Paper Number: 2872

A comparative study of the geochemistry of two tropical west flowing rivers, southwest coast of India

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This is a comparative geochemical analysis of two rivers (River Sita and River Sowparnika) originating in the Western Ghats, southwest coast of India and flowing into the Arabian Sea. These two rivers are chosen for the study for understanding their geochemistry, as there have never been any significant studies on the same in the past. It has also been observed that these Rivers are facing serious threat due to the pollution caused by anthropogenic activities. The importance of this study is due to the large population that rely on these rivers for domestic and irrigational purposes.

The study and analysis of River Sita shows the presence of trace dissolved trace elements both in surface water and sediments. Trace elements like Ni, Cu and Co are seen in high concentration during monsoon while Pb and Cd concentrations are at peak post monsoon. The higher concentrations during monsoon is probably due to the excessive weathering of rocks, while the latter is due to the anthropogenic activities like sewage, industrial effluents overuse of fertilizers, etc.

River Sowparnika is facing similar issues where anthropogenic activities have led to the pollution due to improper maintenance of sewerage. The results indicate metal pollution more at the upstream as compared to the downstream. Thus, it is indicative of the hazardousness for the communities residing near these rivers.