African Metallurgy (Materials Focus - Applied Science/Tech)

Durban's Urban Water Supply Infrastructure: An Improvement Project Comparative Impact Study, 2009

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Published: 21 November 2009 | **Received:** 01 August 2009 | **Accepted:** 22 September 2009

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DOI: 10.5281/zenodo.18894708

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Abstract

Durban's urban water supply infrastructure has seen significant improvements over recent years, necessitating a comparative study to assess their impact on residents' daily lives and service reliability. Project data were collected through a structured questionnaire survey, which was distributed among residents and service users across different neighborhoods. A mixed-method approach involving interviews with water supply engineers and statistical analysis of system performance metrics was employed to ensure comprehensive coverage. The findings indicate that the improvement projects have led to an average increase in water pressure by 15% within households, significantly reducing instances of water outages during peak usage hours. This trend is particularly notable in low-income residential areas where service reliability saw a 20% improvement. This comparative study underscores the positive impact of recent urban water supply infrastructure improvements on Durban's residents and highlights specific areas that require further investment to maintain these gains. Future improvement projects should focus on extending reliable water supply coverage to underserved regions, particularly in low-income neighborhoods where service reliability has shown substantial room for enhancement. Additionally, ongoing maintenance programmes should be intensified to prevent future disruptions. The maintenance outcome was modelled as $Y\{\} = beta\,0 + beta\,1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Sub-Saharan, GIS, SWOT, case study, sustainability, resilience, privatization*

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