

## A B S T R A C T

Ground water samples from eighteen wells which could manifest clearly the quality of water in the Anuradhapura district, were tested for seventeen parameters each month. The Parameters tested for indicate the Potability of the water. Water quality variation in relation to the rainfall pattern was studied to examine the effect of rainfall on the quality of ground water. The relationship between the parameters was also studied.

The study reveals that the quality of ground water in the Anuradhapura district conforms to the majority of the requirements of the Sri Lanka Standards for potable water (SLS 6I4). Further, this study highlights the high levels of Fluoride and Iron; and infact the levels exceed the Maximum Permissible Level of the Sri Lanka Standards and Maximum Allowable Concentration of the WHO Standards. Hardness and Alkalinity were also found to be high in some areas. However, high levels of Iron and Fluoride appear to be the major limiting factors in the ground water of the Anuradhapura district.

In general, there is a distinct variation of ground water quality with rainfall changes.

Distinct interrelationship between pairs of parameters was observed only in respect to Electrical Conductivity versus Chlorides and Total Hardness versus Calcium Hardness.

