

Abstract

This empirical study is aimed to analyze the determinants of residential water demand and performed water use practice at household level in Hawassa. This study will fill the research gap and information on factors affecting household water demand in regions being water scarce and will provide useful information for policy-makers and water utility planners in order to use scarce drinking water resource more efficiently. In this study the proposed potential factors determine household water demand in Hawassa were; Socioeconomic and demographic characteristics, the average monthly household expenditure, use of water appliances and household water use patterns for various purposes, and household awareness towards water source conservation. The cross sectional survey was done in 169 randomly selected households. The collected Data was analyzed using multiple regression models with different functional forms (linear, semi-log) and heteroskedasticity corrected model was also used in each of functional forms to examine the structural relationship between the quantity of water demand and explanatory variables. The gretl statistical software package was used. The descriptive statistics analysis was also followed to present results in tables, charts and graphs (mean, median, minimum, maximum, frequency distributions). The analyzed result indicates, socioeconomic and demographic variables (age of the respondents, household size, education, occupation or income sources from private business) were found to have statistically significant predictors with the expected signs, while hh education level with unexpected sign. The other variables; household head type, gender, and housing were not statistically significant in predicting household water demand in Hawassa. Monthly expenditure (the proxy to income & welfare), use of normal appliances (flush toilet, flow tap, shower and dishwasher), and garden were found to have significant predictors of household water demand. The sign for the variable water appliances is not as expected. Household awareness towards water source conservation was found to have statistically significant predictor of water consumption with the negative sign as expected.

Key Words: Residential water demand, determinant factors, multiple regression models, Hawassa, Ethiopia.

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