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CONVENTIONAL vs. VACUUM SEWERAGE SYSTEM IN RURAL AREAS - AN ECONOMIC AND ENVIRONMENTAL APPROACH

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Abstract

The aim of this study is to investigate new perspectives with respect to the greening of the wastewater collection, subsequently assessing the value of the vacuum over the conventional wastewater collecting system in rural areas. The research was framed from the perspective of policy makers to aid in making decisions about benefits on long term horizon in implementing eco-innovative infrastructure technologies. The study postulates the hypothesis that the vacuum sewerage system is technologically, environmentally, economically and socially more sustainable in comparison with the classical solutions for the wastewater collection. Economics provides a powerful tool for helping solve environmental problems. A comparative analysis between two variants of the same project considering vacuum and conventional sewerage technologies was performed, by using as input for current research the Cost-Benefit Analysis. Tracing costs and benefits sheds new light on the innovative technologies for wastewater collection. The analysis of the case study provides evidence to support the hypothesis that the vacuum technology can succeed in overcoming the environmental crises by internalizing the externalities, having the capacity to improve environmental factors, reduce energy and maintenance costs. Besides, this research shows the need to provide a framework for further analysis that is essential for the promotion of eco-innovation and reflexive institutions.

Key words: cost-benefit analysis, eco-innovation, rural area, vacuum sewerage system, wastewater collection

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