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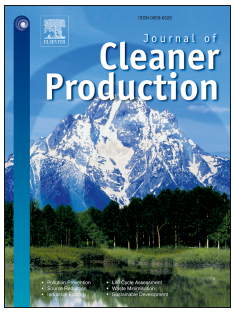

Determinants of domestic water consumption in Hermosillo, Sonora, Mexico

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Determinants of domestic water consumption in Hermosillo, Sonora, Mexico

Abstract

This article presents a cross-sectional study that explored the determinants of domestic water consumption in Hermosillo, Mexico in a continuous 24-hour water supply. A probability sample with a confidence interval (CI) of 95% was established by applying a 65 question survey to collect data on 403 households. Consecutively, the model reflecting the water consumption in Hermosillo households was identified through a multiple regression analysis using ordinary least squares (OLS). The analysis revealed that the statistically significant variables that explain the domestic water consumption in the home with a share of 31.6% were low water cost, number of bathrooms in the household, measured service supply, use of purified bottled water per week in households, and the number of female inhabitants. After obtaining the model, the monthly water consumption was calculated in a group of houses throughout the equation to compare it with the water consumption measured by the operating agency, and it showed an acceptable approximation (78–90%). The results contribute to improving the current understanding of factors influencing the use of the vital liquid, and they may be useful in the development of policies to promote the sustainable use of water resources.

Keywords: Water consumption, measurement, per capita, housing.

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1. Introduction

1.1. Situation and water scarcity

It is claimed that approximately 1,000 million people worldwide do not have potable water, 2,500 million have no access to sewage systems, and the wastewater