Proceedings of the 32nd Technical Sessions of Geological Society of Sri Lanka
Published Online - 26th February 2016 (http://www.gsslweb.org)

GSSL-2016-(SII)-1

SPATIAL RELATIONSHIP OF GROUNDWATER GEOCHEMISTRY AND CHRONIC KIDNEY DISEASES OF UNKNOWN ETIOLOGY (CKDU) IN THE ANURADHAPURA DISTRICT

K.M. Prematilaka[1,*], R.L.R Chandrajith[2] and N.C.W. Gunasekara[1]

[1]*Groundwater Section, National Water Supply and Drainage Board, Rathmalana, Sri Lanka*
[2]*Department of Geology, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka*
[*]*Corresponding Author – e-mail: mahinda163@yahoo.com*

The chronic kidney disease of unknown etiology (CKDu) has become the main health issue in the northern dry zone regions, particularly in and around the Anuradhapura District. Investigations on the causative factors of CKDu, drinking water chemistry considered as the main candidate. Some geochemical parameters in drinking water such as fluoride, hardness, Calcium and Magnesium are the main parameters that were considered as possible etiological agents. In this study, we attempt to correlate the prevalence of CKDu and geochemistry of groundwater in the Anuradhapura district. GIS and statistical data analysis were used to identify any interrelation between the prevalence and hydrogeochemistry. Spatial distribution of electrical conductivity (EC), hardness, fluoride and alkalinity did not show any relationship with CKDu patient distribution. Even correlation coefficient did not any linear relationship with investigated geochemical parameters. This study shows that the hydrogeochemistry is not the sole candidate for the occurrence of CKDu in the Anuradhapura District.