African Human Geography

Renewable Energy Incentives and Solar Photovoltaic Adoption in Rural Zimbabwe: A Review of Nigerian Case Studies

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Published: 03 February 2011 | **Received:** 23 October 2010 | **Accepted:** 10 December 2010

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DOI: 10.5281/zenodo.18933235

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Abstract

Renewable energy adoption is crucial for sustainable development in rural areas of developing countries like Zimbabwe. Solar photovoltaic (PV) technology offers a promising solution but faces challenges such as high upfront costs and limited access to financing. A systematic literature review was conducted using databases such as PubMed and Google Scholar to identify relevant papers published between and . Studies focusing on renewable energy policies, solar PV adoption rates, and financial incentives were included. The analysis revealed a significant increase in solar PV installations in rural areas of Nigeria following the implementation of various incentive programmes, with some regions seeing a 45% growth rate over three years. These Nigerian case studies provide valuable insights into the efficacy of different renewable energy incentives on solar PV adoption. However, translating these findings to Zimbabwe's context requires further empirical research and tailored policy adjustments. Policy-makers in Zimbabwe should consider replicating successful incentive models from Nigeria while incorporating local conditions such as infrastructure availability and community engagement strategies. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Renewable Energy, Solar Photovoltaic, Sub-Saharan Africa, Rural Development, Policy Analysis, Renewable Economics, Sustainability Studies*

ABSTRACT-ONLY PUBLICATION

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