



KILIMO SASA: Empowering Rural Farmers and Youth through Innovative Agribusiness Solutions



PROBLEM STATEMENT



Despite having land and water resources, farmers struggle to maximize agricultural potential. To address this, we need youth to develop innovative solutions. However, traditional labor-intensive farming methods are unappealing to younger generations, prompting their migration to urban areas.



Bridging Agriculture and Youth Empowerment with Solar-Powered Innovation

GOLDEN CIRCLE

WHY

Our goal is to boost agricultural productivity, improve livelihoods, and create jobs by engaging youth in sustainable farming practices. This fosters community resilience, mitigates climate change impacts, and ensures a sustainable future for all.

HOW

- 1) Reach out to local farmers, NGOs, government officials and private investors for financial support
- 2) Install solar panels for clean and affordable energy
- 3) Offer technical assistance and training for solar powered irrigation system
- 4) Collaborate with schools and community centers for outreach program (pay what you can)

WHAT

- 1) Solar panel powered farming irrigation systems
- 2) Agro-focused youth community outreach program

SOLAR POWERED AGRO IRRIGATION SYSTEM



Heuristics

- Anticipate an average need for 6000L water/ acre
- 5 hp pumps -> capable of delivering 20000 L water / 2 HRS/ day
 - ∴ approximately 3 acres/day
- Two 5 hp pumps will be purchased
 - ∴ approximately 6 acres/day

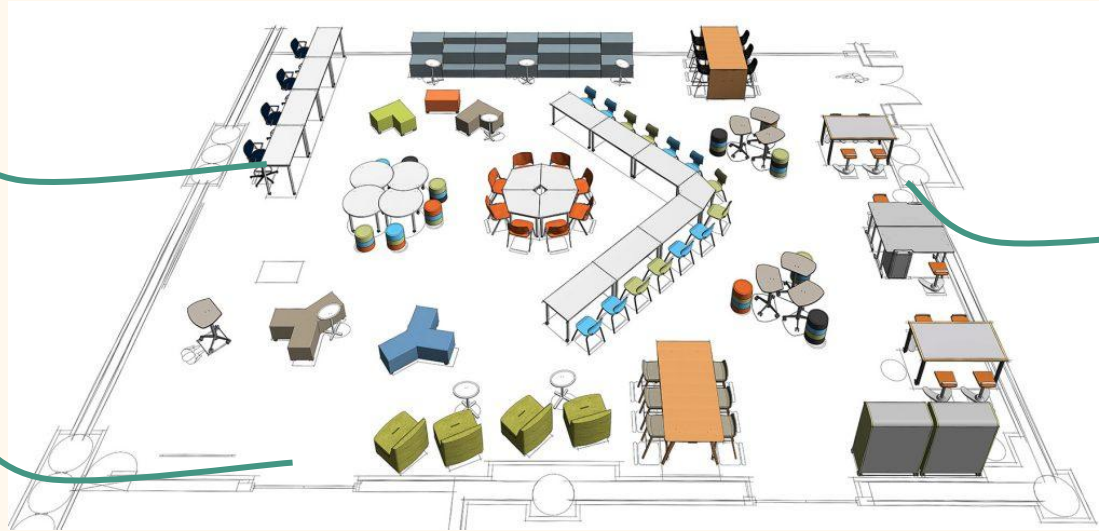
~ ALLOW FOR ABOUT 1- 10 FARMERS IRRIGATE PER DAY (DEPENDING ON FARMING ACRE)



YOUTH OUTREACH PROGRAM

Desktop with
internet access

Offer workshops
for youth



Communal study
hall for students

Makerspace area will be leased from the government (\$100/acre for 10 years)





YOUTH OUTREACH STRUCTURE



1-2 permanent mentors

5-10 representatives from nearby schools and universities

Partnership with organizations such as The Green Program and other international abroad programs from the US

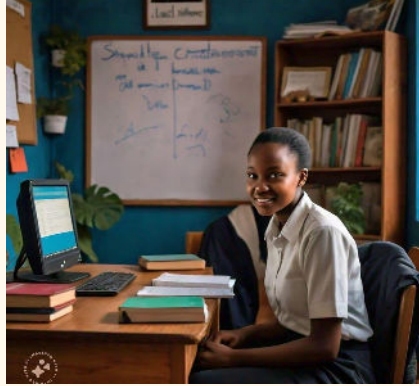




YOUTH OUTREACH AIMS



Hands-on
Education



Access to
educational
resources



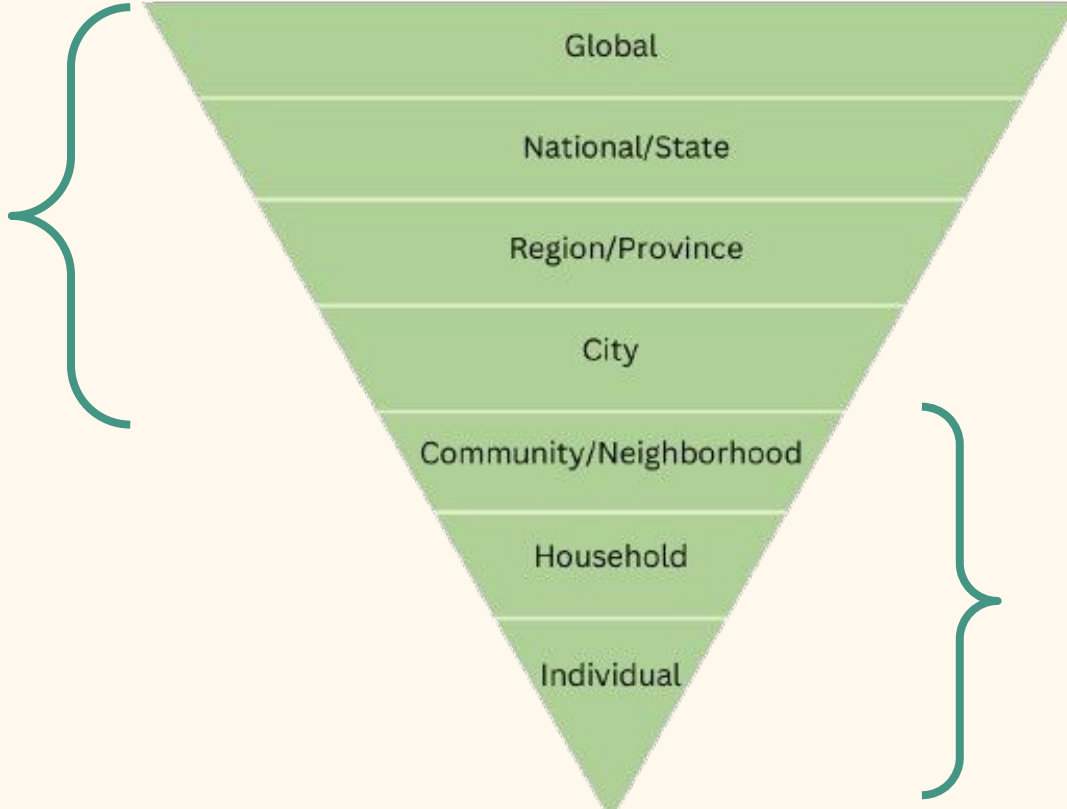
Mentorship



THE SUSTAINABILITY COMPLEX



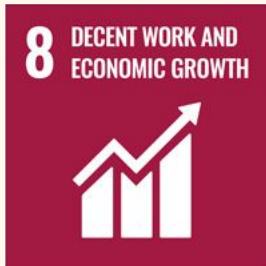
Secondary
target



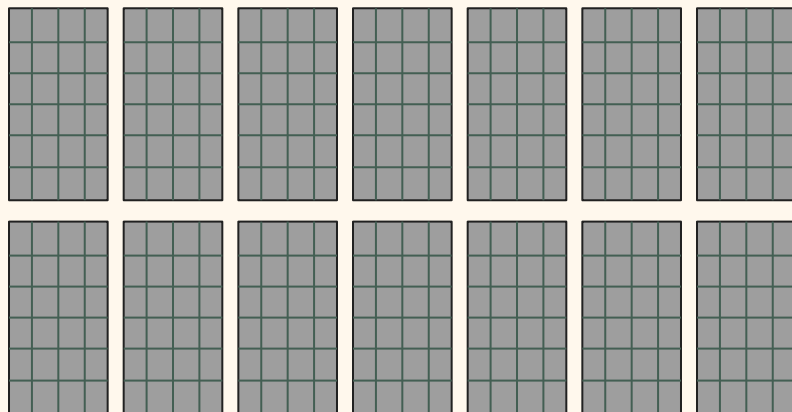
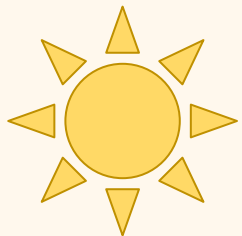
Initial
target



SUSTAINABLE DEVELOPMENT GOALS



MICROGRID DESIGN



450 W
Photovoltaic
Solar Panels

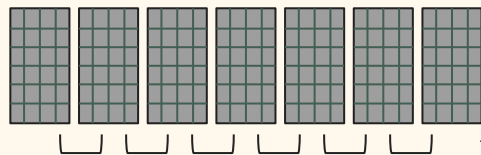
= 6.3 kW of
electricity

Supplying electricity for...

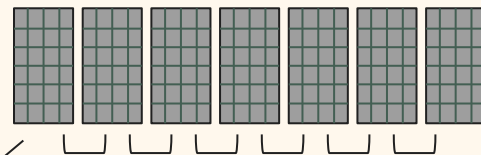
Application:	Daily Energy Consumption:
Lighting (20x)	300W
Desktop Computer (5x)	1,500W
Laptop Computer (20x)	700W
Smart Phone (25x)	250W

Application:	Daily Energy Consumption:
Water Heater (1x)	3,000W
Range/Oven (1x)	6,000W
Kettle (2x)	2,000W
Water Pump (1x)	3,000W

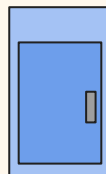
16.75 kW of total load



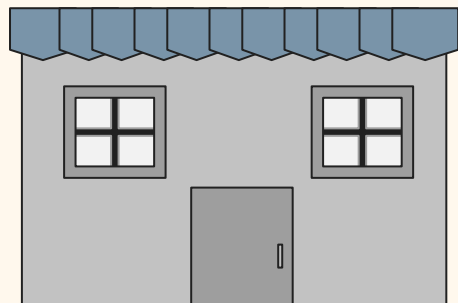
6.3 kW PV System in series



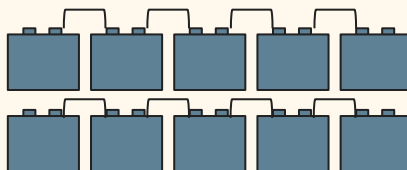
48V inverter



Community Center Application



48 kWh Storage Capacity



48V/100AH
Batteries in series

Agriculture Application



OUR CLIENTS



Rural

Communities

Lairagwan primary school,
Naibor high school, Muramati
high school



Youth, Farmers, Parents



Environment

Carbon Emissions



KEY PARTNERS

NGO

Asante

- Based in Kenya
- Registered nonprofit with local staff living and working within their own communities
- Youth Livelihood program
- Accelerated learning program

Private Sector

Fresh Produce Exporters
Association of Kenya

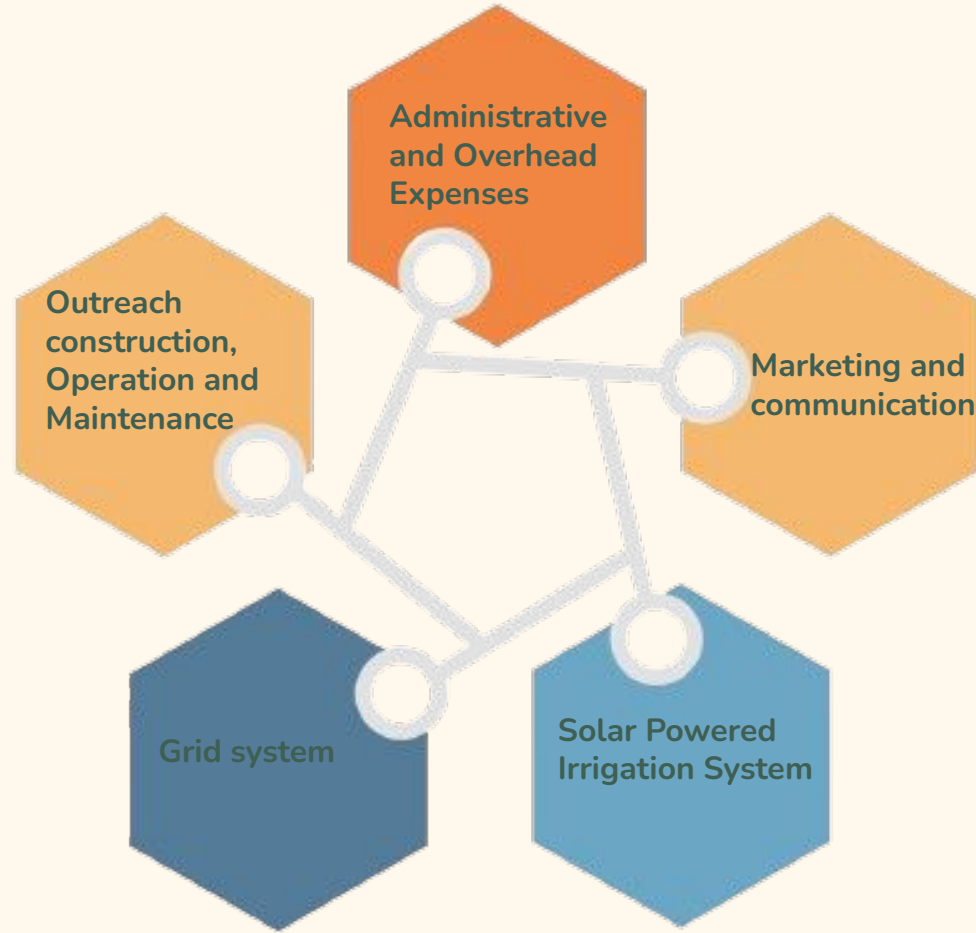
- Marketing: Creation of direct market linkages
- Completed: Horticulture Production and Standards Awareness program. Organization and trained 3,500 women in horticultural production and linked them to potential markets
- Every project partners with a local organization or NGO

Government Agencies

Rural Electrification and
Renewable Energy Corporation

- It was established under the Energy Act (2019) and oversees the implementation of the Rural electrification programme
- Kenya's rural electrification plan aims to connect all public facilities and households by 2030
- Establish a framework for collaboration with county governments

COST STRUCTURE



COST ESTIMATES



CapEx

Community Center:

- Construction Materials: \$8,000
- Appliances (lighting, desktop computers, water heater, kettle, range/oven) - \$3,000

Microgrid Facilities:

- Solar Panels - \$6,000
- Batteries - \$15,000
- Inverter - \$3,000
- Charge Controller - \$300
- Cabling - \$2,000

Labor - \$175/person/month

Total: ~ \$40,000

OpEx

Land Lease - \$100/acre/year

Mentorship - \$350/per person/month

Marketing - \$50/month

Total: ~ \$ 5,000 per year

Cost Saved via solar panel

~ \$ 1,000 per acre per year

Therefore, we charge 50 % of the cost to support to OpEx! 20 % will come from yearly campaigns and donations.



REVENUE STREAMS



"Business Model Canvas"

KEY PARTNERS

- ASANTE FRESH PRODUCE EXPORTERS ASSOCIATION OF KENYA
- RUREC
- LOCAL SCHOOLS AND BUSINESSES (SUBSIDIZE)

KEY ACTIVITIES

- OUTREACH ACTIVITIES
- YOUTH OUTREACH
- EDUCATION SESSIONS
- TECHNOLOGY CENTER
- IRRIGATION
- ACCESS TO AFFORDABLE CLEAN ENERGY

KEY RESOURCES

- CONSTRUCTION MATERIALS
- SOLAR AND IRRIGATION COMPONENTS
- FARMERS, PARENTS AND YOUTH
- COUNTY AND SUB-COUNTY CONNECTION FUNDING

VALUE PROPOSITIONS

- INSTALL SOLAR POWERED, AUTOMATED IRRIGATION SYSTEM
- NURTURE CREATIVITY AMONG YOUTHS
- CREATE AGRICULTURAL FOCUSED MENTORSHIP SPACE.

CUSTOMER VALUE PREPOSITION

- REDUCED IRRIGATION COST
- INCREASED EFFICIENCY
- ENHANCED CREATIVITY
- VOLUNTEERING AND MENTORSHIP
- REDUCED RURAL URBAN MIGRATION

CHANNEL

- GOVT OUTREACH
- RELIGIOUS INSTITUTIONS
- SCHOOLS
- INTEREST GROUPS

CUSTOMER SEGMENTS

- RURAL COMMUNITIES
- YOUTH
- FARMERS
- PARENTS
- ENVIRONMENT {CARBON EMISSIONS}

COST STRUCTURE

- GRID SYSTEM
- OUTREACH CONSTRUCTION
- MARKETING AND COMMUNICATION
- SOLAR POWERED IRRIGATION SYSTEM
- OPERATION AND MAINTENANCE
- ADMINISTRATIVE AND OVERHEAD EXPENSES

REVENUE STREAM

- PRIVATE INVESTORS
- GRANTS AND DONATIONS
- SALES OF SURPLUS ELECTRICITY
- LEASING FEES FROM THE IRRIGATION SYSTEM
- COMMISSION ON SALES FROM THE FARMERS PRODUCE