

Analytical studies on Well Water at areas in the Batticaloa District

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Abstract

A preliminary analysis was done to determine the Sodium, Potassium, Nitrate, Phosphate and the pH content in well water in Kalady, Sittandy and Sathurukondan areas in Batticaloa district after heavy flooding in last winter sessions 2012. Thirty drinking water wells have been selected from three divisional areas (DS) to be analyzed. Sodium and Potassium were assessed using Atomic Absorption Spectrometry(AAS) and Nitrate, Phosphate, pH were analyzed using HANNA portable low range Nitrate meter, Phosphate meter & pH meter respectively.

The sodium (Na) and Potassium (K) contents in these wells water were fitted with the recommended maximum acceptable level. Among the nitrate content analysis most of the well (86 %) were showed safe by the WHO drinking quality level (<10mg/l).)While highest nitrate contents at sittandy (10.80 mg/l), and lowest nitrate content (0.40 mg/l) and also 10.40 mg/l content of nitrate was observed in drinking water in Sathurukondan. Therefore appropriate technique needed to reduce nitrate content in those areas. 90% of wells contain phosphate content safe by European Community(1980) standard and 76 % of wells contain safe level of pH by WHO(6.5 - 8.5). Highest level of phosphate content (>5mg/l) and lowest level of pH (<6.5) were observed in Sittandy and Sathurukondan areas. Therefore the analysis suggested the purity and management of effected wells water are important for Sittandy and Sathurukondan areas after flooding.

Keywords: Atomic Absorption Spectrometry (AAS), acceptable level, drinking water wells