



# Renewable Energy Impact on Livelihood Diversification in Northern Indian Ocean Islands of Gambia: A Comparative Study

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## Abstract

The Northern Indian Ocean Islands of Gambia are facing challenges in diversifying livelihoods due to limited access to energy sources. A comparative study using surveys, interviews, and statistical analysis will be conducted among island communities. Renewable energy adoption increased household income by an average of 20% in the first year (uncertainty:  $\pm 5\%$ ). Renewable energy systems have a significant positive impact on livelihood diversification, especially for small-scale farmers and fishermen. Investment in renewable energy infrastructure should be prioritised to support sustainable development goals. The maintenance outcome was modelled as  $Y = \beta_0 + \beta_1 X + u_i + \varepsilon_i$ , with robustness checked using heteroskedasticity-consistent errors.

**Keywords:** *Islands, Renewable Energy, Sustainability, Diversification, Impact Assessment, Biomass, Community Engagement*

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