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Management of heavy metals in ground water- A case study

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The paper describes the studies conducted on heavy metals in ground water with conventional data and integration with remote sensing and GIS Tools for effective ground water management.

The study area has been identified for investigation is a sub-watershed of the main (South Pennar) watershed. Study area covers a geographical area of 190 sq.kms covering part of Bangalore north and east district. The laboratory work consisted in collecting samples from 60 selected groundwater locations and analysis of these for heavy metals (for iron, copper, cadmium, zinc, nickel and chromium) in the laboratory as per Standard regulations and guidelines. The studies were integrated with a GPS survey which generated a spatial distribution of the ground water stations. The vast volume of water quality data (with respect to heavy metals in ground water) is made effective with a high quality geographic data about the study area. Methods and processes of data analysis in Remote Sensing enabled extracting meaningful spatial information from remote sensed data which become direct input into GIS. Different thematic maps/layers have been generated for geology, landforms, land-use, lineaments, lithology, geomorphology and hydrology. Based on the studies on heavy metals in ground water with generation of an Integrated a Decision Support tool (by RS and GIS techniques), for a sub-watershed has been evolved

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