

# THE RELATIVE ABUNDANCE OF PHYSICO CHEMICAL PROPERTIES IN RIVER ENVIRONMENT IN CUDDULAORE DISTRICT, TAMIL NADU

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## ABSTRACT

In India, by the exceptional growth of human population, increasing urbanization and rapid industrialization the impact has become predictable. At present attention has been focused on changes of physico chemical parameters in the aquatic environment. Therefore, a comprehensive understanding about the essential nutrients, metals other than physico-chemical elements, which leads to the continual addition of pollutants to the environment, is necessary to protect the environment. Water sample were collected in summer from four different rivers of the Ponnaiyar Estuary, Gadilam Estuary Uppanar Estuary, and Vellar Estuary Cuddalore district of Tamil Nadu. Physico - chemical variable are measured in the field, Temperature(T), Electrical conductivity(3190-8000 $\mu$ s/cm), pH (6.5-7.8), Total Dissolved Salt (515 -6900mg/L), major cations and anions like Calcium (Ca<sup>2+</sup>) (440-3880mg/L), Magnesium(Mg<sup>2+</sup>), (429-4752mg/L), Chloride(Cl<sup>-</sup>) (1064-10546mg/L), Bicarbonate (HCO<sub>3</sub>) (976-22326mg/L), Sulphate (SO<sub>4</sub><sup>-</sup>) (6.32 -17.48 mg/L), Nitrate (NO<sub>3</sub><sup>-</sup>) (-20.0 -101.3mg/L). Correlation coefficients significantly highlight, calcium and chloride concentration exhibits positive correlation and fall within the limits, whereas, the other parameters were above WHO permissible limits. It is concluded that Uppanar and Gadilam River were more polluted than the others and in near future this rivers will not be suitable for agricultural or other domestic purposes. The pollutants and sewage wastages discharged from industries change the chemistry of water, thereby, damaging the biotic life and fertility of soil.

Keywords: Estuary water, Physico- chemical parameters, Cuddalore, Tamilnadu.