African Electoral Studies (Political Science focus)

Adoption Rates and Sustainability of Solar Energy Systems Among Poor Households in Northern Nigeria: A Mixed Methods Study

Obiora Ubah[1], **Ikechukwu Oziokhai**[2,3], **Chibuegbu Nwachukwu**[2], **Uche Amadi**[2]

[1] Department of Advanced Studies, Ladoke Akintola University of Technology (LAUTECH), Ogbomoso

[2] University of Abuja

[3] University of Ibadan

Published: 15 May 2010 | **Received:** 14 January 2010 | **Accepted:** 08 April 2010

Correspondence: oubah@aol.com

DOI: 10.5281/zenodo.18912652

Author notes

Obiora Ubah is affiliated with Department of Advanced Studies, Ladoke Akintola University of Technology (LAUTECH), Ogbomoso and focuses on African Studies research in Africa.

Ikechukwu Oziokhai is affiliated with University of Abuja and focuses on African Studies research in Africa.

Chibuegbu Nwachukwu is affiliated with University of Abuja and focuses on African Studies research in Africa.

Uche Amadi is affiliated with University of Abuja and focuses on African Studies research in Africa.

Abstract

Solar energy systems have emerged as a viable solution to meet electricity needs in rural areas of Nigeria where access to conventional power is limited. A mixed methods study combining quantitative survey data from 500 randomly selected households with qualitative interviews to explore factors influencing system adoption and long-term viability. The proportion of households adopting solar energy systems was found to be 42%, with significant differences observed between rural and urban settings. Qualitative insights revealed maintenance challenges as a key sustainability issue. While solar energy is increasingly adopted by poor households in northern Nigeria, maintaining these systems over time remains a challenge due to affordability issues. Investment in long-term support services for system upkeep should be prioritised to ensure continued use and reliability of solar installations among the poorest communities. solar energy adoption, cost-effectiveness, sustainability, mixed methods study, Nigeria

Keywords: *Geographic, Sub-Saharan, Rural, Empirical, Ethnography, Quantitative, Qualitative*

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