



GENDERED DESIGN IN STEAM



Volta Region,
Ghana

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ID40

Assessing the impact of solar panels to improve energy access for women in rural Ghana



The government of Ghana aims to provide energy access to communities with populations of 500 and above, but isolated communities (rural or island) have no access to electricity. This case study explored the factors enhancing women's empowerment through energy access and investigated productive uses of energy in informal food preparation and processing sectors owned by women and vulnerable populations. The project assessed the impact on energy access, gender, and the political economy of the energy sector in these communities and explored how to enhance the role of the private sector in scaling up energy access for all.



Research team members collecting field data in March 2021

Outcomes

- The association between gender and electricity access was statistically significant ($p < .05$). These results indicated that electricity access among the participants was more skewed towards males than females.
- The project provided research data support to two female postgraduate students from the Regional Centre for Energy and Environmental Sustainability. The team was also able to establish working relationships with community members and opinion leaders.
- A critical gender audit of existing energy policy in Ghana revealed that the country's energy policy makers were beginning to acknowledge the need to mainstream gender needs into energy policy, although, there has not been a deliberate effort to lessen the burden of energy poverty suffered by women.
- While the study tried to maintain a focus on women, the results of the quantitative data gathered indicated that both genders suffered serious electricity access challenges.

| The primary source of electricity | | Gender | | Total |
|-----------------------------------|--|--------|--------|-------|
| | | Male | Female | |
| Batteries | Count | 3 | 1 | 4 |
| | % within Primary source of electricity | 75% | 25% | 100% |
| Community-based grid | Count | 130 | 48 | 178 |
| | % within Primary source of electricity | 73% | 27% | 100% |
| Solar home systems | Count | 25 | 8 | 33 |
| | % within Primary source of electricity | 75.8% | 24.2% | 100% |
| Others | Count | 4 | 1 | 5 |
| | % within Primary source of electricity | 80. | 20% | 100% |
| Total | Count | 162 | 58 | 220 |
| | % within Primary source of electricity | 73.6% | 26.4% | 100% |



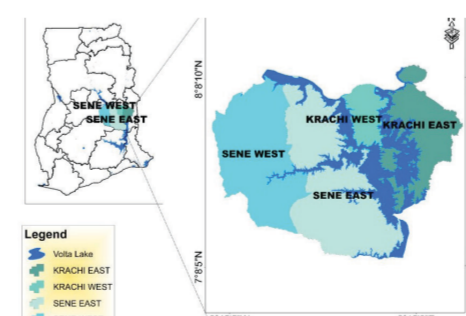
Top: Gender of the head of household versus electricity access
Bottom: Alafiam Number 2 Island Community - community members welcoming research team

“When women gain access to clean and affordable energy services they gain tremendous improvement in their health and opportunities to earn an income are enhanced.”

— Samuel Gyamfi

Methods

- The research was constructed based on Community-Based Participatory Research. The method integrates Indigenous value and belief systems into the interventions and treats diverse experiences within a community as an opportunity to enrich the research process.
- Data was drawn from a household survey of 604 households from 15 island/lakeside communities in four administrative districts in Ghana. To assess 'the gender-differentiated electricity service requirement of island communities', 'how much electricity is required to propel socio-economic development'.
- Qualitative data was gathered through semi-structured interviews, key informant interviews, participatory focus group discussions, and a desk review of reports, policy documents and research articles. The inquiry looked into 'how gender-imposed constraints affected women's chances to benefit from the productive use of electricity in island/lakeside communities'.



Top: Research team members on a field visit to island communities
Bottom: Map of study area

Lessons & Future Directions

- Access to modern energy services have the ability improve the socio-economic development of these disadvantaged communities.
- The team continues to investigate policies and practices that perpetuate inequities in access to electricity in island/lakeside communities along the Volta lake while empowering traditionally marginalized groups until all electricity access related inequalities are eliminated.
- The team is preparing towards engaging community members in focused group discussions in order to get to the root cause of all forms of limitations in accessing electricity due to geographical location.

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