

**ASSESSMENT OF WELL WATER QUALITY IN UHANA DS DIVISION OF
AMPARA DISTRICT, SRI LANKA**

W.D.R. Dilshani* and M. Sugirtharan

*Department of Agricultural Engineering, Faculty of Agriculture, Eastern University, Sri Lanka***Abstract**

Ground water is the most significant source of water in the world for use in domestic, industrial, and agricultural purpose. The physical and chemical properties of the well water at Uhana D.S Division, Ampara District, were examined in the current study to ascertain its quality and suitability for irrigation. Water samples from 46 randomly chosen wells in the Gonagala and Galapitigala region were taken in the months of June and July of 2022. Water quality parameters such as pH, EC, and temperature were measured in the field during sample collection. Other water quality parameters were examined at the water quality lab of the Faculty of Agriculture, Eastern University. Suitability of irrigation water was also assessed utilizing derived parameters. Finally, each sample's water quality index was also calculated. The findings showed that 45.7% of the samples in this study had pH values within the range recommended by the FAO. According to EC, the 78% water samples were classified as low salinity class. Suitability of water for irrigation based on the RSC values indicated that the water samples collected in 60.9% locations can be used safely. The results of the current investigation showed that there is no sodium risk to crops by irrigating from the 63% well water sample used for irrigation at the study locations. 21.7% of water sample appreciable hazard but can be used with management for irrigation and 15.2% sample unsatisfactory for most of the crop. Considering the WQI, 50% of well water was found to be excellent water quality, while 17.4% and 10% were identified as poor and very poor.

Keywords: Hazard, Heavy metals, Irrigation, Water quality, Water Quality Index**Corresponding author: rdilshani051@gmail.com*