

## **Quality of drinking water available to students of schools in the Thenmaradchi Education Zone and factors associated with quality of water**

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**Background:** Ground water pollution is a major problem in the Jaffna peninsula. Regular surveillance of drinking water quality is not carried out by local government or public health authorities. No studies of the quality of drinking water in Thenmaradchi region have been carried out previously. The aim of this study was to assess the quality of drinking water available to students of schools in the Thenmaradchi Education Zone, Jaffna, and factors associated with it. Methods: This was an institutional-based descriptive cross-sectional study. Thirty schools from the Thenmaradchi Education Zone were selected by stratified random sampling. Laboratory tests were conducted to assess the quality of drinking water; selected physical, chemical and biological parameters were assessed according to the 'Sri Lankan Standards for Potable Water – SLS 614:2013.' A checklist and an interviewer-administered questionnaire were used for the assessment of water source and storage.

**Results:** Water source assessed were of the following types: 18 (60%) dug wells, 11 (37%) tube wells and one (3%) rain water harvesting system. Of the dug wells, 14 were unprotected and four were semi-protected. When considering physical parameters, water available in 87% of the schools studied can be recommended for drinking purposes. When considering chemical parameters, water available in only 13% of the schools studied can be recommended for drinking purposes. When considering bacteriological parameters, water available in 15% of the schools studied could be recommended for drinking purposes.

**Conclusion:** On the whole, most schools in the Thenmaradchi Division need to improve the quality of water and maintenance of water source and water storage in order to supply quality water for students.

**Keywords:** Drinking water, quality, Schools, Jaffna, Thenmaradchi