Methodological Assessment of Water Treatment Facilities in Ethiopia Using Multilevel Regression Analysis

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Abstract

Water treatment facilities in Ethiopia face challenges related to sustainability and efficiency across various regions. A multilevel logistic regression model was employed to analyse data from multiple Ethiopian regions, accounting for both regional differences and facility-level characteristics. The analysis revealed that socio-economic indicators significantly influenced the adoption of water treatment facilities in rural areas (OR = 1.03; CI: 1.01-1.05). This study demonstrates the effectiveness of multilevel regression for evaluating regional and facility-level factors affecting water treatment system adoption. Further research should explore long-term sustainability strategies to enhance water quality in Ethiopia. Multilevel Regression, Water Treatment Facilities, Adoption Rates, Ethiopia

ABSTRACT-ONLY PUBLICATION

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