

U
550
RAV

CUA

i

**AN ASSESSMENT OF DRINKING WATER QUALITY OF
SELECTED DUG-WELLS WITHIN THE VAVUNIYA URBAN
COUNCIL OF SRI LANKA**

A PROJECT REPORT PRESENTED BY

VINASITHEMBY RAVI
V

To the Board of Study in Environmental Science of the
POSTGRADUATE INSTITUTE OF SCIENCE

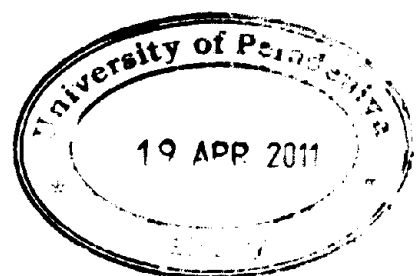
*In partial fulfillment of the requirements
for the degree of*

MASTER OF SCIENCE IN ENVIRONMENTEL SCIENCE

of the

**UNIVERSITY OF PERADENIYA
SRI LANKA**

2010



AN ASSESSMENT OF GROUNDWATER QUALITY WITHIN THE VAVUNIYA URBAN COUNCIL OF SRI LANKA

V. Ravi

MSc in Environmental Science

Post Graduate Institute of Science

University of Peradeniya

Peradeniya

Sri Lanka

This study details an investigation focusing on the assessment of groundwater quality of the Vavuniya Urban Council with the aim of providing suitable management solutions for improving water supply. This investigation focused on all the 9 GN divisions within the Vavuniya UC limits. Water quality of selected dug wells from the focal area were analyzed for some selected chemical parameters (Fluoride (4% of samples exceeds 1.5ppm), Total hardness (13% of sample exceeds 600ppm), Iron, Nitrate, free residual chlorines) and fecal coliform contamination (98% of samples exceeds SLS). The results indicate that the ground water quality of the centre of the UC (Vairavapuliyankulam, Thandikkulam GN divisions) is poor. Also some parts of the Moontrumurippu (Thonikkal), Patanichippuliyankulam are also found to be having poor water quality. In all of the GN divisions, it was found that the dug-well water is contaminated with fecal coliform. However, the tube well water quality is recommendable for the drinking purposes. With regards to water consumption patterns it has been found that, about 25.5% of households in the study area use bottled water, 22.2% of householders use alternative water sources, and, 79% of the people use their own dug well for their drinking purposes¹. About 52.2% of the dug wells in the study area are located less than 50 feet from a toilet pit. About 60% of the households have been affected by water borne related diseases within the last six months. About 77.7% of the people of the households investigated are neither aware nor concerned of the quality of their drinking water. Therefore, the results indicate the need for a properly planned and carefully executed integrated water resources management system for water supply in this regard. Further, the community awareness on water quality should also be increased using appropriate sociological strategies.

[Key Words: water quality, coliform, contamination, consumption, monitoring]

¹ As a proportion of people using both bottled water and dug-wells for their drinking water, the total sum of percentage exceeds 100.