Water quality and human settlements: A case study of Manamunai north DS division, the Batticaloa district

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One of the basic supportive resources for the economic and social development of mankind has been the availability of water resources. Due to increasing water demand on one side, and scarcity on the other, water resources have become an important element in the development process of nations. Salinity of water has emerged as a crucial issue at the national level due to it's' impacts on the use of water, for both consumption and agricultural purposes. About one-third of the land area of Batticaloa district is surrounded by the saline waters of the lagoon. A major portion of the Manmunai North DS area is engulfed by the lagoon waters. This study aimed at identifying the GN areas which are most affected by poor water quality, and to explore whether human settlement distribution had a link with water quality problems, in the Manmunai North DS area.

Water quality was measured in all 48 GN areas of the Manmunai North DS by randomly collecting two water samples in each GN area, and estimating their EC and TDS values at two different time periods (November & December 2008). The EC and TDS figures estimated were compared to recommended minimum standard values for good, moderately good and poor quality water. It was found that about 15 GN areas had good quality water where 34.2% of the population resided, while 24 GN areas had moderately good quality water with about 50.9% of the population. Only 9 GN areas had very poor quality water in which 14.9% of the population resided. With a population growth rate of about 1.78% per year in the DS area, the availability of good quality water has serious implications on the distribution of human settlements in the future. This can lead to population concentration in certain parts of the DS area.