

State Profile

Telangana State

Area (Sq. km)	1,12,077
Physiography	Deccan Plateau
Drainage	The State is drained by two major perennial rivers viz. Godavari and Krishna with several other rivers of lesser significance
Irrigation	As per 2011 figures, out of gross irrigated area of 29,98,798 Ha, area irrigated by ground water is 21,10,959 Ha (70%) surface water is 8,09,111 Ha (27%). Net area irrigated is 20,03,900 Ha . Out of which, area irrigated by ground water is 13,96,000 Ha(70%) , surface water is 5,54,000 Ha(28%).
Rainfall	Varies from 732 mm in Mahabubnagar district to 1121 mm in Adilabad district. It increases from less than 800 mm in south-west part of the state to more than 1200 mm in north and north-east part of the state. The mean annual rainfall of the state is 923 mm of which southwest monsoon season (June-September) contributes about 80% of the annual rainfall and northeast monsoon season contributes 13% of the annual rainfall.
Total Districts / Mandals	10 Districts / 459 Mandals (provisional 31 districts/525 mandals)

Hydrogeology : Telangana is characterized by various geological formations ranging in age from Archaean to Recent. Nearly 80 percent of the State is underlain by hard rock formations consisting of granites, gneisses, metamorphics and intrusives (Archaean), Precambrian quartzites, shales and limestones (Cuddapahs & Kurnools), Mesozoic Deccan Trap basalts etc., while the remaining area is underlain by Gondwana sedimentaries and Sub Recent-Recent alluvium. The occurrence and movement of ground water in hard rocks is chiefly controlled by thickness of weathering and structural features like fractures and solution cavities. In general, the depth of weathering varies from 5 to 20 m and occasionally upto 40 m. Ground water is mostly developed by means of shallow-deep bore wells ranging in depth down to 100 m, occasionally even beyond 100 m with discharges generally ranging from 2-5 lps. The semi-consolidated formations of Gondwanas comprising sandstones, shales, siltstones, conglomerates form thick and multi aquifer systems under confining conditions. The aquifers are often prolific with discharges varying upto as high as 48 lps.

Ground Water Regime Monitoring: Ground water monitoring is carried out 4 times in a year (January, May, August and November) and ground water quality one time (May). As on 31/03/2016, total of 766 Ground Water Monitoring Stations (GWMS) (Dug wells: 354 and Piezometer wells: 412) exist. There are 148 dug wells which are being monitored on participatory mode.

District-wise details of NHS wells (as on March 2016)

Telangana state				
S No	District	Dug wells	Piezometer	Total
1	Adilabad	51	25	76
2	Hyderabad	7	21	28
3	Karimnagar	30	54	84
4	Khammam	56	13	69
5	Mahabubnagar	20	63	83
6	Medak	22	29	51
7	Nalgonda	50	68	118
8	Nizamabad	25	27	52
9	Rangareddy	46	60	106
10	Warangal	47	52	99
Total		354	412	766

Water Level Scenario:

The water levels are deep during May when compared to November. During May 2015 (pre-monsoon season) water levels are in the range of 0.33 m bgl to 46.10 m bgl with the range of 5-10 m bgl more predominant (~48%) of the area. Shallow water levels in the range of 2-5 m bgl and deep water levels >20 mbgl occupy ~9 % and 4% of the total area respectively.

During August 2015 (mid-monsoon season) water levels are in the range of 0.1 m bgl to 50.98 m bgl with the range of 5-10 m bgl more predominant occupying ~33% of the area followed by 2-5 mbgl (30% area). Moderate deep water levels (10-20 mbgl) occupy ~24% and deep water levels (>20 mbgl) occupy ~6 % of the area.

During November 2015 (post-monsoon season) water levels are in the range of 0.07 m agl to 59.4 m bgl and water levels in the range of 5-10 m bgl are more predominant occupying ~37 % of the area followed by 2-5 mbgl (29 % area). Moderate deep water levels (10-20 mbgl) occupy ~5 % and deep water levels (>20 mbgl) occupy ~8 % of the area.

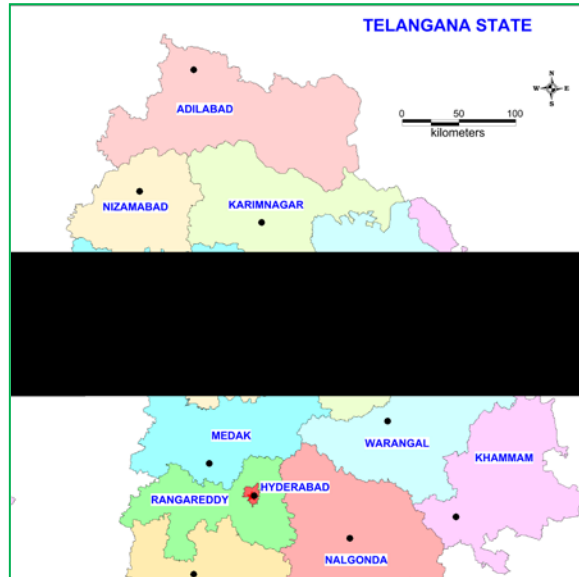
During January 2016, water levels are in the range of 0.3 m bgl to 69.5 m bgl and water levels in the range of 5-10 m bgl are more predominant occupying ~42 % of the area followed by 10-20 mbgl (31 % area). Shallow water levels (2-5 mbgl) occupy ~19 % and deep water levels (>20 mbgl) occupy ~8 % of the area.

Dynamic Ground Water Resources (2013) (Provisional)	
Annual Replenishable Ground water Resources	14.74 BCM
Net Annual Ground Water Availability	13.39 BCM
Annual Ground Water Draft	7.77 BCM
Stage of Ground Water Development	58 %
Categorization	
Over Exploited	46 Mandals
Critical	12 Mandals
Semi- critical	74 Mandals
Artificial Recharge	
Artificial Recharge to Ground Water (Artificial Recharge feasibility structures in the Over-exploited mandals of the state based on 2011 GEC estimation)	<ul style="list-style-type: none"> ▪ Area identified for Artificial Recharge: 8,946 sq. km ▪ Volume of water to be harnessed: 389 MCM ▪ Feasible AR structures: <ol style="list-style-type: none"> 1. Percolation tanks – 245 2. Check Dams -819 3. Recharge shaft -883 4. RDR with RS -117 5. Form Ponds -19240 6. Sprinklers -96200 7. Piezometers -962 8. Recharge Pits 80000
As per the master plan on Artificial Recharge to Ground Water , number of structures feasible in water stressed areas where ground water development was semi-critical, critical and over-exploited based on GEC 2009 estimation	<ul style="list-style-type: none"> ▪ Area identified for Artificial Recharge: 19,665 sq. km. ▪ Volume of water to be harnessed: 1322 MCM ▪ Feasible AR structures: <ul style="list-style-type: none"> ❖ 2203 Percolation tanks ❖ 16526 check dams ❖ 20400 Recharge shafts ❖ 309800 RTRWH(H) ❖ 16300 RTRWH(G&I)
Ground Water Quality Problems	
Contaminants	Districts affected (in part)
Salinity (EC > 3000 μ S/cm at 25 ° C)	Adilabad, , Karimnagar, Khammam, Mahabubnagar, Nalgonda, Nizamabad, Warangal
Fluoride (>1.5 mg/l)	Adilabad, Hyderabad, Karimnagar, Khammam, Mahabubnagar, Medak, Nalgonda, Rangareddy, Warangal
Iron (>1.0 mg/l)	In all the districts except in Nizamabad. More prominent in Karimnagar, Warangal, nalgonda and Medak.
Nitrate (>45 mg/l)	All the districts of the state.

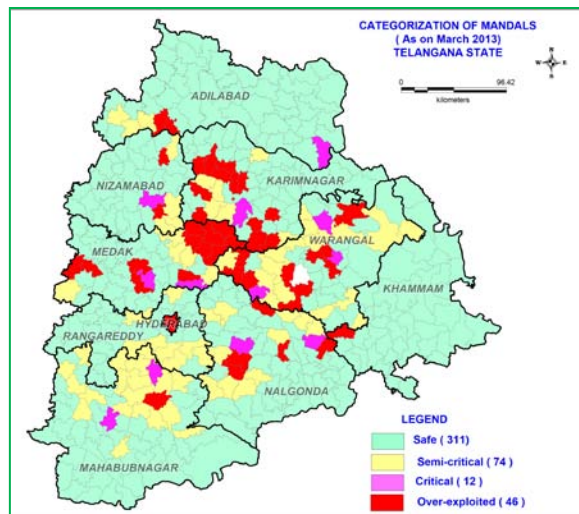
Central Ground Water Authority

Areas Notified for Regulation of ground water development

- Midjil Mandal of Mahabubnagar District.
- Vailpoor (NC) of Nizamabad District



Administrative Map of Telangana state



Categorization of Mandals