STATUS OF RAINFALL PATTERN AND WATER TABLE FLUCTUATION IN MINING & INDUSTRIAL REGION OF ANGUL- TALCHER COALFIELD, ORISSA, INDIA

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ABSTRACT

Water, one of the bounties of nature, is gradually squeezing from its earlier extent. Now-a-days, groundwater has gained importance with the rising pollution of the surface water sources due to uncontrolled disposal of industrial effluent, sewer wastes etc. Though our country has plenty of water in the form of groundwater but its quantitative availability per person is getting decreased continuously besides degradation in its quality. In view of the unplanned and uncontrolled exploitation of groundwater, it is very urgent to have proper conservation of the valuable resources.

Chiefly water availability is dependent on rainfall. Presently rainfall graph has totally changed at every place due to several anthropogenic, industrial and mining activities. Subsurface reservoirs or aquifers are a blessing of nature to ensure water availability. The distribution pattern of the groundwater resources are influenced by the geomorphology of the area-primarily the thickness and composition of the subsoil, topography and terrain of the surface, geo-tectonic disturbances, lithology of the formation, characteristic of the source and the recharging zones etc.

Talcher coalfield of Mahanadi Coalfield (MCL)- a subsidiary of Coal India Limited is one of the important coal-bearing region in Orissa. Besides mining , other important industrial activities like NALCO, NTPC etc are also predominant. One major river i.e., Brahamani river is passing in the NE direction of the Talcher area. The rainfall pattern has been assessed in the present work. The detailed water table fluctuation studies has been carried out in Talcher-Angul-Meramundali region of the coalfield area and has been found that water table has depleted to a greater extent in some locations. Also the qualitative assessment of the region shows that the some of the parameters are crossing the permissible limits at some of the locations.

The present paper focuses in brief about the geology and geomorphology of the area, rainfall pattern and its water table depletion and deteriorating water quality scenario in the Talcher area.