ASSESSMENT OF WATER QUALITY INDEX AROUND A MINED AREA AT MADAYIPARA IN KANNUR DISTRICT, KERALA STATE, INDIA

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Abstract

Mining activities result in serious geo-environmental impact particularly on the water quality. The geo-environmental aspect of clay mining on water quality in Madayipara area of Kannur District, Kerala State, India has been attempted to understand in this study. Groundwater samples were collected from 35 places near a clay mine in Madayipara village, during pre-monsoon and post-monsoon seasons of 2018, to understand the impact of mining activity that had prevailed earlier in this area. These water samples were analyzed for eleven physico-chemical parameters following standard procedures. The physico-chemical parameters analyzed for this study include pH, Total Dissolved Solids (TDS), Turbidity, Total Alkalinity (TA), Total Hardness (TH), Chloride (Cl), Sulphate (SO_4), Calcium (Ca), Magnesium (Mg), Iron (Fe) and colour. Water quality index (WQI) analysis was carried to arrive at a better understanding of the quality of water, which had been influenced by earlier mining. The results have demonstrated the usefulness of WQI in characterizing water quality in the mined area.

Keywords: Water quality; Clay Mined area; Water Quality Index