

WATER QUALITY ASSESSMENT OF A SMALL TROPICAL RIVER BASIN, SOUTHWEST COAST OF INDIA

K. Maya*, D. Padmalal, B. Baburaj and K. Narendra Babu

Centre for Earth Science Studies, Thiruvananthapuram-695031, Kerala, India

**Corresponding author: mayarethu@yahoo.co.in*

Abstract

The need for fresh water has been rising exponentially over the past few decades to meet its ever increasing requirement in agriculture, industries and domestic purposes. The domestic use of water is manifold higher in the major urban centres of the world compared to rural areas. The situation is not different in Kerala, a coastal state located in the south west India, which hosts one of the most densely populated regions in tropics and subtropics. Although blessed with numerous rivers, lakes and a productive ground water regime, the state is facing acute water scarcity in summer season. Lack of adequate baseline data on the water quality of the region is a major setback challenging the water managers of the region. Here we report the water quality of the surface and sub surface water sources of the Muvattupuzha river draining through the outskirts of Kochi city - a fast developing urban-cum- industrial centres in south India. The study reveals that cations like Na, K and Fe, and anions like Cl, SO₄, PO₄-P show higher values in non-monsoon season than in the monsoon season. At the same time, NO₃-N shows an opposite trend with higher values in monsoon than non-monsoon. Water samples from the sand mining pits shows elevated levels of Na and Cl. A comparative evaluation of the water quality parameters in the Muvattupuzha river with that of the water quality standards set by WHO and BIS reveals that the water in the highland and midland reaches of the river are good for domestic uses.

Keywords: Water quality Agriculture Industries, domestic River Basin.