(7)

An Assessment of Household Water Usage Patterns and Challenges in Koralaipatru West and Central Divisional Secretariat Divisions, Batticaloa District in Sri Lanka

Suja, L.A.[1*], Najim, M.M.M.[2]

[1] Department of Zoology and Environmental Management, Faculty of Science, University of Kelaniya, Kelaniya, Sri Lanka
[2] Faculty of Agriculture, Sultan Sharif Ali Islamic University (UNISSA), Kampus Sinaut, Km 33, JlnTutong, Kampong Sinaut, Tutong, Brunei
**aslamsuja10@gmail.com*

Abstract

Access to clean and reliable water is an essential item identified under the sustainable development goals. Many parts of the world face problems on water supply and access, its quality, sufficiency and purity. Households in Koralaipatru West and Central Divisional Secretariat divisions (DSDs) in Batticaloa district also face the same problems. The aim of this study was to quantify household water consumption patterns, characterize water sources and identify water quality and accessibility problems in both the DS divisions to interpret the factors influencing domestic water consumption. The primary data was collected through a questionnaire survey employing 50 households in both the DS divisions and focused group interviews with public health inspectors. Main sources of water in the study areas are identified as private, tube and driven wells, NWSDB supply, Pradeshiya Sabha water tankers and bottled water. Many of the wells used by the households were destroyed due to land pressure on urbanization in the construction of houses. According to public health inspectors, more than 90% of wells yield poor quality water that is not suitable for drinking due to fecal contamination caused by dense population in the urban areas. NWSDB supply is mainly used for drinking purposes. The daily average water consumption of the study area is 150 L per person per capita per day and NWSDB supply usage ranges between 1-5 m^3 per household per month. Heavy water scarcity is observed in rural area during the dry season. Some people in the rural areas still don't have any permanent water sources in their premises and they are fully dependent on the Pradeshiya Sabha water tankers and nearby mosques and houses which have permanent water sources. The NWSDB supply is also not provided continuously in the rural areas and many houses in the rural areas are not connected yet with the NWSDB supply. Less than 50% of the households have NWSDB supply in the rural areas. People in the rural area save water in water storage tanks during the rainy season to use in the dry season. Bad smell, turbidity, oily appearance and contamination from nearby toilets are the water quality issues in both the areas. This study highlights the importance of improved water infrastructure in rural areas and enhanced water quality monitoring and treatment systems in both the areas. Implementation of sustainable water management practices are needed to ensure the safe and reliable water for household use in both the DS divisions.

Keywords: *Water scarcity, Water sources, Daily water usage, Water infrastructure, Water quality*