



# SOLAR-POWERED WATER PUMPING FACILITIES IN RURAL AREAS

## PROJECT DESCRIPTION

The project's overarching goal is to extend water access to approximately 8,750 households, across five municipalities in Kisumu County, namely Maseno, Kombewa, Ahero, Katito, and Muhoroni.

This initiative involves **installing 25 boreholes**. Critical components of the infrastructure include:

- drilling and equipping each solar-powered borehole complete with a 9-meter elevated steel tower and a 5,000-liter storage tank.

**Distribution lines** will be established to provide access to **five communal water points**, all located within a 1-kilometer radius of each borehole.

Additionally, the project mandates regular chlorination and water sample testing to ensure water quality and safety.

## PROJECT OBJECTIVES

The project's implementation is expected to **provide clean water to approximately 350 households per borehole**:

- benefiting a total of 1,750 households in each municipality and
- reaching an overall 8,750 individuals.

Currently, numerous rural water points serving underserved communities rely on fossil-powered generators to operate water pumps.

- This project aims to reduce dependence on petrol and diesel generators by introducing clean and sustainable energy sources.

## PROJECT RATIONALE

The project originated from the County Integrated Development Plan (CIDP) under water services provision - Improve access to sustainable safe water from 76-86% by 2027, and Improve water coverage from 41-51% by 2027 (CIDP under water services provision).

Targeted communities are living in the surroundings of newly established towns that have witnessed **rapid population growth**.

- Those towns have populations ranging from 63,000 to 72,000 inhabitants (Muhoroni: 72,000, Katito: 69,000, Ahero: 71,000, Maseno: 67,000, Kombewa: 63,000)
- A notable portion of these residents live **below the poverty line**.
- Only **21% currently enjoy access to clean water**, as revealed by the 2019 Kenya Integrated Water Sanitation and Hygiene Program (KIWASH).
- For the remaining 79%, water is currently often of poor quality, sourced from water pans designed for livestock (KIWASH). In these communities, the closest available water source is approximately 2 kilometers from their homes.



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## PROJECT OUTPUTS

25 water facilities in the 5 municipalities: 5 boreholes and 25 water kiosks

3kW solar-powered water pumps generating 200,000l daily

Training for local artisans on construction, operations and maintenance of the solar PV system

8,750 vulnerable households with access to water

## PROJECT IMPACT



Involvement of the youth and women in decision making in the management of water facilities



Reduced operational cost on energy



Job creation for the utility attendants



Reduce distance to access water by women



Improved agricultural productivity for farms located close to the water points



Increased resilience of most vulnerable people and the rural poor will have access to clean water, reducing susceptibility to water-borne diseases

**Addresses SDGs 3, 6, 7, 13**

## ESTIMATED MITIGATION IMPACT

Over the project's lifespan: 155tCO<sub>2</sub>e avoided annually.

Estimated **25% of the population of the County** gaining access to affordable clean water

- 85,750 direct beneficiaries (total population of 342, 000).

## PROJECT PHASE

Concept note

## PROJECT INITIAL COST ESTIMATE

The initial pilot phase of five boreholes, one within each municipality, requires a CAPEX of 80,000,000 KSH, equivalent to ~533,333 USD.

## INDICATIVE DEVELOPMENT TIMELINE

Preparation - 3 months  
Development - 6 months  
Realization - 6 months  
Operation - 20 years

## PROPOSED FUNDING STRUCTURE

Grant, loan or matching fund

For more information please contact:  
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