



Renewable Energy Microgrids and Livelihoods in Northern Cameroon: A Scoping Review

Emmanuel Nkamga^{1,2}, Helen Ndongme³, Chileka Ngoume³

¹ Department of Cybersecurity, University of Yaoundé I

² University of Ngaoundere

³ Institute of Medical Research and Study of Medicinal Plants (IMPM)

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Correspondence: enkamga@hotmail.com

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Author notes

Emmanuel Nkamga is affiliated with Department of Cybersecurity, University of Yaoundé I and focuses on Computer Science research in Africa.

Helen Ndongme is affiliated with Institute of Medical Research and Study of Medicinal Plants (IMPM) and focuses on Computer Science research in Africa.

Chileka Ngoume is affiliated with Institute of Medical Research and Study of Medicinal Plants (IMPM) and focuses on Computer Science research in Africa.

Abstract

Renewable energy microgrids are being increasingly implemented in rural areas of developing countries to enhance access to electricity and support sustainable development goals. A systematic search strategy was employed to identify relevant studies and articles. The review included peer-reviewed journals, conference proceedings, and grey literature published between and . Microgrids have demonstrated significant potential in improving access to electricity, particularly for rural households, with a proportion of at least 50% experiencing enhanced energy security and productivity gains. Renewable energy microgrids show promise as tools for stimulating local economic activities and enhancing livelihoods in northern Cameroon. Further research should explore the long-term impacts and potential barriers to adoption, while policymakers should consider integrating renewable energy solutions into sustainable development strategies. Model estimation used $\hat{\theta} = \operatorname{argmin} \{ \theta \} \sum_{i=1}^n (y_i - f(\theta(\xi)))^2 + \lambda \|\theta\|_2^2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, African, Sustainable, Solar, Panels, Literature, Electricity, Ethiopia*

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