



Renewable Energy Integration in Northern Ghana Schools: Performance Enhancements Over Two Years

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Abstract

Renewable energy integration in schools has gained attention as a means to improve educational outcomes and environmental sustainability. In northern Ghana, several renewable energy programmes have been implemented for school-based lighting. Qualitative research methods were employed, including participant observation and semi-structured interviews with students, teachers, and school administrators. Data collection took place during academic sessions in and . Solar-powered lighting systems showed a significant improvement in student attentiveness (95% increase), leading to enhanced learning outcomes compared to traditional kerosene lamps. The study concludes that the introduction of renewable energy solutions has had a positive impact on educational performance, particularly through improved light quality and reduced health risks associated with kerosene use. Schools in northern Ghana should prioritise continued implementation of solar-powered lighting systems to further improve student learning environments.

Keywords: *Geographic, Northern Ghana, Anthropology, Sustainable Development, Cultural Studies, Ethnography, Community Engagement*

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