Project Name	Nabukalu Farmers Dairy Association		
Contact person	Mataala Twahiri Mwasse		
Phone number	+256756 251671		
GPS Coordinates	0.5653035 33.7529175 1090.3 4.85		
Project Description	The association is located in Bugiri District, Eastern Uganda. It has 948 men and 395 women and is privately owned. It was established through member contributions and government donations, with a total initial investment of USD 222,222. The association operates a milk chiller rated at 4 kW with a capacity of 2,000 liters, mainly operated during evening hours. It stores an average of 13 liters per farmer and charges USD 0.56 per liter for storage. Monthly energy expenses amount to USD 166.67, powered by a diesel generator. The association has created about 60 jobs		
Project Risks	 High energy expenses totaling USD 166.67 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage due to power blackouts 		
Project Enablers	 Provision of favorable financing to farmers to boost milk production, cooperatives and groups to purchase more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation. Provision of tax incentives by the government on milk handling technologies to reduce their price 		
Investment Needs	 Solarization of the dairy cooperative (Estimated need of 4.8 kWp solar PV system with 28 kWh of Li-ion battery storage) Opening more branches (estimated at 3) Expanding the capacity of their dairy farms (buying more land and cattle) Target farmers: 1343 		
Proposed Investment Ticket Size	 Total USD 2,014,000 Solar PV system: USD 14,400 (Payback period ~ 7 years) Opening more branches: USD 1,500,000 Expansion of dairy farms: USD 500,000 		
Proposed Investment Structure	 Models » Energy As A service to ensure Solarization of the cooperative. » Co-financing model for the expensive technology by the development Partners, donors and the government to increase affordability. • Instruments: » Grant 		
Potential Impact	 Reduced post-harvest losses to the farmers and the group. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers. CO₂ emission savings of over 356 kg per month. 		

3.4.3.14 Obwengara Farmers' Cooperative Society Milk and Produce

Table 72: Obwengara Farmers' Cooperative Society Milk and Produce

Project Name	Obwengara Farmers' Cooperative Society Milk and Produce		
Contact person	Amutuhaire Justine		
Phone number	+256744605995		
GPS Coordinates	-0.02573833333333333333333333333333333333333		
Project Description	The cooperative is located in Kazo District, Western Uganda. It has 18 men and 12 women. It was established through member fund mobilization, with a total initial investment of USD 4,166.7.		
	The cooperative operates a milk chiller rated at 5 kW with a capacity of 3,000 liters, mainly operated during daytime.		
	It stores an average of 75 liters per farmer and does not charge for storage.		
	Monthly maintenance costs are about USD 18.53, while diesel generator energy expenses average USD 142.		
	The cooperative employs 3 staff.		
Project Risks	 Moderate energy expenses totaling USD 142 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout High additional operational costs amounting to USD 425 		
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation 		
Investment Needs	 Purchase of 2 additional milk chillers (3000 liters capacity each) Solarization of the dairy cooperative (Estimated need of 18 kWp solar PV system with 75 kWh battery storage) Establishment of additional building facilities. Target farmers: 30 		
Proposed Investment Ticket Size	 Total USD 250,600 Milk chillers: USD 7000 Solar PV system: USD 43,600 (Payback period ~ 8.5 years) Building infrastructure: USD 200,000 		
Proposed Investment Structure	 Models » Lease to own financing for milk handling technologies » Debt financing model for the expensive equipment. • Instruments: » Equity 		
Potential Impact	 Increased reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers. CO₂ emission savings of over 178 kg per month. 		





Figure 25: Kobwin dairy farm cooperative.

3.4.3.15 Kobwin Dairy Farm

Table 73: Kobwin Dairy Farm

Project Name	Kobwin Dairy Farm
Contact person	Aanyu Irene Onyait
Phone number	None
GPS Coordinates	1.3920047 33.7337126 1011.19999999999 4.233
Project Description	The farm is located in Ngora District, Eastern Uganda. It has 10 men and is both government and privately owned, with the government holding the largest share.
	It was established through member contributions and government donations.
	The farm operates a milk chiller rated at 5.8 kW with a capacity of 3,260 liters, mainly operated during daytime.
	It stores an average of 20 liters per farmer and does not charge for storage.
	Energy is supplied by a solar system purchased at USD 694.4.
	The farm employs 5 direct staff.
Project Risks	Equipment breakdown, which halts the operations.
	 Milk wastage due to insufficient power production from the solar system, partially due to weather conditions.
	High additional operating costs totaling USD 833.3 per month
Project Enablers	 Provision of favorable financing to farmers to boost milk production, cooperatives and groups to purchase more milk handling technologies.
	Increasing the supply of milk from the community dairy farmers.
	Establishment of good transport infrastructure to ease milk transportation.
	Provision of tax incentives by the government on milk handling technologies to reduce their price
Investment Needs	Purchase of an additional milk chiller (5000 liters capacity).
	 Expansion of the solar system (estimated power consumption – 10 kW, estimated size of solar PV system needed is 18 kWp with 105 kWp battery storage)
	Target farmers: 10
Proposed	• Total USD 58,800
Investment Ticket Size	Solar PV system: USD 53,800Milk chiller: USD 5000
Proposed	• Models
Investment Structure	 Equity financing from private investors to increase working capital. Co-financing on expensive PURE technology to increase PURE product affordability.
	Instruments:
	» Blended (50% grant, 50% equity)
Potential Impact	Reduced post-harvest losses to the farmers and the group.
	Provision of reliable power to run the cooperative.
	Ease of transportation for the milk
	More jobs created both direct employment and indirect.
	Increased incomes for the cooperative and smallholder farmers





Figure 26: Maddo dairies limited cooperative located in Masaka district-central Uganda

3.4.3.16 Maddo Dairy Limited

Table 74: Maddo Dai	ry Limited		
Project Name	Maddo Dairy Limited		
Contact person	Ssajjabbi Frank		
Phone number	+256779100593		
GPS Coordinates	-0.3300450000000003 31.762183333333336 1263.7 4.7		
Project Description	The cooperative is located in Masaka District, Central Uganda. It is privately owned and operated by Masaka Diocese under the Catholic Church.		
	It was established through diocesan funding with additional donor support, with a total initial investment of USD 83,333.3.		
	The cooperative operates a milk pasteurizer rated at 12 kW with a capacity of 8,000 liters, mainly operated during daytime.		
	It stores an average of 900 liters daily and does not charge for storage.		
	Since the pasteurizer is new, there are no maintenance costs yet. Grid energy expenses average USD 555.55 per month.		
	The cooperative employs 5 direct staff and has created 5 indirect jobs.		
Project Risks	 High energy expenses totaling USD 555.55 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout Relatively high additional operational costs amounting to USD 833.33 		
Project Enablers	 Acquiring more financing to purchase more milk handling and processing technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation 		
Investment Needs	 Purchase of a boiler (10,000 liters capacity) and yogurt making machine (10,000 liters capacity). Solarization of the dairy cooperative (Estimated need of 50.4 kWp solar PV system with over 290 kWh of Li-ion storage) Target farmer: 500 		
Proposed Investment Ticket Size	 Total USD 166,600 Yogurt making machine: USD 8000 Boiler: USD 8000 Solar PV system: USD 150,600 (Payback period of ~7.5 years) 		
Proposed Investment Structure	 Models Energy As A Service business model for Solarization of the cooperative. Co-financing business model increases the affordability of PURE technology. 		
	• Instruments: » Grant		
Potential Impact	 Addition of value to the milk produced and stored. Increased reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. 		
	Increased incomes for the cooperative and smallholder farmers		

3.4.3.17 Nyakahita Dairy Farmers Cooperative

Table 75: Nyakahita Dairy Farmers Cooperative

Project Name	Maddo Dairy Limited		
Contact person	Anyine Martin		
Phone number	+256750595400		
GPS Coordinates	-0.4389933333333333 31.08210999999997 1329.7 4.9		
Project Description	The cooperative is located in Kiruhura District, Western Uganda. It has 40 men and 30 women. It was established through member fund mobilization, with a total initial investment of USD 8,333.3. The cooperative operates a milk chiller rated at 10 kW with a capacity of 7,000 liters, mainly operated during daytime. It stores an average of 100 liters per farmer and does not charge for storage. Monthly maintenance costs are about USD 41.6, while grid energy expenses average USD 417. The cooperative employs 3 staff and has created 4 indirect jobs.		
Project Risks	 High energy expenses totaling USD 417 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. Milk wastage when there is a power blackout Relatively high additional operational costs amounting to USD 556 		
Project Enablers	 Acquiring more financing to purchase more milk handling and processing technologies. Increasing the supply of milk from the community dairy farmers. Establishment of good transport infrastructure to ease milk transportation 		
Investment Needs	 Purchase of an additional milk chiller (5000 liters) and yogurt making machine (10,000 liters). Solarization of the dairy cooperative (Estimated need of 30 kWp solar PV system with 175 kWh of Li-ion battery storage) Target farmers: 70 		
Proposed Investment Ticket Size	 Total USD 102,600 Yogurt making machine: USD 8000 Milk chiller: USD 5000 Solarization of the Cooperative: USD 89,600 (payback period ~ 6 years) 		
Proposed Investment Structure	 Models Lease to own business model ensuring affordability of the expensive technological solutions. Energy As A Service model provided by the PURE supplier companies. Equity financing ensuring sufficient working capital to afford the PURE technologies. Instruments: Equity 		
Potential Impact	 Addition of value to the milk produced and stored. Increased reduction of the post-harvest losses for milk. Provision of reliable power to run the cooperative. Ease of transportation for the milk More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers 		

Figure 27: Mubende milk collection center.



3.4.3.18 Mubende Bulk Milk Collection Centre (Fresh Dairy)

Table 76: Mubende Bulk Milk Collection Centre (Fresh Dairy)

Project Name	Mubende Bulk Milk Collection Centre (Fresh Dairy)		
Contact person	Nayiruba Leah		
Phone number	+256750766823		
GPS Coordinates	0.5481750000000001 31.42129833333333 1134.8 4.9		
Project Description	The cooperative is located in Mubende District, Central Uganda. It has 20 men, 10 of whom are youth. The center is owned by both the government and Fresh Dairy, a private company, and operates as both a farm and a milk collection and selling point.		
	It was established with 60% of funds from Fresh Dairy board members, 20% from government donations, and 20% from loans.		
	The cooperative operates three milk chillers, each rated at 11.5 kW, with a total capacity of 35,000 liters. The machines are mainly operated in the morning.		
	It stores an average of 60 liters per day and does not charge for storage since milk is purchased directly from farmers.		
	Monthly maintenance costs are about USD 222.2, while grid energy expenses average USD 1,700. The cooperative employs about 43 personnel.		
Project Risks	 High energy expenses totaling USD 1,700 per Month. This increases the cost of operation. Equipment breakdown, which halts the operations. 		
	Milk wastage due to power blackouts		
Project Enablers	 Provision of favorable financing to farmers to boost milk production, cooperatives and groups t purchase more milk handling technologies. 		
	Increasing the supply of milk from the community dairy farmers.		
	Establishment of good transport infrastructure to ease milk transportation.		
	Provision of tax incentives by the government on milk handling technologies to reduce their price.		
Investment Needs	 Solarization of the dairy cooperative (Estimated need of 42 kWp solar PV system with up-to 24 kWh of battery storage) 		
	Target farmers: 20		
Proposed	Total USD 125,500		
Investment Ticket Size	Solar PV system: USD 125,500		
Proposed	• Models		
Investment	» Energy As A service business model for Solarization of the Cooperative.		
Structure	» Co-financing from development partners and the government.		
	• Instruments:		
	» Grant		
Potential Impact	Reduced post-harvest losses to the farmers and the group.		
r oteritiai impaet	Provision of reliable power to run the cooperative.		
	Ease of transportation for the milk		
	More jobs created both direct employment and indirect.		
	Increased incomes for the cooperative and smallholder farmers		

3.4.3.19 Gulu Uganda Country Dairy Limited

Table 77: Gulu Uganda Country Dairy Limited

Project Name	Gulu Uganda Country Dairy Limited		
Contact person	Kidega Tonny		
Phone number	+256777870366		
GPS Coordinates	2.8034063 32.3479511 1133.300000000002 4.92		
Project Description	The facility is located in Gulu District, Northern Uganda, and mainly handles milk. It was established with government grants worth USD 200,000. The cold room operates at 12 kW with a capacity of 7 tonnes, mainly operated throughout the day. It stores an average of 100 liters per day. The cold room is operational for 12 days a month and does not charge direct storage fees, instead sharing energy costs among users. Monthly maintenance costs are about USD 416.7, while grid energy expenses average USD 167. The facility has created 6 direct and 5 indirect jobs.		
Project Risks	 High energy expenses totaling USD 166.67 per month. This increases the cost of operation. Equipment breakdown, which halts their operations. Milk wastage when there is a power blackout. 		
Project Enablers	 Acquiring more financing to acquire more milk handling technologies. Increasing the supply of milk from the community dairy farmers. Provision of training and capacity building to farmers to boost milk production. Enhancement of power reliability and reduction of power tariffs. 		
Investment Needs	 Purchase of ice cream machine (50 l/hr. capacity) and yogurt making machine (5000 liters capacity). Solarization of the dairy cooperative (Estimated need of 30 kWp solar PV system with up to 175 kWh of battery storage) 		
Proposed Investment Ticket Size	 Total USD 96,500 Yogurt machine (5,000 liters capacity): USD 5000 Ice cream machine (50 l/hr. capacity): USD 1500 Solar PV system: USD 90,000 		
Proposed Investment Structure	 Models Co-financing from the development partners, donors and the government to increase affordability. Instruments: Grant 		
Potential Impact	 More reduction of the post-harvest losses for milk. Provision of reliable power to run the cold room. More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers 		





3.5 Cold Storage Fish

3.5.1 Summary of Farmer Groups

Table 78: Summary of cold storage facilities surveyed during field visits.

Farmer Group / Cooperative	District	Female Members	Male Members	Other
Kawuma Fish Storage	Kampala	-	1	-
Jimmie's Fish Cold Storage Busega	Kampala	-	4	1 Youth
Nasariki Investment Limited	Masaka	2	3	-

3.5.2 Investment Projects Across the Priority Value Chains

Up-to 3 cooperatives and farmer groups visited were engaged in fish production as described below.

3.5.2.1 Jimmie's Fish Cold Storage Busega

Table 79: Jimmie's Fish Cold Storage Busega

Project Name	Jimmie's Fish Cold Storage Busega
Contact person	Sengooba Sula
Phone number	+256708352762
GPS Coordinates	0.3072199 32.5169467 1124.3 3.3
Project Description	The facility is located in Kampala District, Central Uganda, and mainly handles fish storage. It was established through owner funds with an initial investment of USD 2,778. The cold room operates at 3.53 kW with a capacity of 7 tonnes. It runs 12 hours per day, year-round, mainly in the morning. It stores an average of 7 tonnes daily and charges USD 1.39 per kg for storage. Monthly maintenance costs are about USD 55.6. Power is supplied by a solar PV mini grid with a capacity of 11.7 kWp. The facility has created 14 indirect jobs.
Project Risks	 Equipment breakdown, which halts their operations. Limited cold room storage space. Scarcity of fish supply from the communities.
Project Enablers	 Acquiring more financing for cold room facilities. Increased supply of fish products in the local communities. Training of more technicians in cold room operation and maintenance.
Investment Needs	 Purchase of fish fillet processing machines (500kg/hr.). Purchase of fish packing equipment (200 Pcs/hr). Purchase an additional cold room (10 MT) facility to be taken to another area. Target beneficiaries: 20
Proposed Investment Ticket Size	 Total USD 60,000 Fish fillet processing equipment: USD 3000 Fish packing equipment: USD 50,000 Cold room: USD 45,000





Figure 28: Mobile fish cold storage facility for Jimmie's fish cold storage.

Project Name	Jimmie's Fish Cold Storage Busega
Proposed Investment Structure	 Models Lease to own business model for acquisition of the cold room technology through extended payback period. Co-financing from the development partners and government on the expensive PURE technology.
	• Instruments: » Grant
Potential Impact	 More reduction of the post-harvest losses for fish. More jobs created both direct employment and indirect. Increased incomes for the owner and community fish traders.

3.5.2.2 Nasariki Investment Limited

Table 80: Nasariki Investment Limited

Table 60: Nasariki investinent Liiniteu			
Project Name	Nasariki Investment Limited		
Contact person	Kateregga Tonny		
Phone number	+256705396918		
GPS Coordinates	-0.272543, 32.026419		
Project Description	The company is located in Masaka District, Central Uganda, and mainly handles fish storage. It operates 7 mobile vehicles with ice-stock compartments to preserve fish at cold temperatures. The facilities were established using owner funds. Total storage capacity is 11 tonnes, operated daily year-round. Monthly maintenance costs are about USD 111.1. The facilities have created 21 jobs.		
Project Risks	 Vehicle breakdown, which halts their operations. Limited cold room storage space. Scarcity of fish supply from the communities. 		
Project Enablers	 Provision of more financing for the acquisition of more mobile cold storage facilities. Increased supply of fish products in the local communities. 		
Investment Needs	 Purchase of more mobile cold storage facilities (10 MT each, estimated number 5) Target beneficiaries: 1000 		
Proposed Investment Ticket Size	Total USD 50,000 Total USD 50,000 Total USD 50,000		
Proposed Investment Structure	 Models » Debt financing for acquisition of mobile cold storage vehicles. • Instruments: » Debt 		
Potential Impact	 More reduction of the post-harvest losses for fish. More jobs created both direct employment and indirect. Increased incomes for the owner and community fish traders. 		



Figure 29: Mobile fish cold storage facility for Nasariki investment.

3.5.2.3 Kawuma Fish Storage

Project Name	Kawuma Fish Storage
Contact person	Kawuma Jimmy
Phone number	+256755112022
GPS Coordinates	0.307345 32.516875 1135.4 5.7
Project Description	The facility is located in Kampala District, Central Uganda, and mainly handles fish storage. It was established by Mr. Kawuma using own funds, with an initial investment of USD 27,778. The cold room operates at 3.53 kW with a capacity of 7 tonnes. It runs 9 hours per day, year-round, mainly in the morning. It stores an average of 2 tonnes daily and does not charge for storage. Monthly maintenance costs are about USD 556. Power is supplied by a solar PV mini grid. The facility has created 6 direct and 15 indirect jobs.
Project Risks	Equipment breakdown, which halts their operations.Limited cold room storage space.
Project Enablers	 Acquiring more financing for cold room facilities. Increased supply of fish products in the local communities. Training of more technicians on cold room operation and maintenance.
Investment Needs	 Purchase of fish processing machines (estimated number 5, capacity 500kg/hr. each). Target beneficiaries: 15
Proposed Investment Ticket Size	Total USD 15,000 Fish fillet processing equipment: USD 15,000
Proposed Investment Structure	 Models » Co-financing from the development partners and government to increase product affordability. Instruments: » Grant
Potential Impact	 More reduction of the post-harvest losses for fish. More jobs created both direct employment and indirect. Increased incomes for the owner and community fish traders.



3.6 Crop Cold Storage

3.6.1 Summary of Farmer Groups

Table 82: Summary of farmer groups / cooperatives for crop cold storage surveyed during field visits.

Farmer Group / Cooperative	District	Female Members	Male Members	Other
Nyakihanga fruits and vegetables growers' cooperative society Limited	Ntungamo	200	300	-

3.6.2 Investment Projects in Crop Cold Storage

Only one cooperative visited was engaged in operation of a crop cold storage facility.

3.6.2.1 Nyakihanga Fruits and Vegetables Growers Cooperative Society Limited

Table 83: Nyakihanga Fruits and vegetables Growers Cooperative Society Limited

Table 05: Nyakillaliga	a Fruits and vegetables Growers Cooperative Society Limited
Project Name	Nyakihanga Fruits and vegetable s Growers Cooperative Society Limited
Contact person	Rachkara Alan Sadicki
Phone number	+256786380914
GPS Coordinates	-0.758025 30.3094116666666666 1415.5 4.9
Project Description	The cold room facility is located in Ntungamo District, Western Uganda. It mainly handles fruits and vegetables. The cooperative was established through government grants worth USD 2,777,778. The cold room operates at 1.49 kW with a capacity of 20 tonnes and is mainly run throughout the day. Additional machines at the facility include a hot water generator, pasteurizer, pulper, crusher, filling machine, capping machine, and homogenizer. The facility currently stores an average of 10,000 liters per day. It operates 30 days a month and does not charge direct storage fees. Monthly maintenance costs are about USD 694.44, while grid energy expenses average USD 833. The facility has created 4 direct and 20 indirect jobs.
Project Risks	 High energy expenses totaling USD 833.33 per month. This increases the cost of operation. Equipment breakdown, which halts their operations. Rotting of fruits when there is a power blackout.
Project Enablers	 Acquiring more financing to acquire more harvest handling technologies. Increasing the supply of fruits from the community fruit farmers. Provision of training and capacity building to farmers to boost fruit production. Enhancement of power reliability and reduction of power tariffs.
Investment Needs	 Purchase of Hydraulic press type juice extractor (capacity 0.5 MT/hr.), labeling machine (Application size 20-300mm (L), 12-100 mm (W), 30-200mm (H)), automatic fruit washers (1 MT/hr.) and bigger capacity filling machine (6000 pouches/hr.). Solarization of the cooperative (Estimated need of 14 kWp solar PV system) Target beneficiaries: 500

Project Name	Nyakihanga Fruits and vegetable s Growers Cooperative Society Limited
Proposed Investment Ticket Size	 Total USD 82,930 Hydraulic press type juice extractor: USD 30,000 Labelling machine: USD 10,000 Automatic fruit washers: USD 6,000 Filling machine: USD 30,000 Solarization of the Cooperative: USD 6930
Proposed Investment Structure	 Models Equity financing from private investors to increase working capital and Production technology affordability. Energy as a service for solarization of the cold room and powering the rest of the machines. Co-financing from the development partners, the government and donors especially on the expensive technology. Instruments: Blended (70% grant, 20% equity, 10% debt)
Potential Impact	 More reduction of the post-harvest losses for the fruits. Provision of reliable power to run the cold room. More jobs created both direct employment and indirect. Increased incomes for the cooperative and smallholder farmers



Figure 30: Cold room facility at Nyakihanga Fruits and vegetables Growers Cooperative Society Limited.



3.7 Aggregated PUE Demand

Table 84: Aggregated PUE demand opportunities - irrigation.

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Solar Powered Irrigation (SPIS)	Lwengo	USD 225,000 ~ 150 farmers
		USD 1,075,000 ~ 2500 farmers
		USD 21,500~50 farmers
	Ngora	USD 23,650 ~ 55 farmers
	Kamuli	USD 25,800 ~ 60 farmers
	Gulu	USD 96,750 ~ 80 farmers
	Kumi	USD 150,000 ~ 400 farmers
	Kalaki	USD 129,000 ~ 300 farmers
		USD 180,000- USD 900,000 ~ 50 farmers
	Kween	USD 380,000 ~ 20 farmers
	Amuru	USD 15,000 ~ 10 farmers
	Bugiri	USD 860,000 ~ 2000 farmers
	Masaka	USD 43,000 ~ 100 farmers
		USD 21,500 ~ 50 farmers
	Lira	USD 450,000 ~ 300 farmers
Cold room	Lwengo	USD 45,000 - USD 90,000 ~ 1100 farmers
	Ngora	USD 8000 ~ 30 farmers
	Gulu	USD 19,000 ~ 80 farmers
	Lira	USD 19,000 ~ 864 farmers
	Amolotar	USD 38,000 ~ 26 farmers
	Kween	USD 45,000 - USD 90,000 ~ 20 farmers
	Amuru	USD 19,000 ~ 30 farmers
	Masaka	USD 19,000 ~ 36 farmers
		USD 25,000 ~ 1500 farmers
		USD 15,000 ~ 50 farmers
	Kamuli	USD 15000~80 farmers
		USD 10,000 ~ 200 farmers
	Masaka	USD 51,000 ~ 665 farmers
	Kole	USD 3800-7,600 ~ 2911 farmers
		USD 51,000 ~ 300 farmers
Solar drier	Masaka	USD 3,798.34 ~ 36 farmers
	Kole	USD 3800-7600 ~ 2911 farmers
Grid connection	Kole	USD 12000 - 2911 farmers
E-mobility vehicles	Kole	USD 100,000-230,000 ~ 2911 farmers

Table 85: Aggregated PUE demand for Crop value addition.

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Solar Powered Irrigation (SPIS)	Mubende	USD 20,000 ~ 451 Farmers
	Mbale	USD 20,000 ~ 320 Farmers
	Kasanda	USD 15000 ~ 293 Farmers
		USD 20,000 ~ 410 Farmers
	Lira	USD 15000 ~ 3177 Farmers
	Kole	USD 10000 ~ 400 Farmers
Maize Huller	Mubende	USD 5,000 ~ 451 Farmers
Solar PV System	Ntungamo	USD 517,955.80 ~ 500 Farmers
	Soroti	USD 37,292.82 ~ 110 Farmers
		USD 19,889.50 ~ 356 Farmers
	Kalaki	USD 65,883.98 ~ 892 Farmers
	Kumi	USD 74,585.64 ~ 20 Farmers
	Mbale	USD 68,370.17 ~ 320 Farmers
	Bugiri	USD 68,370.17 ~ 457 Farmers
		USD 149,171.27 ~ 2000 Farmers
	Kamuli	USD 68,370.17 ~ 4927 Farmers
	Iganga	USD 27,348.07 ~ 700 Farmers
	Kasanda	USD 80,801.10 ~ 293 Farmers
		USD 124,309.39 ~ 410 Farmers
	Lira	USD 37,292.82 ~ 3177 Farmers
		USD 68,370.17 ~ 593 Farmers
		USD 195,787.29 ~ 3000 Farmers
	Kole	USD 37,292.82 ~ 400 Farmers
		USD 136,740.33 ~ 16000 Farmers
	Mityana	USD 111,878.45 ~ 1500 Farmers
Juice Processing Equipment	Ntungamo	60,000 USD ~ 500 Farmers
Bulk Grinding Machine	Soroti	15,000 USD ~ 109 Farmers
Solar Drier	Kamuli	USD 2300 ~ 4900 Farmers
Oil Processing Machine	Kole	USD 2000 ~ 400 Farmers

Table 86: Aggregated PUE Demand For Fish Production.

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Cold Room	Soroti	USD 8000 ~ 30 Farmers
	Ngora	USD 19,000 ~ 12 Farmers
	Kumi	USD 38,000 ~ 21 Farmers
	Mpigi	USD 19,000 ~ 30 Farmers
		USD 9500 ~ 45 Farmers
	Gulu	USD 9500 ~ 6 Members
	Lira	USD 9500 ~ 60 Farmers
Refrigerator	Mityana	USD 1,600 ~ 35 Farmers
	Amuru	USD 10,000 ~ 54 Farmers
Refrigerated Trucks	Mpigi	USD 100,000-230,000~45 Farmers

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Solar Drying	Soroti	USD 3800 ~ 30 Farmers
	Ngora	USD 7,700~12 Farmers
	Mpigi	USD 7400~45 Farmers
Water Pumping	Kumi	USD 22,000-USD 34,000 ~ 10 Farmers
	Amuru	USD 3,400 ~ 54 Farmers
Modern Fish Smoking Kiln	Mpigi	USD 12,000~45 Farmers
Feed Processing Equipment	Mpigi	USD 30,000_45 Farmers

Table 87: Aggregated PUE demand for dairy production.

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Milk Chiller	Lyantonde	USD 10,500 ~ 17 Farmers
		USD 7000 ~ 56 Farmers
		USD 3500 ~ 35 Farmers
	Sembabule	USD 5000 ~ 45 Farmers
		USD 5000 ~ 17 Farmers
	Kazo	USD 7000 ~ 30 Farmers USD 3500 ~ 6 Farmers
	Viruleura	
	Kiruhura	USD 5000 ~ 70 Farmers
	Gomba	USD 15,000 ~ 5 Members
	Ngora	USD 5000 ~ 10 Farmers
Milk Pasteuriser	Lyantonde	Usd 3500 ~ 35 Farmers
	Sembabule	USD 3500 ~ 45 Farmers
Solar PV System	Lyantonde	USD 26,135.03 ~ 17 Farmers
		USD 47,098.64 ~ 56 Farmers
		USD 47,098.64 ~ 35 Farmers
	Sembabule	USD 97,326.72 ~ 45 Farmers
		USD 87,594.04 ~ 17 Farmers
	Kazo	USD 43,600 ~ 30 Farmers
		USD 32,500 ~ 6 Farmers
	177	USD 53,800 ~ 13 Farmers
	Kiruhura	USD 67,400 ~ 297 Farmers USD 89,600 ~ 70 Farmers
	Manaka	
	Masaka	USD 150,600 ~ 500 Farmers
	Gulu	USD 177,000 ~ 80 Farmers USD 90,000 ~ 100 Farmers
	0	
	Gomba	USD 49,500 ~ 58 Farmers USD 117,750 ~ 1000 Farmers
		USD 104,000 ~ 5 Members
	Mubende	USD 125,500 ~ 20 Farmers
		USD 14,400 ~ 1343 Farmers
	Bugiri	,
D 1 1 14 11	Ngora	USD 53,800 ~ 10 Farmers
Packaging Machine	Sembabule	USD 30,000 ~ 17 Farmers

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Yogurt Making Machine	Kazo	USD 8000 ~ 13 Farmers
	Kiruhura	USD 8000 ~ 70 Farmers
	Masaka	USD 8000 ~ 500 Farmers
	Gulu	USD 5000 ~ 80 Farmers
		USD 5000~100 Farmers
	Gomba	USD 5000 ~ 1000 Farmers
Boiler	Masaka	USD 8000 ~ 500 Farmers
Milking Machine	Gomba	USD 10,000 ~ 1000 Farmers
Mowing Machine	Gomba	USD 5000 ~ 1000 Farmers
Silage Cutting Machine	Gomba	USD 5000 ~ 1000 Farmers
Ice Cream Machine	Gulu	USD 1500 - 100 Farmers

Table 88: Aggregated PUE demand for Cold storage fish.

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Fish Fillet Processing Equipment	Kampala	USD 15,000 ~ 100 beneficiaries USD 3000 ~ 20 beneficiaries
Fish Packing Machines	Kampala	USD 50,000 ~ 20 beneficiaries
Cold Room	Kampala	USD 45000 ~ 20 beneficiaries
Mobile Cold Storage Vehicles	Masaka	USD 50,000 ~ 1000 beneficiaries

Table 89: Aggregated PUE demand for crop cold storage.

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Hydraulic press type juice extractor	Ntungamo	USD 30,000 ~ 500 farmers
Solar PV system	Ntungamo	USD 6930 ~ 500 farmers
Labelling Machine	Ntungamo	USD 10,000 ~ 500 farmers
Automatic Fruit Washers	Ntungamo	USD 6,000 ~ 500 farmers
Filling Machine	Ntungamo	USD 30,000 ~ 500 farmers

Table 90: Aggregated PUE demand for cold storage dairy.

PUE Category	Prevalent District	Potential Investment Ticket Size (USD)
Yogurt making machine	Gulu	USD 5000 ~ 100 farmers
Solar PV system	Gulu	USD 90,000 ~ 100 farmers
Ice cream making machine	Gulu	USD 1500 ~ 50 farmers

3.8 Conclusion

The findings of this investment prospectus highlight the immense potential for the productive use of renewable energy (PURE) in Uganda's agricultural sector. By strategically integrating PURE solutions across priority value chains, including horticulture, maize, dairy, oilseeds, and fisheries, this report provides a roadmap for scaling sustainable agricultural practices, increasing productivity, and improving the livelihoods of rural communities.

The data-driven approach used to identify and rank high-impact, high-potential value chains ensures that investment decisions align with national development goals and maximize economic, social, and environmental benefits. The proposed investment projects, ranging from solar-powered irrigation systems and cold storage facilities to agro-processing units, present viable opportunities for investors and development partners to support Uganda's agro-industrialization agenda.

In addition, the financing models proposed such as pay-as-you-go, lease-to-own, and blended finance structures offer practical pathways for scaling PURE technologies while ensuring financial sustainability for farmer cooperatives and agribusinesses. Successful implementation of these projects will not only reduce post-harvest losses and enhance food security but also drive economic growth through job creation and market expansion.

To realize this vision, continued collaboration among government agencies, development partners, financial institutions, and private-sector players will be essential. Policy support, infrastructure development, and targeted capacity-building initiatives will further accelerate the adoption of PURE technologies, ultimately transforming Uganda's agricultural sector into a resilient and energy-efficient engine of economic growth.

for a mixed farm application

