

State Profile

Ground Water Scenario of Jharkhand

Area (Sq.km)	79,714
Rainfall (mm)	917
Total Districts / Blocks	24 Districts

Hydrogeology

The State is underlain by variety of rock formations from Pre-Cambrian to recent age. A major part of the State is underlain by formations comprising of granites, granite gneisses, meta-sedimentaries and a variety of volcanic rocks. The volcanic formation represented by Rajmahal traps are exposed as patches in a linear fashion in the north-eastern part. The sediments belonging to Vindhayan system are seen exposed in the north-western part of the State. The lateritic capping is invariably seen in the south western part. Recent alluvial formations are mostly confined to the valleys along major rivers of the State. The ground water exploration has revealed presence of 3 to 4 potential fractured zones at variable levels within a depth of 200 m from the ground level. The discharge of the exploratory wells is highly variable ranging between 3.6 to 54 m³/hr. In some of the pockets higher discharge wells has also been constructed.

Dynamic Ground Water Resources (2011)	
Annual Replenishable Ground water Resource	6.31 BCM
Net Annual Ground Water Availability	5.76 BCM
Annual Ground Water Draft	1.86 BCM
Stage of Ground Water Development	32 %
Ground Water Development & Management	
Over Exploited	6
Critical	NIL
Semi- critical	5
Artificial Recharge to Ground Water (AR)	<ul style="list-style-type: none"> ▪ Area identified for AR: 7864 sq km ▪ Volume of water to be harnessed: 1414.31 MCM ▪ Volume of water to be harnessed through RTRWH: 47.56 MCM ▪ Feasible AR structures: <ul style="list-style-type: none"> ❖ Percolation tanks- 3754 ❖ Nala Bund- 22538 ❖ RTRWH(H)- 190000 ❖ RTRWH(G&I)- 10000
Ground Water Quality Problems	
Contaminants	Districts affected (in part)
Fluoride (>1.5 mg/l)	Bokaro, Giridih, Godda, Gumla, Palamu, Ramgarh, Ranchi
Iron (>1.0 mg/l)	Chatra, Deoghar, East Singhbhum, Giridih, Ranchi, West Singhbhum
Nitrate (>45 mg/l)	Chatra, Garhwa, Godda, Gumla, Lohardaga, Pakur, Palamu, PaschimiSinghbhum, PurbiSinghbhum, Ranchi, Sahibganj
Arsenic(above 0.05 mg/l)	Sahebganj
Heavy metals:	Lead: Jamshedpur
Lead (above 0.01 mg/l)	

Central Ground Water Authority

Areas Notified for Regulation of ground water development	6
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