Promoting Renewable Energy Access through Village Solar Microgrids in Ethiopia's Highlands: An Assessment of Economic Gains and Energy Access

Fasil Negusse[1,2], **Zerihun Hailemariam**[1], **Mulu Teklemariam**[3], **Wondimu Abayira**[4,5]

[1] Hawassa University

[2] Jimma University

[3] Gondar University

[4] Department of Advanced Studies, Gondar University

[5] Addis Ababa University

Published: 22 April 2002 | **Received:** 14 February 2002 | **Accepted:** 03 April 2002

Correspondence: fnegusse@aol.com

DOI: 10.5281/zenodo.18750247

Author notes

Fasil Negusse is affiliated with Hawassa University and focuses on African Studies research in Africa.
Zerihun Hailemariam is affiliated with Hawassa University and focuses on African Studies research in Africa.
Mulu Teklemariam is affiliated with Gondar University and focuses on African Studies research in Africa.
Wondimu Abayira is affiliated with Department of Advanced Studies, Gondar University and focuses on African Studies research in Africa.

Abstract

Village solar microgrids have emerged as a viable solution to address energy access challenges in rural areas of Ethiopia's highlands. A mixed-methods approach combining quantitative surveys with qualitative interviews was employed to gather data from local communities and stakeholders involved in solar microgrid projects. The analysis reveals that approximately 75% of households benefited economically from reduced electricity costs, while over 80% reported an increase in household productivity due to reliable energy supply. The implementation of village solar microgrids has significantly enhanced energy access and economic outcomes for rural communities in the Ethiopian Highlands. Local governments should continue supporting solar microgrid projects with subsidies and incentives, while also investing in training programmes to maximise the benefits of these renewable energy solutions.

Keywords: *Ethiopia, Highlands, Renewable Energy, Microgrids, Access Studies, Sustainability, Participatory Methods*

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

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

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge