

Analysis Of Connection Fee Subsidies on Rural Electrification Projects in Zambia: Case of Chibombo District

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Abstract

Zambia like most Sub-Saharan countries grapples with low electrification rates especially in rural areas. Currently, rural electrification rates in Zambia stand at 8% (4.4% and 7.4% on-grid and solar respectively) and the country has a universal access to electricity Sustainable Development Goal (SDG) of attaining 51% rural electrification rate by 2030. The country has been advancing various renewable energy technologies, upscaling hydro power plants as well as subsidy-based electrification programs in selected areas. However, the electrification rate remains low. Further, with the shift in Government policy to remove subsidies in the energy sector, there was need to ascertain what influence the connection fee subsidies had on sustainable rural electrification in line with meeting the set universal access to electricity target. Therefore, the research conducted an analysis of connection fee subsidies on sustainable rural electrification with a focus on Chibombo district where the connection fee subsidy mechanism was implemented under the Electricity Services Access Project (ESAP).

The study used a sequential explanatory mixed-methods approach for data collection. Quantitative data was attained via the administration of research questionnaires with closed-ended questions while qualitative data was attained via semi-structured interviews with experienced experts in the electricity sub-sector. The study found that 938 beneficiaries had been connected under the subsidy mechanism of the ESAP project which was almost three-fold the initial target of 385 beneficiaries. The study further applied descriptive statistics to analyze the quantitative data. Through correlation analysis, the study established a statistically significant positive correlation between connection fee subsidy and increase in electricity connections and sustainable electricity consumption levels. Further, the study found a negative correlation between high connection cost and rural electrification rates. The study also identified critical success factors for sustainable rural electrification which included: economic sustainability, social-cultural sustainability, institutional capacity and environmental sustainability. Thereafter, the study developed a sustainability framework for rural electrification by integrating the critical success factors with sustainable rural electrification.

Keywords

Connection fee subsidy, Rural electrification, sustainability, Rural electrification rate and electricity sub-sector.