



Methodological Evaluation of Municipal Water Systems in Kenya Using Panel Data for Adoption Rate Measurement

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Abstract

The adoption rate of municipal water systems in Kenya has been a subject of interest due to its potential impact on public health and economic development. The methodology involves the application of a fixed-effects model to analyse the impact of socio-economic factors on the adoption rate of municipal water systems across different regions in Kenya. Panel data from eight major cities are utilised for this analysis. A significant proportion (72%) of households reported adopting municipal water systems, with urban areas showing higher adoption rates compared to rural areas. The fixed-effects model provided robust estimates of the factors influencing the adoption rate, offering valuable insights into policy-making and resource allocation for future development initiatives. Policy-makers are encouraged to consider the identified socio-economic determinants when planning municipal water system expansion in Kenya. The empirical specification follows $Y = \beta_{0+\beta}^{-1} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Kenyan, Sub-Saharan, Panel, Econometrics, WaterHarmonics, Sustainability, Accessibility*

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