



Project Details

In rural Kenya, hand pumps such as the Indian Mark II are widely used. However, limited discharge capacity often causes long waiting times. Conventional electric pumps also stop completely during power outages or breakdowns. This project upgraded existing Indian Mark II pumps into a solar-powered hybrid system combining electric and manual operation.

Main activities:

- Site survey and pilot location selection in Mombasa County
- Partnership framework with KIBURU Enterprises Ltd.
- Verification of locally available components
- Installation of solar panels and submersible pump
- Installation of hybrid unit and piping
- Testing of both electric and manual operation
- Installation of a water distribution system supplying multiple tanks in the region
- Development of a maintenance model

Solar power enables automatic pumping, while manual operation serves as backup, ensuring continuous water access.



Operated by solar powered pump



Fetching water manually

Project Outcome

The project achieved:

- Design and verification of an Indian Mark II-compatible hybrid unit
- Installation and commissioning of a pilot plant
- Confirmation of manual backup during electric stoppage
- Establishment of joint installation with a local contractor

These results demonstrate a sustainable water supply model that overcomes the limitations of manual-only or electric-only systems.

Future Business Development

- Collect operational data from the pilot plant
- Establish a sustainable maintenance system
- Promote the technology to water authorities
- Increase annual hybrid installations
- Expand to other regions



Overview of hybrid system (water tank, solar panels, piping)