



Solar Microgrids for Diagnostics in West African Fishing Villages: An Assessment of Energy Access and Medical Care Provision

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Abstract

Solar microgrids are increasingly being implemented in remote areas to provide sustainable energy solutions. We employed a mixed-method approach combining surveys with qualitative interviews to evaluate the impact of solar microgrids on diagnostic procedures in local clinics. The findings indicate that solar energy significantly enhanced access to electricity for diagnostic equipment and improved patient outcomes by reducing power outages. Solar microgrids have a substantial positive effect on both energy availability and medical care quality, particularly in underserved fishing villages. Further implementation of these microgrids should be considered alongside government funding to ensure equitable access across the region. solar microgrids, West Africa, diagnostics, fishing villages, Mauritius Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Solar Energy Microgrids, West Africa, Diagnostics Access, Renewable Energy Sources, Remote Healthcare Provision, Qualitative Research, Sustainable Development Goals*

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