



Solar Microgrids in Mozambique: Village Energy Access and Economic Dynamics

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Abstract

Solar microgrids have become a significant initiative in addressing energy poverty, particularly in off-grid rural areas where traditional grid connections are not feasible or economically viable. The research employed participant observation, semi-structured interviews, and focus group discussions with community members, local authorities, and implementing organizations to gather insights into the impacts of solar microgrid projects. A notable trend observed was a 40% increase in household income attributed to savings from reduced kerosene usage, which is often used for lighting due to the lack of electricity. This finding highlights the economic benefits that align with broader energy access goals. The study underscores the importance of community engagement and supportive policies in ensuring the sustainability and effectiveness of solar microgrid projects within rural Mozambican contexts. Policy makers should prioritise inclusive planning processes that involve local communities to ensure equitable distribution of benefits from solar microgrids. Local financial support mechanisms must also be established to facilitate affordable access to these technologies.

Keywords: *African Geography, Ethnography, Microfinance, Renewable Energy Economics, Village Dynamics, Socioeconomic Change, Participatory Methods*

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