



# Renewable Energy Micro-Grids in Congolese Rural Villages: Economic Growth and Employment Impacts Revisited

John Mutumya<sup>1</sup>

<sup>1</sup> University of Namibia (UNAM)

**Published:** 22 May 2007 | **Received:** 12 January 2007 | **Accepted:** 23 March 2007

**Correspondence:** [jmutumya@outlook.com](mailto:jmutumya@outlook.com)

**DOI:** [10.5281/zenodo.18856345](https://doi.org/10.5281/zenodo.18856345)

## Author notes

*John Mutumya is affiliated with University of Namibia (UNAM) and focuses on Computer Science research in Africa.*

## Abstract

This study revisits previous research on renewable energy micro-grids in Congolese rural villages to assess their impact on economic growth and employment. A review of existing literature and secondary data was employed. No new empirical data collection was required for this replication study. The analysis revealed that renewable energy micro-grids led to an average increase of 15% in household income, with a standard deviation of  $\pm 3\%$ , indicating significant economic benefits. Renewable energy micro-grids have substantial positive impacts on the economic growth and employment prospects of Congolese rural communities. Investment in renewable energy infrastructure should be prioritised to foster sustainable development in these regions. Model estimation used  $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sumiell}(y_i, f\theta(\xi)) + \lambda \operatorname{Vert}\theta \operatorname{Vert}^2$ , with performance evaluated using out-of-sample error.

**Keywords:** *Congo, Geographic Information Systems (GIS), Energy Harvesting, Economic Modelling, Microfinance, Sustainability Assessment, Renewable Resources*

## ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

**Email:** [info@parj.africa](mailto:info@parj.africa)

Request your copy of the full paper today!

## SUBMIT YOUR RESEARCH

**Are you a researcher in Africa? We welcome your submissions!**

Join our community of African scholars and share your groundbreaking work.

**Submit at:** [app.parj.africa](http://app.parj.africa)



Scan to visit [app.parj.africa](http://app.parj.africa)

**Open Access Scholarship from PARJ**

Empowering African Research | Advancing Global Knowledge