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**Mapping of well water and soil parameters in a selected  
*Grama Niladhari* division of Gampaha district**

H. P. K. V. T. Pathirana<sup>1</sup> and R. C. L. De Silva<sup>1\*</sup>

<sup>1</sup>Department of Chemistry, University of Kelaniya, Sri Lanka  
russel@kln.ac.lk\*

This study intends to fill an essential knowledge gap in the field of environmental information in Sri Lanka, by providing a reliable data bank supporting the information of existing chemical species of two important components, well water and soil. Further, this study would provide reference information for future work and aid in explaining the changes that would occur due to the changes in chemical composition of the environment. Thalawathuhenpita North *Grama Niladhari* division was selected as the initial site of study and sampling was done from 23 locations, where two representative samples of each soil and well water were collected from each site. All chemicals, instruments and glassware used were from recognized chemical supply companies. This study investigates several important well water quality parameters such as pH determined by a pH meter, well water hardness and Calcium content using complexometric titrations, nitrate content using a spectrometric analysis, Iron content using a colorimetric analysis, and soil quality parameters such as active pH using a pH meter, water-soluble and exchangeable cations ( $\text{Na}^+$ ,  $\text{K}^+$ ) using a flame photometer and water-soluble and exchangeable  $\text{Ca}^{2+}$  using complexometric titration, organic matter content using a redox titration, iron content and nitrate content were determined similar to well water analysis. The readings were duplicated and reported as means  $\pm$  standard deviation, and contour maps were produced using Surfer<sup>®</sup> (Golden Software, LLC). Maps depict the scope of variation of the determined parameters within the selected area and highlight that it is crucial to monitor the environmental resources chemically in a regular manner to address the environmental problems that may occur in the future. The mapping of the entire country on a fixed and frequent basis will give environmentalists, scientists and policymakers information about a given environment and thus make monitoring and policy making of an area easy.

**Keywords:** Gampaha district, Mapping, Soil quality, Water quality