

# **BEYOND ACCESS: HOW WOMEN POLITICAL EMPOWERMENT AND INSTITUTIONAL QUALITY SHAPE THE ENERGY POVERTY-HEALTH NEXUS**

## **ABSTRACT**

Energy poverty remains a persistent barrier to human development and public health in Sub-Saharan Africa, where limited access to clean and modern energy sources continues to expose millions to hazardous living conditions. Motivated by the pressing need to understand the health implications of energy deprivation within a governance and gender-sensitive framework, this thesis investigates how multidimensional energy poverty health, how women's empowerment and institutional quality shapes this relationship. The study integrates both micro- and macro-level analyses, drawing on nationally representative household data from the Ghana Living Standards Surveys (GLSS 6 and 7) and macroeconomic and institutional datasets from Ghana and 35 Sub-Saharan African countries. The analyses are grounded in the capability theory, energy justice, bargaining /empowerment framework and the Grossman health-capital model. Empirically, the thesis employs binary logistic regression, Lewbel 2SLS estimation, the Autoregressive Distributed Lag (ARDL) and System-GMM. The first empirical chapter found that energy poverty exerts a significant and negative effect on self-reported health, with the lack of electricity and reliance on solid fuels substantially increasing the probability of poor health outcomes. Disaggregated analysis reveals that indoor air pollution and cooking fuel type are critical pathways through which energy poverty affects health, especially among women who bear the primary burden of household energy use. The gender analysis confirms that women in energy-poor households are more likely to report illness or injury. Regional disaggregation showed high levels of multidimensional energy poverty in the Northern, Upper East, and Upper West regions, but pronounced health vulnerabilities in Central, Greater Accra and Volta regions. The second empirical chapter explores the moderating role of women's

political empowerment in the energy–health nexus in Ghana from 1990 to 2021. The ARDL results show that in the long run, increased use of electricity for cooking significantly reduces deaths from chronic obstructive pulmonary disease (COPD), while women’s empowerment amplifies this beneficial effect by enhancing decision-making autonomy and participation in energy and health-related policies. However, short-run effects are weaker, reflecting structural and policy lags in translating empowerment gains into measurable health improvements. The third empirical chapter extends the analysis to a panel of 35 Sub-Saharan African countries to assess how institutional quality and its components moderate the impact of energy poverty on health. The System-GMM results demonstrate that energy poverty significantly increases mortality from indoor-pollution-related diseases across the region, but this adverse effect is mitigated in countries with stronger institutions and effective governance. The overarching conclusion from all three empirical chapters is that energy poverty is not merely a technical deficiency in supply but a multidimensional challenge rooted in socioeconomic, gender, and institutional structures. Policies should therefore move beyond infrastructure expansion to incorporate institutional strengthening, gender-responsive energy planning, and regionally targeted interventions.