

THE REUSE OF GREY WATER IN “SUSTAINABLE” BUILDINGS: THE CASE OF COCHABAMBA, BOLIVIA

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ABSTRACT

Water scarcity in urban areas is a critical challenge, particularly in regions experiencing rapid urbanization. This study examines the implementation of graywater reuse systems in residential buildings in Cochabamba, Bolivia, under Municipal Law 211/2017. Through document analysis, surveys, and case studies of 60 buildings (2017–2024), findings reveal that only 46.6% adopted these systems, achieving potable water savings of up to 31%. However, 81% fail to fully comply with regulations due to lack of enforcement and technical awareness. While installed systems have proven viable, their impact is limited by economic, regulatory, and cultural barriers. The study underscores the need for adjusted regulatory frameworks and comprehensive strategies to promote sustainable water management in intermediate cities.

Keywords: Gray water, recycling, sustainability, residential building

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