



Methodological Evaluation of Municipal Infrastructure Assets Systems in Ethiopia Using Panel Data for Cost-Effectiveness Measurement

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Abstract

This Data Descriptor focuses on evaluating municipal infrastructure assets systems in Ethiopia. A mixed-method approach incorporating both qualitative and quantitative analysis was employed. Panel data from various municipalities were collected over five years to assess the cost-effectiveness of infrastructure investments using robust statistical methods. The average annual savings attributed to efficient asset management across all surveyed municipalities ranged between 50,000 \wedge 100,000 per municipality. The findings suggest that systematic improvements in municipal asset management can lead to significant cost reductions without compromising service quality. Investment in data collection infrastructure and training for local authorities is recommended to enhance the effectiveness of future studies on municipal infrastructure systems. Municipal Infrastructure, Cost-Effectiveness, Panel Data Analysis, Ethiopia

Keywords: *Mediterranean, quantitative analysis, qualitative research, spatial econometrics, panel data, cost-benefit, institutional framework*

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