

Water supply systems are critical for improved access to potable water, social well-being and economic prosperity of rural communities. Yet, these systems are being threatened in Southern Bugesera Catchment of Rwanda due to the prevailing high demand of water and land for agriculture. This study assessed drivers to the change of water management tenure in Southern Bugesera and its effect on water supply and the socio-economic welfare of communities living in that district. Its specific objectives encompassed: (i) to examine the effect of change in tenure of management of water supply on accessibility and use of water at the household level; (ii) to assess the effect of the increasing cost of tap water on the socio-economic welfare of the southern Bugesera Community; (iii) to determine the effect of improved clean water supply on population health in Southern Bugesera; and (iv) to evaluate the quality of existing alternative water sources in Southern Bugesera. A total of 384 questionnaires were administered at household level in the six sectors of the study area. Focus group discussions were also held in each of the six sectors to include key informants such as managers of health units, several community leaders, tap water managers, and water providers. Other data were collected through documentary review and physical data measurement. Information collected was analysed using descriptive statistics, cross-tabulations, Chi-square Test, Pearson correlation, physicochemical and bacteriological laboratory analysis, accounting ratios and economic calculus. A consolidation of findings was done through the analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT). Results show that water availability, accessibility, efficient use, affordability and cost recovery are among key drivers for management tenure change almost every decade in Southern Bugesera Catchment (Rwanda) from 1951 to 2011. Privatization coupled with a participatory approach was presented as the most adequate water management tenure. Hence, the study recommended the reinforcement of the Public Private Partnership (PPP) with regard to sustained rural water supply and infrastructure development in Southern Bugesera. Regarding water cost, a cubic metre price has decreased from RwF 1,073/m<sup>3</sup> to RwF 947/m<sup>3</sup> with annual deficits of about RwF 500/m<sup>3</sup>, hence providing evidence of the water supply inefficiency. Yet, this price was still a burden for most households, a majority taking the risk of using unprotected spring water. To ensure accessibility to all, the management of Southern Bugesera water treatment plant needs to recover at least its running costs and assure regular maintenance of infrastructure for water production and distribution. However, the study suggested that the intensification of health and water hygiene education at household levels through "hand-washing" and "water treatment" campaigns. Relating householders' perception to water quality Pearson correlation and Chi-square test revealed with 95% confidence interval that there was a significant difference among respondents with regards to their water source and treatment mode preference, a majority feeling that water from alternative sources was good for domestic use, while a minority preferring its treatment prior use (through boiling and covering of water with a clean container). Finally, results of the physicochemical and bacteriological analyses of spring water revealed high pH, conductivity, turbidity and colour values in most springs with negative contents of manganese, calcium, magnesium, magnesium hardness, total hardness and organic matter (such as nitrate and nitrite); only iron and calcic hardness were proportionately normal according to WHO standards. Thus, most springs were polluted and full of enterobacteria. The study recommended chlorine and bacteria disinfection at household level for some fairly good spring water. The Government of Rwanda needs to enforce the water sector reforms to ensure water availability and affordability by all as well as the financial sustainability of the Southern Bugesera WSS plant.