

**AN INVESTIGATION OF FAECAL POLLUTION IN WATER USED FOR DOMESTIC  
PURPOSES IN TWO HIGHLY CONGESTED AREAS IN AND  
AROUND THE MUNICIPAL LIMITS OF COLOMBO**

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The Henamulla camp at Thotalanga is a highly congested tenement area in close proximity to a land reclamation site and a sewage drain which emits untreated sewage into the Kelani river.

Kakkaduwa, a densely inhabited area and berthing site for fishing boats, is in close proximity to the Kelani estuary.

Sampling sites were as follows :

**Henamulla :** Site A<sub>1</sub>—Shallow unprotected well in close proximity to the sewage drain and land reclamation site; Site A<sub>2</sub>—Deep protected well amidst shanties; Site A<sub>3</sub>—Shallow bathing well, amidst temporary aqua privies; Site B<sub>1</sub>—Point at which sewage effluent enters the Kelani River.

**Kakkaduwa :** Site B<sub>2</sub>—50 ft away from the bank and within the estuary.

Samples were collected over a period of two months commencing in August 1982.

Sites A<sub>1</sub>, A<sub>2</sub>, B<sub>1</sub> and B<sub>2</sub> indicated gross pollution and values exceeded permissible levels of 20-25 mg/l BOD<sub>5</sub>. In most instances they ranged between 24.0 - 53.2 mg/l BOD<sub>5</sub>.

Site B<sub>1</sub> recorded a 53.2 mg/l BOD<sub>5</sub> with a DO reading of zero, during mid-September 1982, when fish mortality was reported in the Kelani river. However recovery was inevitable since dilution, self purification and steady flow was in operation within the river.

All sites with the exception of Site A<sub>2</sub> indicated faecal pollution and M.P.N. counts of *E. Coli* exceeded permissible levels of 0-1/100 ml for potable water<sup>2</sup>. Sites B<sub>1</sub> and B<sub>2</sub> were highly contaminated and recorded counts of 8 - 250/100 ml and 17 - 350/100 ml respectively.

Site A<sub>2</sub>, although grossly polluted (i.e. BOD<sub>5</sub> of 12.6 - 14.2 mg/l) recorded permissible *E. Coli* counts.

As such, of the sites sampled Site A<sub>2</sub> appeared to be the only satisfactory source of water for domestic purposes.

#### References

1. Mara, D. (1976), Surface water pollution. In Mara, D ed. Sewage treatment in hot climates, John Wiley, pp. 29-31.
2. Smethurst, G. (1979). Potable water standards. In Smethurst, G., ed., Basic water treatment, London: Thomas Telford Ltd., p. 16).