



Water Quality Assessment of the Cauvery and Vaigai River at Upstream and Downstream Locations: Impact of Domestic and Industrial Effluents

C. Ramprasad, Karthik Sona, Mohammed Afridhi and Ram Kumar

*School of Civil Engineering, SASTRA Deemed to be University, Thanjavur-613 401, India
E-mail: ramprasad@civil.sastra.edu*

Abstract: The study aimed to investigate the impact of urbanization and industrialization on the two major rivers of south India, River Vaigai and River Cauvery. The water samples from the river were collected from upstream side and downstream side of two towns that lies in the confluences of the river watershed. The water sample collected during post-monsoon season was subjected to various physico-chemical analysis including the heavy metal analysis. In the Cauvery River, the sample collected at upstream causeway of Mayanur showed a pH, total dissolved solids, turbidity, hardness, alkalinity, chlorides and sulphates concentrations as 7.56, 1825 mg l⁻¹, 23 NTU, 515 mg l⁻¹, 305 mg l⁻¹, 1885 mg l⁻¹, and 512 mg l⁻¹ respectively. In the downstream side of the Mayanur causeway the concentrations were 7.72, 2830 mg l⁻¹, 52 NTU, 625 mg l⁻¹, 620 mg l⁻¹, 2255 mg l⁻¹, and 588 mg l⁻¹ respectively. Similarly, the water sample collected from the Vaigai River upstream and downstream causeways of Madurai and Manamadurai also showed the higher concentration of pollutants more than the permissible standards prescribed by the Bureau of Indian Standards (BIS). The study concludes that the river water needs to be treated with filtration, coagulation and advanced membrane process before supplied for drinking, irrigation and industrial applications.

Keywords: Cauvery basin, Chlorides, Heavy metals, Urbanization, Vaigai basin, Water quality
