

عنوان مقاله:

Mobilization and Distribution of Arsenic with Other Metal Ions at Upstream and Downstream of River Meghna

محل انتشار:

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خلاصه مقاله:

Geochemical study of toxic metal arsenic along with heavy metals (Fe, Mn and Cu), of borehole sediments of the Kushiara and Meghna, rivers in Bangladesh was conducted to investigate the mobilization, distribution and correlation of arsenic with depth, nature of sediment and locations of sampling site, had been included to the study. The Kushiara is the upstream part of Meghna river. Sampling locations were carried out at Sherpur (Moulvibazar) and Beanibazar (Sylhet) for Kushiara river, which is one of the upper stream part of Meghna river. Samplings of borehole sediments collection have been done from Mohonpur (Chandpur) and Chandpur town (Chandpur) for the Meghna river. The borehole sediments were dried in the oven till constant weight and digested it nitric and perchloric acid (3:2) in fume cup hood in the laboratory. The digested sample were analyzed by Ag-DDTC UV visible Spectrophotometer for arsenic also analysis of Fe, Mn and Cu in borehole sediment by Flame AAS. The average concentration of arsenic was found 6.39 mg/Kg in Borehole sediment for Kushiara river (Beanibazar and Sherpur), 5.00 mg/Kg for Meghna river (Mohonpur and Chandpur). The highest amount of arsenic (12.30 mg/Kg) was found in grayish clay type sediment at upstream of Kushiara river at Beanibazar. It is evident from the study, that arsenic is mobilized from upper stream to lower stream. In addition, it also reveals that high amount of Fe and Mn was in sediment sample. Statistical analysis shows that arsenic is strongly correlated with Mn and Fe but weakly correlated with Cu. In nature FeOOH occurs in yellowish in color and MnOOH is gray in color, these two of oxy-hydroxides may be scavengers of arsenic. It was indicated that the occurrence of FeSO₄, MnSO₄ and CuSO₄ is predominant in all of the borehole sediment of Kushiara and Meghna rivers.

کلمات کلیدی:

ARSENIC, other metal, borehole sediments. Meghna River, Bangladesh

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