Abstract

The main purpose of this study was to assess accessibility to domestic water in terms of distance, time, and the rate at which households are willing to pay for this water from various sources and at different distances from home. As such, the objectives of this study were to:
• Establish the sources of domestic water supply and time/distance covered to water points,
• Assess the willingness and rate at which water users are willing to pay for domestic water, and
• Ascertain the factors that determine the rate at which water users are willing to pay for water.

To achieve the objectives of this study, both documentary and field based techniques were used to collect and analyse information. Interview schedules, key informant interviews and focus group discussions were used to gather the required data. In analysing data, descriptive statistics (frequencies, percentages, means and crosstabulations) as well as inferential statistics (Chi-square, two-way ANOVA and multiple regressions) were used. Out of the 300 respondents, 85% and 77% collected domestic water from springs during dry and rainy seasons, respectively. Over 74% of the respondents got water from roof catchment during rainy seasons. Less than 10% of the respondents used other sources of water during both dry and rainy seasons. Cross-tabulation between water sources and sub-locations revealed that some sources of water such as tap, stream/river and wells were sub-location specific. However, spring and roof catchment as sources of water were used across all sublocations used. The mean rates for those (89%) willing to pay for water per 20 litre jerrycan were Ksh. 1.36, 1.00, 0.80, 0.29 for spring water, Ksh. 1.49, 1.12, 0.87, 0.35 for borehole water and Ksh. 1.74, 1.34, 1.06, 0.41 for tap water at distances of < 1.0, 1.0-2.0, 2.1-3.0, > 3.0 km, respectively. Two-way ANOVA test applied to verify the null hypothesis that there is no significant difference between mean rates respondents are willing to pay for water from various sources and different distances from home gave results ($P = 0.0000 < 0.05$ for sources treatment and $P=0.0073<0.05$ for distance treatment) that led to the rejection of the null hypothesis. Similarly, multiple regression analysis applied to verify the null hypothesis that there is no significant relationship between acceptable water rates and spatiotemporal, socio-economic and demographic factors of the respondents resulted to the null hypothesis ($P=0.0341<0.05$). The regression gave explanatory power, as measured by coefficient of multiple determinations (R2) of 0.55423. The study concludes that all stakeholders in the domestic water supply sector in Kakamega should collaboratively develop main sources of water (springs and roof catchment). Based on contingent valuation, the government should set prices for water from all sources to encourage water and watershed conservation in addition to raising funds for coverage expansion.