

Activities of Ground Water Directorate in development of Ground Water in Jharkhand

Pre-Monsoon and Post Monsoon Water Level Measurement

Pre-Monsoon and Post Monsoon Water Level Measurement of 510 hydrograph stations fixed by Ground Water Directorate to monitor the depth of ground water level in Pre-Monsoon period and post monsoon period is done. With the help of this data the ground water balance is calculated block-wise.

Exploratory Drilling Work

As the major portion of Jharkhand is covered with hard crystalline compact rocks, which make the strata heterogeneous and anisotropic, so to know the strata of particular place of hydro geological importance, Ground Water Directorate has carried out Exploratory Drilling work to frame strata chart up to a depth of 100 meters and 150 meters from ground level. In course of drilling, ground water yield at different fracture zones, at depths, is recorded and the formation is also recorded for its yielding capacity. This exercise is important for the demarcation of ground water worthy zones at different depths in hard rock. Based on results of exploratory drillings in hard rock, a Map showing Prospective Areas in Jharkhand State suitable for Ground Water Exploration and Artificial Recharge to Ground Water has been prepared.

Recuperation Test of dug wells

Ground Water Directorate was also engaged in carrying out Recuperation Test of existing dug wells to know the **specific yield** and **specific capacity** of aquifers. This exercise is important in block-wise Dynamic Ground Water Resource Estimation.

Block wise Systematic Hydrogeological Survey

Block wise systematic hydrogeological survey was also carried out by Directorate. In this exercise problematic blocks were taken up for detailed hydro-geological survey. In this survey, topography, drainage, irrigational facilities available in the blocks were taken into account and suitable areas for the construction of irrigational wells were demarcated

Census of Ground Water structures (Block-wise).

The census of ground water structures viz domestic wells, irrigational wells, shallow hand pumps for domestic use is also undertaken to calculate the annual draft. This exercise helps in block-wise Dynamic Ground Water Resource Estimation.

Chemical Analysis of Water Samples

Chemical analysis of water samples collected from different hydrograph stations were also carried out by Directorate to monitor the chemical quality of ground water. This is important to examine the suitability of quality of Ground Water for drinking and irrigational purposes.

Artificial Recharge to Ground Water

In course of water level measurement in pre-monsoon period, it has been observed that ground water level of many areas are going down, indicating over-withdrawal of ground water or less recharge by rainfall.

To arrest the declining trend of ground water level, the idea of Artificial Recharge by Rainfall has developed and finally the recharging zones in urban areas have been marked and recharge pits have been constructed mainly on Govt. and Public buildings. In course of ground water level measurement, it has also been observed that the declining trend of ground water at those places has been arrested or reversed.

Publicity on Rain Water Harvesting to sensitize public residing in Urban and Rural areas by Ground Water Directorate:-

- Publicity on Rain Water Harvesting is done through T.V. channels, FM Radios and Newspapers etc. showing importance of urgent need to recharge the ground water.
- By fixing hoardings at important places to illustrate importance of Rain Water Harvesting, and Rain Water Harvesting methods.
- By distribution of booklets with diagrams and drawings of Recharge Pits in schools and among general public.
- By organizing seminars/workshops to sensitize people to adopt Rain Water Harvesting practices.
- A truck-mounted “**Prachar-Vahan**”, with Live Models of Rain Water harvesting also goes around different parts of Jharkhand State to sensitize people of Jharkhand about the merits of Rain Water Harvesting.