Pitch Deck: Solar-Powered Irrigation & Cold Storage for Smallholder Farmers

Slide 1: Title Slide

AGRI-COOL SOLUTIONS
Empowering smallholder farmers with 24/7 solar energy for water security and post-harvest resilience

Tagline: "From Sun to Harvest: Ending Water Scarcity and Food Waste"

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Slide 2: The Critical Problem

"Smallholder farmers lose everything between field and market"

The Triple Crisis:

1. Water Poverty: 500 million smallholder farms rely on erratic rainfall
   · Only 6% of Africa's cultivated land is irrigated
   · Rain-fed agriculture fails 2-3 seasons every 5 years
2. Post-Harvest Catastrophe:
   · 40-50% of fruits and vegetables spoil before reaching markets
   · Equivalent to $30 billion annual loss in Sub-Saharan Africa alone
   · Farmers sell at distress prices immediately after harvest
3. Energy Poverty:
   · 60% of rural Africa lacks electricity access
   · Diesel pumps cost $0.40/kWh vs. solar at $0.05/kWh
   · Unreliable grids make cooling impossible

Visual: Side-by-side photos: (1) Wilted crops in dry field, (2) Rotted tomatoes in baskets

Slide 3: Our Integrated Solution

Solar Hubs: Irrigation + Cold Storage = Complete Farm Resilience"

One System, Two Life-Changing Services:

1. Solar-Powered Drip Irrigation:

· Reliable water access regardless of rainfall
· Enables high-value crop cultivation year-round
· Reduces water usage by 70% compared to flood irrigation

2. Solar-Powered Cold Storage:

· 24/7 cooling powered entirely by solar+battery
· Extends produce shelf life from 2 days to 21+ days
· Allows farmers to sell when prices are highest

Visual: Diagram showing solar panels → battery system → split to (1) water pump/drip lines and (2) cold storage unit

Slide 4: How It Works - The Technology

Modular, Scalable, and Smart

Core Components:

· 5-10kW Solar Array with sun-tracking capability
· 48V Lithium-ion Battery Bank for 72-hour backup
· IoT Monitoring System for remote management
· Pay-as-you-go Mobile Integration (M-Pesa, Airtel Money)

Farmer Experience:

1. Access: QR code or NFC tag unlocks services
2. Irrigate: Water flows for subscribed duration/volume
3. Store: Rent locker space by day/week
4. Pay: Mobile money, cash, or harvest credits

Visual: Clean technical schematic with callouts to key innovation points

Slide 5: Business Model

"Community Hub + Pay-Per-Use = Sustainable Scale"

Revenue Streams:

Service Pricing Model Revenue per Hub/Month

Irrigation $0.15 per m³ of water $1,200
Cold Storage $0.50 per crate per week $900
Value-Add Services Commission on market linkages $300
Total $2,400/month

Hub Economics:

· Capital Cost per Hub: $18,000
· Monthly O&M: $300
· Payback Period: 12-18 months
· Farmers Served: 30-50 per hub

Slide 6: Market Opportunity

$4.2 Billion Addressable Market Growing at 11% CAGR

Primary Markets (Year 1-3):

1. Kaduna: 6 million smallholder farmers, 70% post-harvest losses
2. Kano: 5 million farmers, favorable solar policies
3.katsina : 15 million farmers, government irrigation focus

Our Beachhead:

· Initial focus on horticulture clusters in Kaduna's Rift Valley
· Targeting 500,000 farmers cultivating tomatoes, onions, leafy greens
· Year 1 Goal: 50 hubs serving 2,500 farmers

Visual: Map highlighting target regions with farmer density overlay

Slide 7: Validation & Traction

"Proven Impact in Pilot Phase"

Pilot Results (3 hubs, 6 months):

· ✓ 92% reduction in post-harvest losses for tomatoes
· ✓ 240% increase in farmer income (from $450 to $1,080/season)
· ✓ 100% of farmers renewed subscriptions
· ✓ 3.5x increase in crop cycles per year

Partnerships Secured:

· County Governments: 3 MOUs for land access
· SNV Netherlands: Technical assistance grant
· Equity Bank: Farmer financing partnership
· Twiga Foods: Off-take agreement for quality produce

Slide 8: Competitive Advantage

Why We Win Where Others Fail

Competitor Irrigation Cold Storage Payment Flexibility Local Presence
Diesel Systems High cost Possible Cash only Medium
Grid Solutions Unreliable Unreliable Fixed monthly Low
Standalone Solar One service only One service only Limited Medium
Agri-Cool (US) ✓ Affordable ✓ Reliable ✓ PAYG Flexible ✓ Embedded

Our Moats:

1. Integrated Solution - Only complete farm resilience system
2. Community Ownership Model - 10% local equity in each hub
3. Proprietary IoT Platform - Predictive maintenance, usage optimization

Slide 9: The Team

Proven Operators with Deep Sector Experience

Abdulhadi Ahmed, CEO

· Former Regional Lead, SunCulture (solar irrigation)
· Deployed 5,000+ solar systems across Northwest
· MSc, Renewable Energy, University of Zaria (Abu)

Abdulmaleek musa, CTO

· 8 years at M-KOPA Solar (PAYG solar pioneer)
· Built IoT platforms serving 1M+ customers
· BEng, Electrical Engineering

Fatima Abdulkarim, Head of Farm Operations

· 15 years with FAO (Food and Agriculture Organization)
· Implemented $20M smallholder resilience programs

· Native of farming community in Kura Kano state

Advisory Board:

· Former Director, Nigeria Agriculture Research Institute
· Head of Climate Finance, AfDB
· Founder, Sokowatch (last-mile distribution)

Slide 10: Financial Projections

Path to Profitability and Scale

3-Year Projections:

Metric	Year 1	Year 2	Year 3
Hubs Deployed	50	200	500
Farmers Served	2,500	10,000	25,000
Revenue	$360K	$1.8M	$5.4M
Gross Margin	52%	58%	62%
EBITDA	-$180K	$240K	$1.8M

Key Assumptions:

· 80% utilization rate across services
· 5% monthly customer churn
· 15% annual cost reduction through scale

Slide 11: Funding Required

$1.5M Seed Round to Scale Impact

Use of Funds:

Purpose	Amount	Percentage
Hub Manufacturing & Deployment	$900,000	60%
Team Expansion (15 FTEs)	$300,000	20%
Technology & Platform Development	$225,000	15%
Working Capital & Operations	$75,000	5%
Total	$1,500,000	100%

Milestones Achievable:

· 12 Months: 50 hubs, 2,500 farmers, operational break-even
· 24 Months: 200 hubs, 10,000 farmers, $240K EBITDA
· 36 Months: 500 hubs, 25,000 farmers, regional expansion

Slide 12: The Ask & Vision

"Join Us in Building Climate-Resilient Food Systems"

We're Raising: $1.5M in seed funding

This Will Enable Us To:

1. Deploy 50 solar hubs in Year 1
2. Secure 2,500 smallholder farmers as customers
3. Prove the model for rapid Year 2 scale
4. Position for $5M Series A in 18 months

Our 5-Year Vision:

· 10,000 solar hubs across East Africa
· 500,000 farming families lifted out of poverty
· 5 million tons of CO_2 emissions avoided
· $500 million in additional farmer income generated

"Together, we can turn sunlight into sustenance and solar panels into prosperity."

Slide 13: Appendix/Backup Slides

1. Customer Testimonials:
"Before Agri-Cool, I lost 20 crates of tomatoes every season. Now I lose none, and I grow three seasons instead of one." - of the city in kaduna

2. Detailed Unit Economics:

· Cost per hub breakdown
· Farmer income analysis (before/after)
· Environmental impact calculations

3. Technology Specifications:

· Solar panel efficiency ratings
· Cooling capacity curves

· Battery performance data

4. Regulatory Support:

· Nigeria's National Irrigation Strategy
· East African Community renewable energy targets
· Paris Agreement alignment