YOUR VIRTUAL COLD CHAIN ASSISTANT

Session 8: Innovation Arena

Showcasing Cooling Solutions for Sustainable Agriculture

YOUR VIRTUAL COLD CHAIN ASSISTANT

Meet the speakers

Innovators

HEIFER INTERNATIONAL

samakung

BUNKASA

Edna Nyamwaka
Renewable Energy & Water Manager

Clinton Obura
CEO and Founder

Muhammad Yakubu Bubayaro
CEO

Investors

yunus social business

elea

CARBON TRUST

Dennis Ngure
Investment Manager

Lianne Bingen
Director

Jonathan Clowes
Senior Manager

YOUR VIRTUAL COLD CHAIN ASSISTANT

Innovation Arena

Agricooling Innovators:

- 5 Minute Pitch
- 10 Minute Q&A with Investors

samakung — *Integrated fish value chain and cold chain*

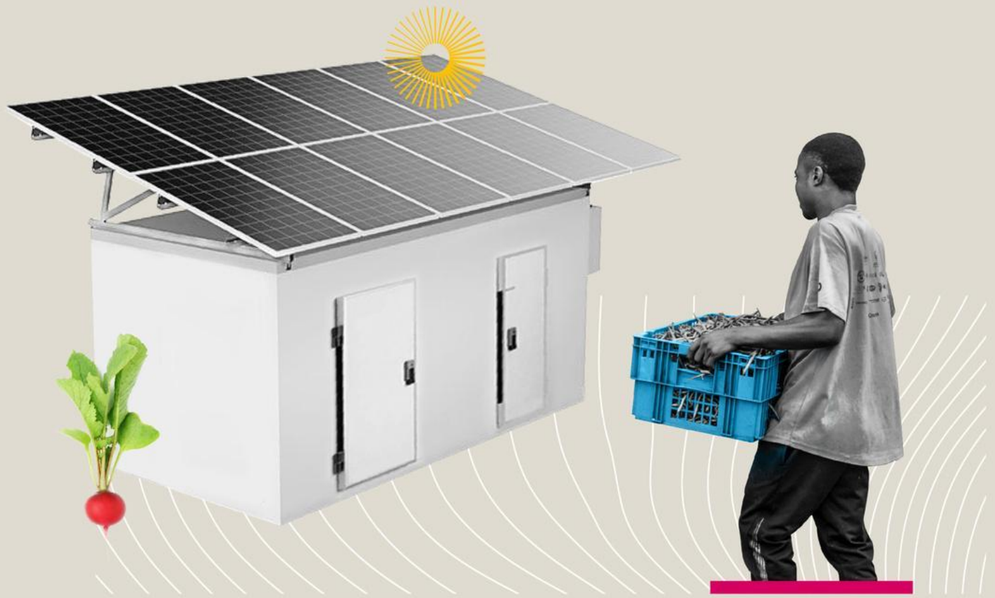
HEIFER INTERNATIONAL — *Dairy value chain: rural milk chilling*

BUNKASA — *Aggregation & solar cold chain for vegetables*

YOUR VIRTUAL COLD CHAIN ASSISTANT

Pitch brief

1. Challenge
2. Solution - and why it’s better
3. Current status and impact
4. Vision and strategy
5. Funding requirement



samaking

samaking.co

Make fish the #1 protein on african plates

sourced sustainably from thriving fish farmers and fisherfolk.

Founder Story

Clinton Obura,
Founder & CEO

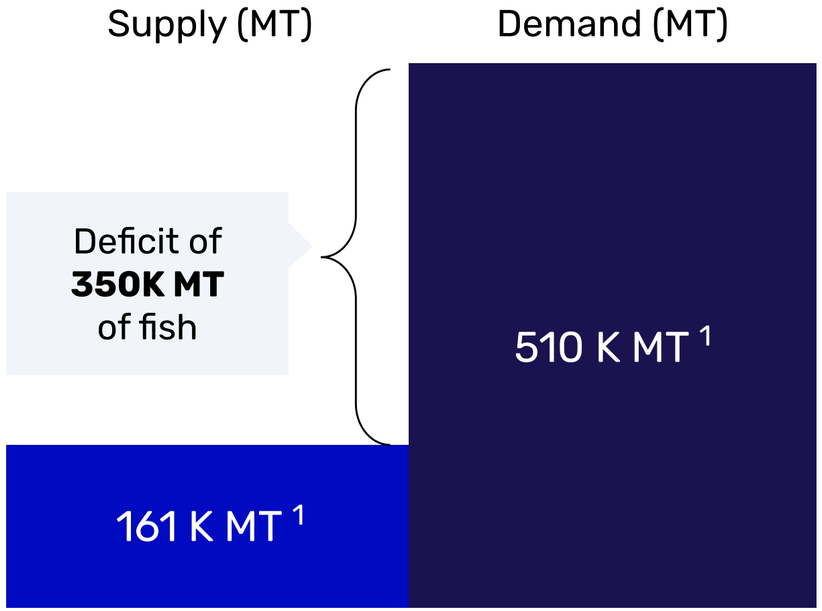
Born & raised on the shores of Lake Victoria, Clinton understands the dual role of fish as sustenance and as an economic drive

Africa's most affordable protein is missing from Kenyan plates

Macro View

Kenya consumes **4.7kg** fish per person/year vs. **10kg** Africa and **20kg** global average

Aquaculture is still capex and opex heavy for local communities.



Sources: 1) Kenya Fishery Services, Fisheries Statistical Bulletin, 2023, Link

The root causes are structural bottlenecks

Problem

Fish farmers are not growing, with the major challenges between production to market:

Low quality inputs & poor management

Low yields

Limited cold chain enabled supply chains

High spoilage

Unreliable market linkages

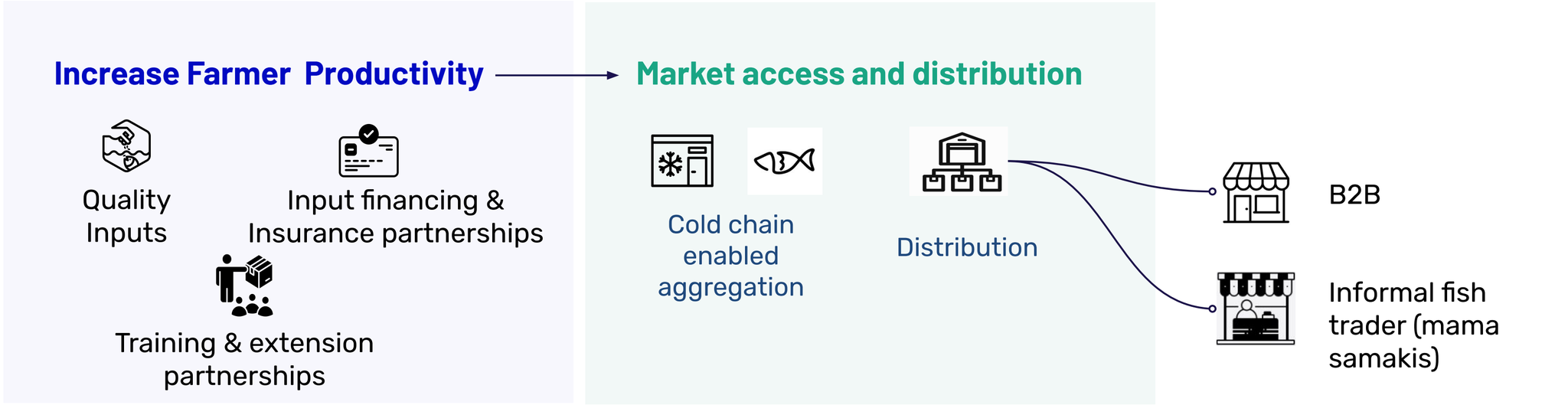
Farmer can’t sell consistently

Poor distribution

Urban consumers lack access

We improve farmer productivity with quality inputs and digital credit, then we secure market access through cold chain aggregation and distribution.

Solution



Tech stack:

Farmer identity, e-vouchers, field agent app, aggregation app, Insurance integration with partners.

Sales app, IoT coldchain app, embedded credit.

The E. African market for fish is expected to grow by **4x** by 2050 driven by pop. growth and increased consumption

Market size

Today

$2.2B [1]	**Total Addressable Market** *Market for fish in KE, UG, TZ, RW
$357M	**Serviceable Addressable Market** *16% of TAM (aquaculture's contribution)
$105M	**Serviceable Obtainable Market** *30% of SAM

4x growth driven by increase in population & per capita consumption

2025

Total Addressable Market *Market for fish in KE, UG, TZ, RW*	**$8.8B**
Serviceable Addressable Market *40% of TAM (increasing contribution from aquaculture)	**$3.52B**
Serviceable Obtainable Market *30% of SAM	**$1.06B**

samakung

1. Gatsby Africa Opportunity brief: Aquaculture in East Africa.

We grow revenues and margins by scaling sourcing, optimizing pricing, and running supply chain operations

Business model

Revenue sources

Revenue is primarily from commission on fish sales. Future expansion into inputs and financial services.

Revenue drivers

Number of active retail outlets and sourcing capacity (unlocked by higher working capital) are key volume drivers

Operations

Operations hinge on quality control and cold chain integrity from fisher to outlet

Unit economics

Gross margins range from 8-16% on fish.

Pricing strategy

Pricing is generally a cost-plus model that is within a narrow band of local market rates to ensure affordability

Sales and marketing strategy

B2B - bulk buyers

Informal fish traders - high velocity and repeatable B2B2C engine

Strong early traction, clear path to scale

Traction & roadmap

Phase 1
(Q2 2024- Q1 2025)

Focus: Retail sales to prove offtake and distribution

$42K Revenue in Aug 2025

1000+ customers acquired on the offtake side.

Phase 2
(Q2 2024- Q1 2025)

Build supply at scale through farmer offtake agreements, launch B2B channels, and unlock working capital

Unlock $ 115,000 Revenue by Dec 2025

Work with 300 farmers/fisherfolk and 1000 informal fish traders (mama samakis) by end of 25

Phase 3
(Q2 2025- 2026)

Expand farmer services with credit and input bundling, while scaling regionally into our second market.

Unlock $400K of GMV by Dec 2026

Work with 2000 farmers/fisherfolk and 1000 mama samakis by end of 26

$1M Seed Round Planned for H1 2026

Wins:

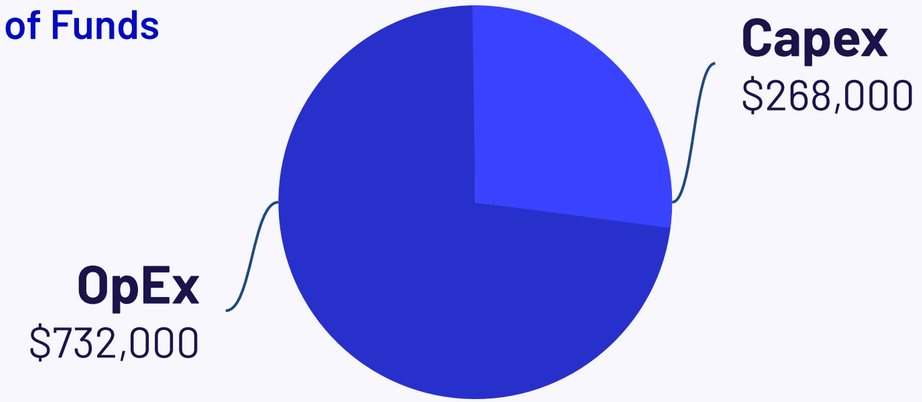
- 250K Euro competitive grant from PREO to scale our cold chain infra. (Productive Use of Energy)
- Commitment from gates foundation for further investment to the tune of ~ $400K.

Samaking is seeking $700K in equity and $300K in working capital to establish the aggregation platform and build out our mama samaki and B2B channels.

Funding ask

$700,000	in equity or convertible loans
$300,000	in working capital

Use of Funds



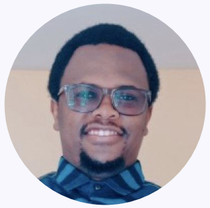
Samaking is led by a visionary team and a stellar crop of advisors

Team

Management

Clinton Obura,
Founder & CEO

Raised ,on the shores of Lake Victoria, Clinton understands the dual role of fish as sustenance and as an economic drive



Vincent Hamisi,
Head of Operations

An early hire at Twiga foods held roles across multiple departments including customer experience, supply chain and data

Board of Directors.

Kanini Mutooni

Founder, experienced senior executive & board member with global experience gained in financial services & nonprofits

Eric Achola

Experienced executive driving marketing and commercial outcomes at scale in, F&B, Renewable energy, telecommunications

Delta 40 GATSBY AFRICA BFAGLOBAL KALEOVENTURES

samaking

Join us to revolutionize the fish & aquaculture sector!

Clinton Obura
Founder & CEO

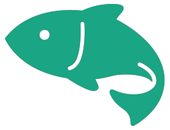
clinton@samaking.co

samaking

Appendix

We reduce GHG emissions by replacing livestock consumption with fish, and improve food security and livelihoods for fish farmers and retailers

Impact

Environmental Impact				
Feed conversion ratio [1]	1.5	1.9	3.9	8
Carbon footprint (kg CO_2e)[2]	1.3	1.8	5.8	15.5
Retail Price (KES/KG)	Kes 120 to 420	KES 450 -750	KES 650 - 1,000	KES 600- 1,000

Projected social impact (2024-2028)

- Increasing revenue for **2500 farmers & fisherfolk**
- Creating ~**300 jobs** across our retail stores & aggregation centers
- Empowering **4000** mama samakis

samakung

The quantity of feed required to produce 1 kg of meat, Link. 2. Carbon emissions per serving, Link. 3. Link.

The status quo is very production heavy with little innovation &/or interventions closer to the customer. We believe that market interventions should lead then production will organically fall into place.

Impact

Production

Large-scale (>10K tons)

VICTORY FARMS

YALELO

SME farms

BAYRISE Fresh from Lake Victoria

Rio Fish

Limitations

- Artisanal fisherfolk account for **78%** of supply
- **Large scale** fish farms **(10K tonnes)** are vertically integrated out of need, not strategy; this is CapEx and OpEx intensive
- **SME farms are struggling to scale** because of the CapEx/OpEx heavy nature of fish farming and the lack of **organized/guaranteed o**fftake which further exacerbates their funding challenges

Market Linkage

AQUARECH

KeepIT Cool
RAINO TECH4IMPACT

Limitations

- **Thin margins** in playing 'middle man'
- Feeding existing markets but **not opening up new ones**

Market Linkage

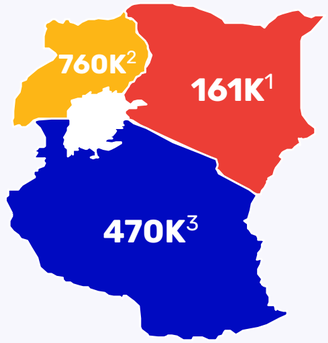
Limitations

- **Informal fish traders ("mama samaki") are the main retail channel** at ~ 84%; this leads to health & safety concerns (i.e. recycling oil for 2 weeks) and limited availability during rain (with open-air sales)

There is a huge potential in Kenya's fish industry that can be unlocked by empowering farmers and fishermen

Customer

Fish farming in East Africa



- Kenya produced ~**161,308 MT**[1] of fish in 2023—far below neighboring countries
- Kenya has ~**70,000**[4] fish farmers vs. hundreds of thousands in Uganda & Tanzania
- Kenya's fisheries sector directly employs over **65,000**[4] fishermen

Fish farmers vs fishermen: profile summary

Aspect	Fish farmers (aquaculture)	Fishermen (wild catch)
Main activity	Rearing fish in ponds/tanks and cages	Harvesting wild fish from lakes/oceans
Market access	Local markets and some formal buyers like hotels	Informal markets dominated by middlemen

Challenges faced

Limited market access

Limited access to inputs & knowledge

High post harvest losses

Our Solution

Guarantee offtake through a tech-enabled platform that plans and coordinates purchases from our sourcing network

Train farmers/fishermen on sustainable fishing, facilitate access to quality inputs through partnerships and credit support

We source from fragmented small-scale pond farmers, emerging aquaculture farmers, and artisanal fishermen who share a critical hurdle, limited market access. This challenge impacts production volumes and contributes to spoilage

samakung

Sources: 1) Kenya Fishery Services, World Fisheries Day, 21st November 2024, Link; 2) FAOSTAT, Link; 3) Statista, Link; 4) Kenya Fishery Services, Fisheries Statistical Bulletin, 2023, Link

We have learned extensively about the market from primary and secondary research as well as pilots

Research and Insights

Consumers

75%
of consumers buy **fried whole fish** (rather than fresh/uncooked)

89%
of people normally eat fish **at home** (not in a restaurant), despite buying fried fish

Market access

84%
of fish is **supplied by Mama Samaki**

Reliability
of supply is a key issue

Beef & alternative protein sources
are **better distributed than fish**

Fishfarmer

High costs
Fish farming is expensive

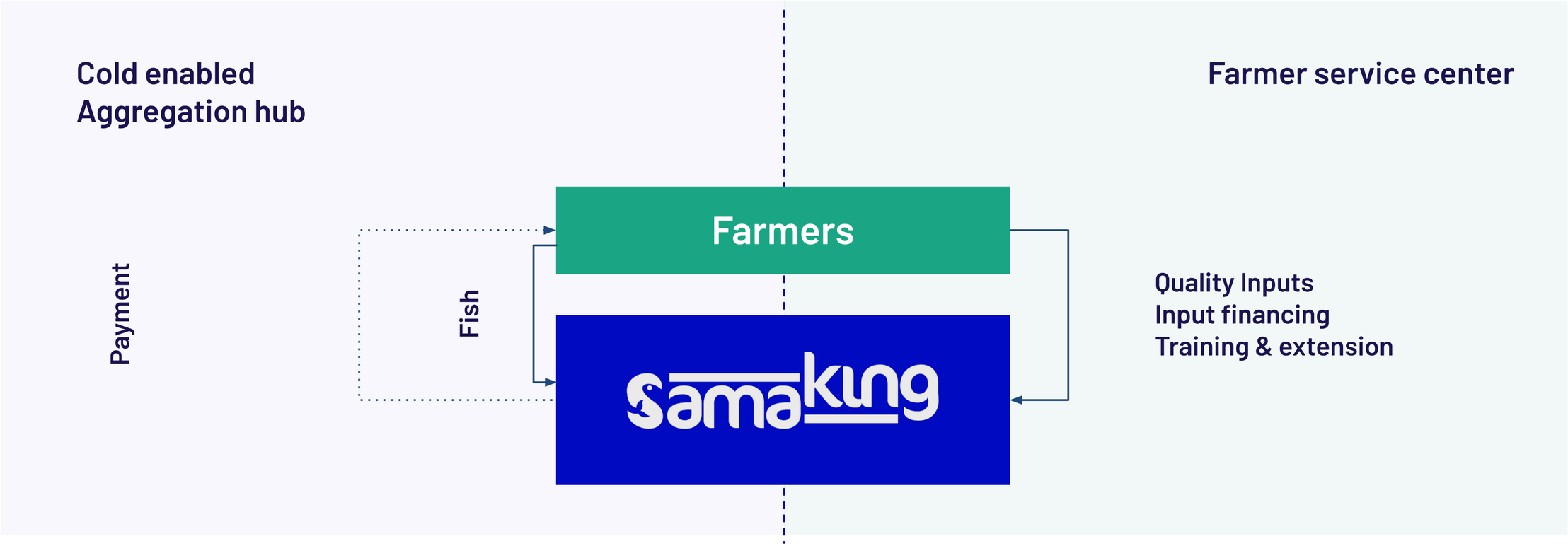
400K
of fish farmers **in Africa** vs. to 3M in Indonesia

Market linkage challenges
hinder fish farmers from investing in production

samaking

Sources: 1) Kenya Fishery Services, World Fisheries Day, 21st November 2024, Link; 2) FAOSTAT, Link; 3) Statista, Link; 4) Kenya Fishery Services, Fisheries Statistical Bulletin, 2023, Link

Co-located Aggregation and Farmer service center



Our B2B channel includes supermarkets, processors, and HORECA clients who differ by purchasing behavior, operational needs, and decision-making dynamics

Customer - B2B

Phot credits: Naivas, Link

	Supermarkets	Processors	Hotels, restaurant, caterers (HORECA)
Key Activities	Supplier listing and negotiations, periodic promo support (offers/discounts), branding and packaging compliance	Advance demand forecasting, strong quality control, load planning and bulk delivery coordination	Pre-order management, sampling and chef engagement, training on product handling
Needs	Packaged and labelled, regulatory compliance (KEBS), competitive pricing	Bulk supply, reliably delivered, size uniformity and quality for processing, consistent pricing	Consistent quality (fresh), timely delivery especially during peak hours
Purchasing behavior	Weekly or bi-weekly orders, larger volumes but slower stock turnover	Large, contract-based or ad-hoc bulk orders(weekly or monthly)	Frequent small to medium sized orders(2-4 times/week), most pay on delivery or credit terms

samakung

Sources: 1) Kenya Fishery Services, World Fisheries Day, 21st November 2024, Link; 2) FAOSTAT, Link; 3) Statista, Link; 4) Kenya Fishery Services, Fisheries Statistical Bulletin, 2023, Link

Samaking is on track to achieve revenues of $32M by 2029, with profitability strengthening to a net margin of 13%.

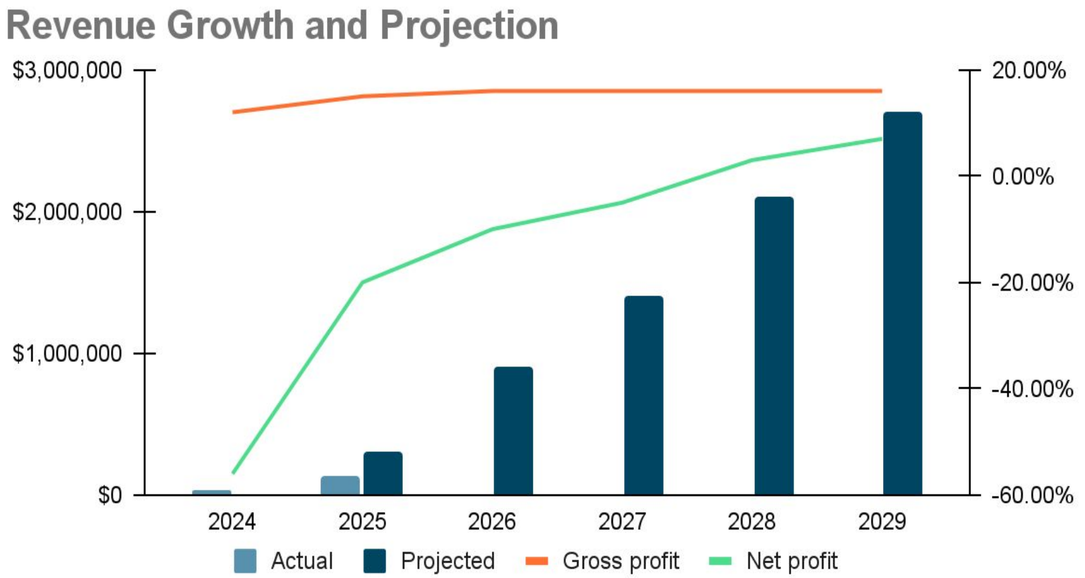
Revenue trajectory

Revenue growth

Revenue has scaled 5-fold since 2024 due to expansion to B2B and general trade.

Into profit

Net positive achieved in 2026, validating the business model and growth strategy



HEIFER INTERNATIONAL UGANDA

Heifer International Uganda Agri Cooling Solution for Dairy Cooperatives

By Edna Nyamwaka
17 October 2025

HEIFER.ORG

Rationale for greening the dairy value chain

The average access rate to electricity in Africa is 43% (half the global access rate of 87%).

Lack of access to reliable and affordable energy in sufficient quantity remains a major constraint on agricultural production (IFAD, 2020).

Uganda experiences high losses even before the food reaches the market, in part due to the lack of adequate cold storage (FAO, 2020).

Rationale for greening the dairy value chain

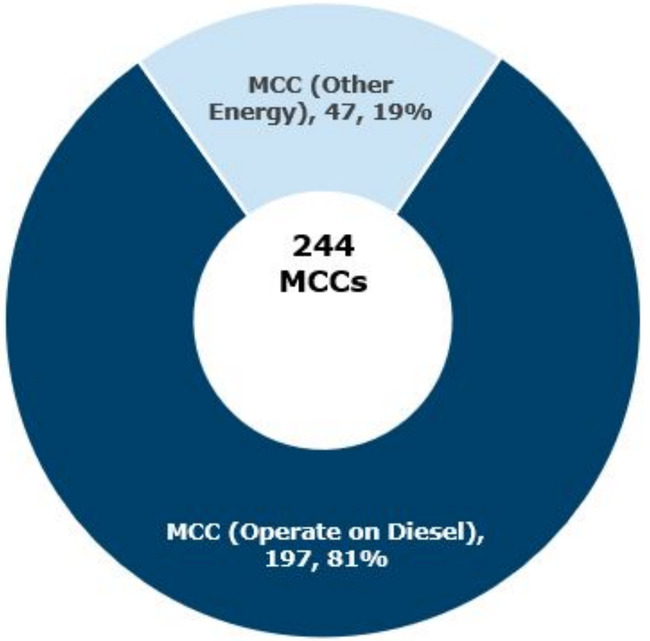
125 Producer Organizations (POs) established across the country.

40% of their operational costs is spent on energy.

POs lose **5-10%** of their revenue due to power outages.

Processors' utilisation capacity has stagnated between **40%** and **60%** leading to high processing costs per liter of milk.

Uganda Milk Collection Centers and their Source of Energy



The Solution: Case of Productive Use of Solar Energy (PUSE)

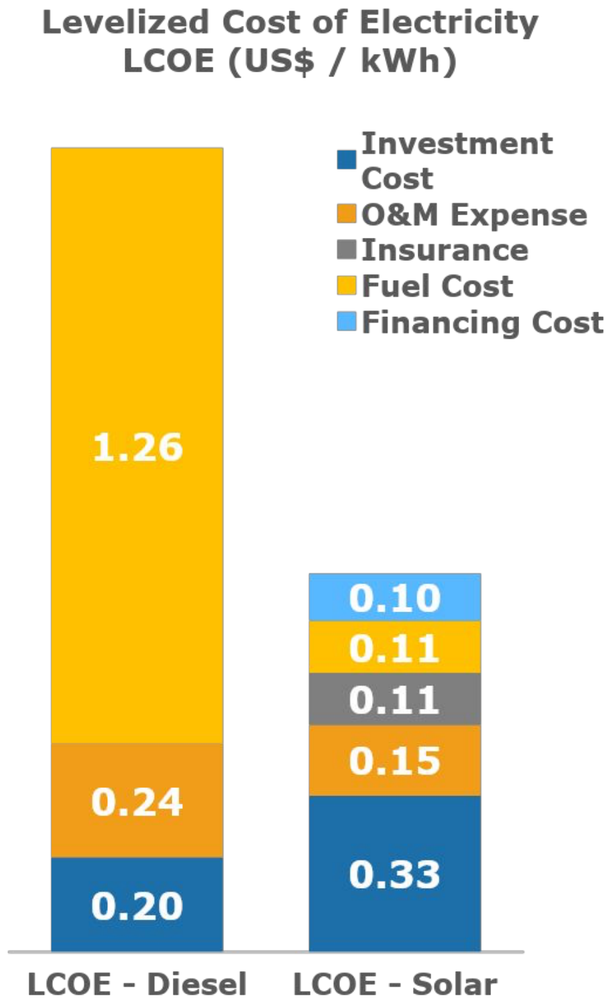
Bringing together renewable actors to demonstrate at scale the impact of the Productive Use of Solar Energy (PUSE).

Focus is on Solar-powered rural milk chilling solutions at the dairy cooperative level in Uganda.

Modelled a 30% grant and 70% commercial financing for software, O&M, and CAPEX, respectively, at interest rates of 9-12% for a period of 7-10 years.

No collateral is required. The asset acquired is the collateral.

Heifer provides overall technical support from feasibility studies to the commissioning of the solar systems



Impact story

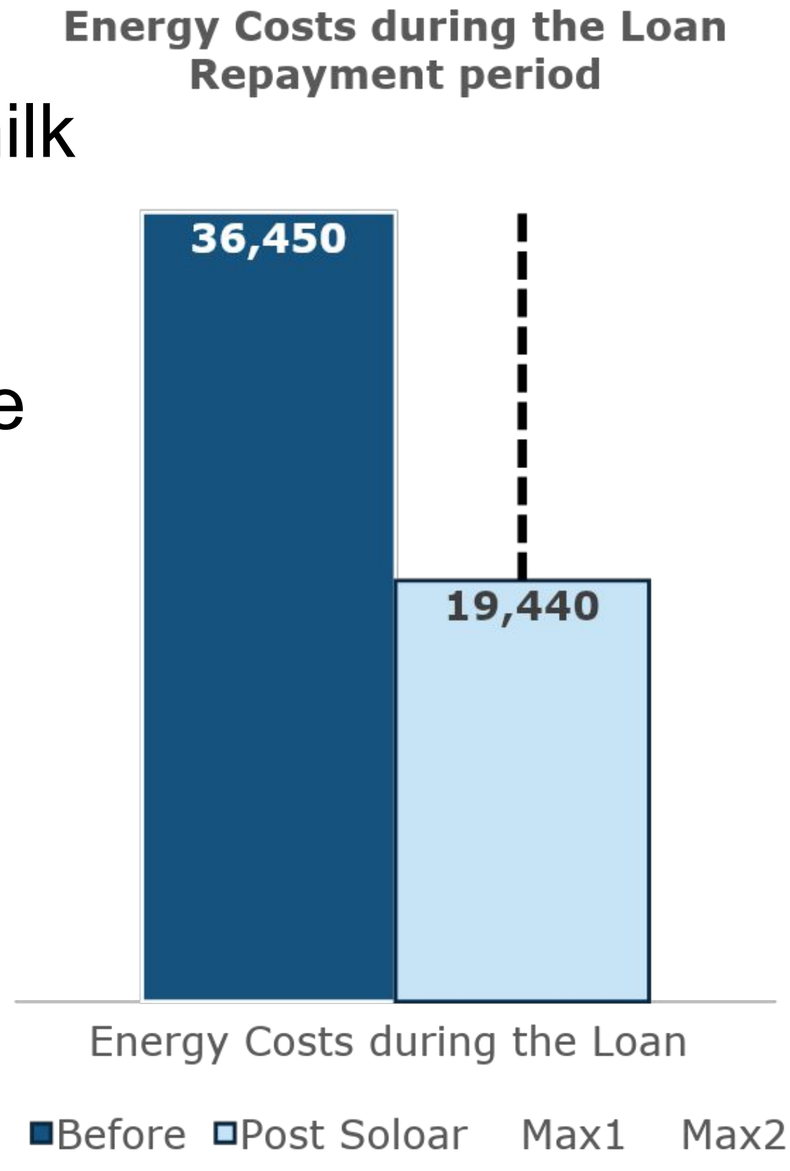
Four sites commissioned with a capacity of

- 41.4kWp,
- 38.8kWp
- 7kWp (Off Grid) and
- 28.05kWp (Grid Tied)

Three are under construction.

The Case of Migina MCC (Dwaniro co-op):

- 100% reduction in milk losses, 197,321 liters of milk worth $ 49,682.827 is chilled monthly.
- Cooperative used to lose 2,600 USD monthly due to generator breakdowns.
- Environmental Conservation monthly reduction of 5.979 tons of carbon dioxide equivalent.
- 22.6% increase in milk suppliers.



Next Steps : Vision & Strategy

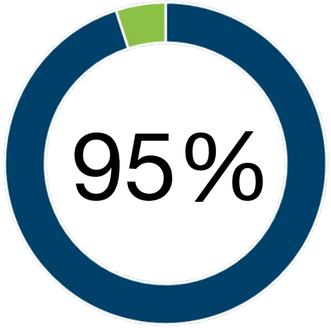
<u>24 solar-powered solutions</u> to be installed in 15 Districts in Central and Southwestern Uganda.

Expected outcomes

20% increase in income for 9,000 dairy farmers due to increase in milk bulked, procured and higher quality achieved.

46% reduction in the energy costs for 15 dairy Producer Organizations by limiting the usage of diesel and embracing renewable energy.

20% increase in utilization capacity of dairy processors.



95% reduction in carbon footprint for 15 Producer Organizations.

Funding requirement

$76,000	$2,371,200	$1,276,800	$1,094,400
Cost per solar plant	Total cost for 24 solar plants	Confirmed commercial financing	Total required funding

YOUR VIRTUAL COLD CHAIN ASSISTANT

THANK YOU!

info@yourvcca.org