

Comparison of Residential Water Demand among Rural Semi-Urban and Urban Sectors in the Central Province of Sri Lanka

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The role of price as a demand management tool in regulating public amenities is debated in the literature. With this background, a study was undertaken to estimate the price elasticities of water demand and to identify the factors affecting the residential water demand in the urban, semi-urban and rural sectors in the Central Province of Sri Lanka. To assess the potential effects of the price policy as a residential water management tool, a water demand function was estimated using aggregate monthly time series data, where average residential water consumption was dependent on marginal price, difference price, temperature and rainfall. Log-log model was found as the best model specification for the demand function in all three cases and all the coefficients had the expected signs, except for the rainfall variable in the rural sector. Estimated price elasticities for marginal price were - 0.22, -0.28, and -0.34 for the urban, semi - urban and rural sectors, respectively, which confirm the past findings of residential water demand being inelastic to its price. The study revealed that urban consumers enjoy higher benefits from the present subsidy policy compared to the semi-urban and rural sector consumers. The results suggest that it is important to consider changing the present uniform pricing policy for these three sectors. Although the results of this study indicate that a price increase which may not significantly help to conserve water, low price responsiveness can be used to increase the revenue of the water supply authorities.

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