



SOLAR EXPANSION TO MAKINDU CHILDREN'S CENTER CAMPUS

PROBLEM STATEMENT

Electricity is unreliable and expensive in Kenya. In Makindu the power often goes out for a few hours during business days, causing inconvenient and sometimes costly disruptions. The Kenyan electric utility has increased rates 15-20% the last couple of years, yet delivers spotty unreliable service.

PROJECT PROPOSAL & EXPECTED BENEFITS

This Solar Expansion project will expand the Solar Borehole Drilling & Upgrade Project to include solar power for the rest of the buildings on the Center campus:

- Main Office: Solar power will allow administration to perform daily duties uninterrupted, better serving the 545 children enrolled in the program
- Computer Lab: Solar power will allow the Computer Lab to operate more hours and more reliably. The internet connection will be stable and strong. It is possible that more computers could be added to the lab. Fans can operate continually keeping the computers from overheating.
- Winnie Academy: The preschool on campus will benefit from solar lighting and fans to make the day more comfortable. Solar power will enable the teacher to use electric aids more reliably.
- Dining hall: Solar power will enable the Dining Hall and Kitchen to be open and accessible more hours, thereby serving more children and their guardians, with fans running to add comfort.
- Washrooms: Solar power will light the restrooms, adding safety and accessibility.
- Security Lights: Solar power will provide better security to the 7-acre campus by powering lights in various strategic spots.

BUDGET

15 solar panels, @ Ksh 37,000 = Ksh 555,000	\$5,665
3 Charger controllers @ Ksh 28000 = Ksh84,000	\$ 860
3 powerful solar batteries @ Ksh 48,000 = 144,000	\$1,470
3 inverters @ Ksh 28,000 =Ksh 84,000	\$ 860
3 Change over switches @ Ksh 11,500 = Ksh 34,500	\$ 350
Solar cable 41,400	\$ 420
Labor Ksh 90,000	\$ 920
	<u>\$10,545</u>
10% Contingency for unexpected delays, expenses	<u>\$1,055</u>
	<u>\$11,600</u> TOTAL