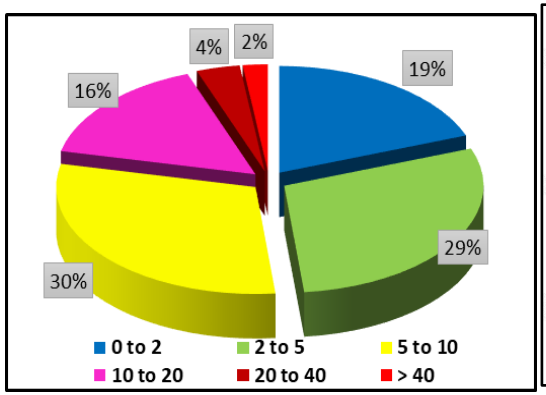

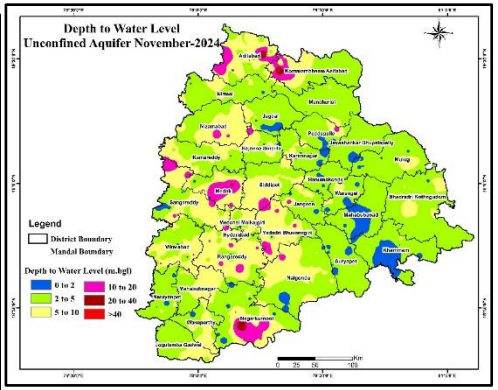

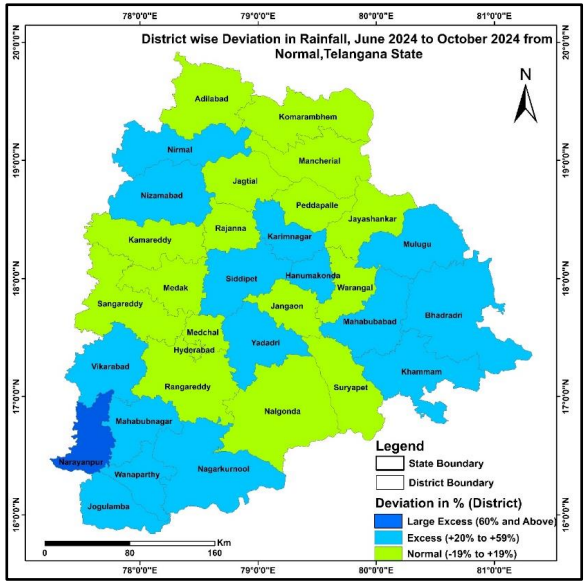

GROUND WATER LEVEL BULLETIN

November 2024

TELANGANA STATE

ABSTRACT

Ground water level Scenario during November-2024 highlighting the findings, status of ground water level in different aquifers and its seasonal, annual and decadal comparison.

CGWB, SOUTHERN REGION, HYDERABAD

1.0 INTRODUCTION

Groundwater bulletin is prepared by CGWB depicting changes in groundwater regime of the country through different seasons. It is an effort to obtain information on groundwater levels through representative monitoring wells. The important attribute of groundwater regime monitoring is groundwater level.

The natural conditions affecting the groundwater regime involve climatic parameters like rainfall, evapotranspiration etc., whereas anthropogenic influences include pumpage from the aquifer, recharge due to irrigation systems and other practices like waste disposal etc.

Groundwater levels are being measured by Central Ground Water Board four times a year during January, March/April/May, August and November. The regime monitoring started in the year 1969 by Central Ground Water Board. A network of 1281 observation wells called **National Hydrograph Network Stations (NHNS)**, as on 31.03.2024, located in Telangana State is being monitored.

2.0 STUDY AREA

Telangana State is the 29th State (Act, 2014) formed in India covering geographical area of 1,12,077 Km^2 (after transferring 107 villages from Khammam district to residual Andhra Pradesh). It lies between NL 15° 48' and 19° 54'and EL 77° 12' and 81° 50'.The state is bordered by Maharashtra state in the north, Karnataka state in the west, Andhra Pradesh state in the south and east and Chhattisgarh state in the north-east. Administratively, the State comprises of 33 districts and governed by 620 revenue mandals (blocks/tehsils) with 10,434 revenue villages. The largest district is Bhadradri Kothagudem whereas Hyderabad is the smallest district. The total population of the state is ~3.5 crores with sex ratio of 988 (2011 census), of which 61 % lives in rural area and 39% in urban area. The density of population is 312 per sq. km. The decadal growth in population is ~13.6 % (2001 to 2011 census).

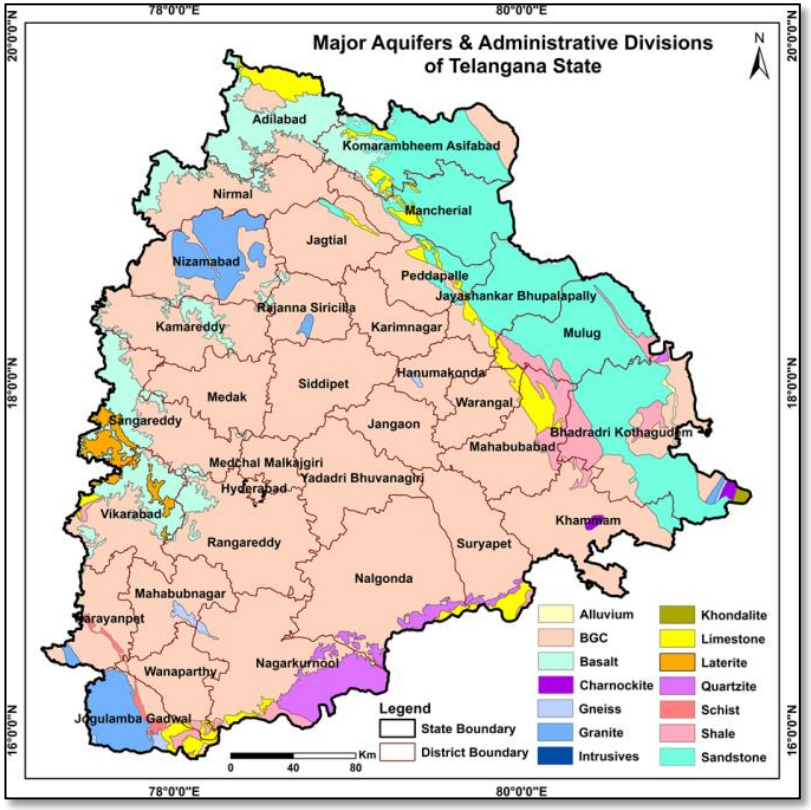

Figure-1: Map showing major aquifers and administrative divisions of Telangana State

Physiographically, Telangana state is occupied by western Pediplains except a fringe of Eastern Ghats in the northeastern part of Khammam district. The Pediplains depict rolling topography with flat to undulating tracts. The state extends largely between elevations of 150 to 600 mamsl except at places where it is overlain by basaltic lava flows, the elevation of which ranges from 600 to 900 m amsl.

The state is underlain by diverse rock types of different geological ages from Pre-Cambrian to Recent. Nearly 81 % of the state area is underlain by hard rocks (consolidated formations) belonging to the Peninsular Gneissic Complex, Dharwar and Eastern Ghats of Archaean to Middle Proterozoic age, Pakhal Group of rocks belonging to Middle to Upper Proterozoic age and Deccan Traps.

The remaining part of the state is underlain by semi consolidated sedimentary formations comprising Gondwanas, Tertiaries and Sub-Recent to Recent Unconsolidated Alluvium.

3.0 GROUND WATER LEVEL MONITORING

Central Ground Water Board, Southern Region, is monitoring changes in groundwater regime in Telangana state on quarterly basis continuously. This is facilitated by a network of monitoring stations in the State located in diverse hydrogeological and geomorphic units. The number of operational wells till August, 2024 was 1281 which include 274 dug wells and 1007 piezometers. In November 2024, 1230 wells monitored (1227 water level recorded and 3 dry), while 51 wells (8 dug wells and 43 piezometers) could not be monitored due to various reasons like inaccessibility, filled up, installation of pump .units, road damaged, gate locked etc. Three wells were abandoned in November 2024 monitoring period. The number of operational wells after completion of November 2024 monitoring stands at 1281, which include 274 dug wells and 1007 Bore wells. The district-wise breakup of the water level monitoring stations is given in **Table-1**.

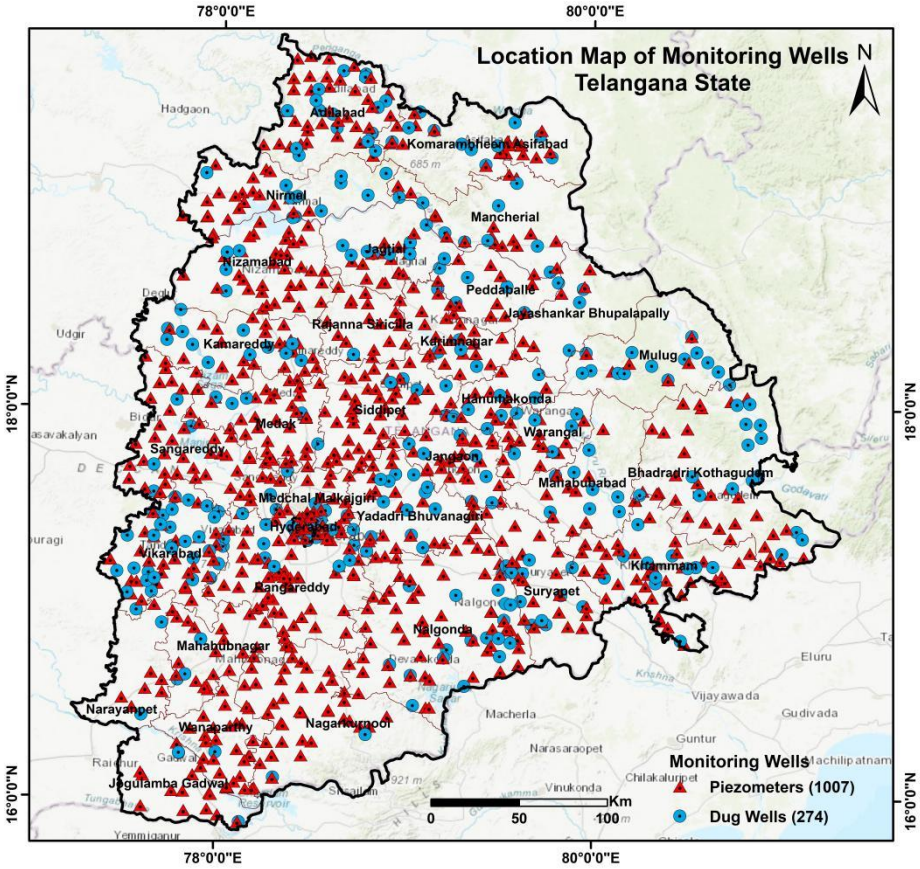

Figure- 2: Map showing locations of monitoring wells (GWMWS) in Telangana State

Table-1: District-wise distribution of water level monitoring stations

SR. No.	District	Number of Water Level Monitoring Stations				
		2022	2023	2024		
		Total	Total	DW	PZ	Total
1	Adilabad	**51**	55	16	39	55
2	Bhadradri Kothagudem	**73**	73	15	58	73
3	Hanamkonda	**18**	18	4	14	18
4	Hyderabad	**25**	28	8	20	28
5	Jagtial	**25**	24	8	16	24
6	Jangaon	**42**	42	9	33	42
7	Jayashankar Bhupalapally	**14**	14	3	11	14
8	Jogulamba Gadwal	**17**	17	3	14	17
9	Kamareddy	**25**	39	12	27	39
10	Karimnagar	**23**	26	5	21	26
11	Khammam	**68**	69	12	57	69
12	Komarambheem Asifabad	**39**	42	10	32	42
13	Mahabubabad	**21**	21	8	13	21
14	Mahabubnagar	**28**	26	3	23	26
15	Mancherial	**32**	33	10	23	33
16	Medak	**38**	38	5	33	38
17	Medchal Malkajgiri	**20**	39	3	36	39
18	Mulugu	**23**	21	14	7	21
19	Nagarkurnool	**46**	47	2	45	47
20	Nalgonda	**80**	81	17	64	81
21	Narayanpet	**12**	12	2	10	12
22	Nirmal	**34**	33	8	25	33
23	Nizamabad	**42**	42	5	37	42
24	Peddapalli	**18**	20	6	14	20
25	Rajanna Sircilla	**21**	21	1	20	21
26	Rangareddy	**73**	95	13	82	95
27	Sangareddy	**60**	65	6	59	65
28	Siddipet	**51**	53	5	48	53
29	Suryapet	**34**	34	11	23	34
30	Vikarabad	**66**	65	29	36	65
31	Wanaparthy	**25**	26	1	25	26
32	Warangal	**20**	20	7	13	20
33	Yadadri Bhuvanagiri	**43**	42	13	29	42
	Total	**1207**	**1281**	**274**	**1007**	**1281**

4.0 RAIN FALL

The rainfall data collected and compiled from weekly and monthly weather reports from India Meteorological Department were used to analyze the rainfall for the period June 2024 - October 2024. Table-2 gives the district-wise rainfall data for the period June - October 2023 & 2024, normal and the departure of June-October 2024 rainfall with other periods.

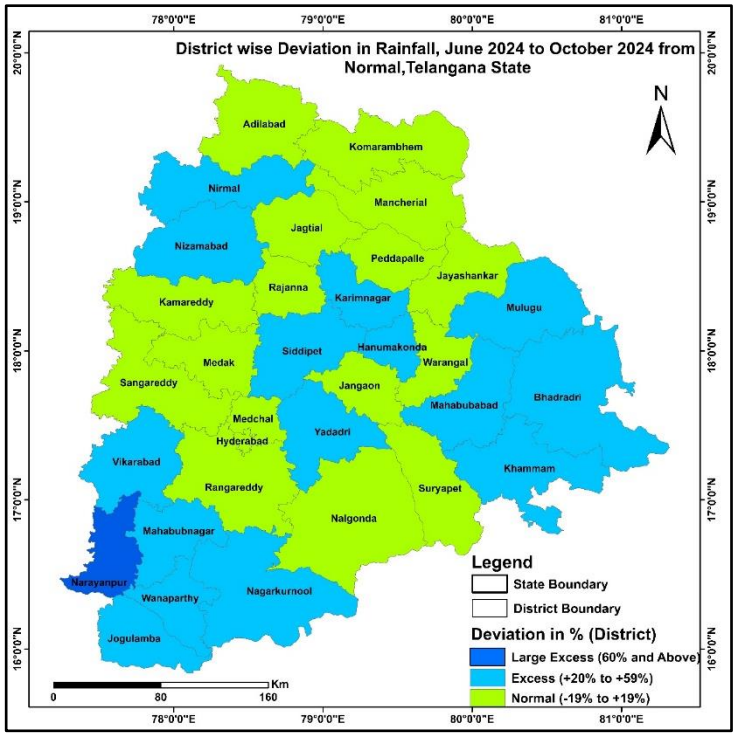

Figure-3: Rainfall deviation (June 2024 - October 2024) from normal rainfall

Table-2: District wise variability of rainfall in Telangana State (2024)

S. No.	District	Rainfall (June 24- Oct 24)	Rainfall (June 23 to Oct 23)	Normal Rainfall	Departure from 2023 (%)	Departure from Normal (%)	Status
1	Adilabad	1094	1152.3	1033	-5%	6%	Normal
2	Bhadradri Kothagudem	1293	932.5	1046	39%	24%	Excess
3	Hanumakonda	968	1097.2	776	-12%	25%	Excess
4	Hyderabad	852	756.2	734	13%	16%	Normal
5	Jagtial	1043	1143.4	898	-9%	16%	Normal
6	Jangaon	800	835.7	773	-4%	3%	Normal
7	Jayashankar	1151	1328.9	1057	-13%	9%	Normal
8	Jogulamba Gadwal	772	400.6	535	93%	44%	Excess
9	Kamareddy	977	1043.6	867	-6%	13%	Normal
10	Karimnagar	1001	974.3	784	3%	28%	Excess
11	Khammam	1187	708.8	900	67%	32%	Excess
12	Kumuram Bheem	1194	1090.8	1052	9%	14%	Normal
13	Mahabubabad	1270	923	977	38%	30%	Excess
14	Mahabubnagar	923	597.1	612	55%	51%	Excess
15	Mancherial	1007	1091.3	1028	-8%	-2%	Normal
16	Medak	889	953.9	860	-7%	3%	Normal
17	Medchal-Malkajgiri	752	782.5	648	-4%	16%	Normal
18	Mulugu	1595	1331	1068	20%	49%	Excess
19	Nagarkurnool	869	498.5	597	74%	46%	Excess
20	Nalgonda	766	378.3	649	102%	18%	Normal
21	Narayanpet	938	579.6	542	62%	73%	L. Excess
22	Nirmal	1127	1235	970	-9%	16%	Normal
23	Nizamabad	1128	1211.8	909	-7%	24%	Excess
24	Peddapalli	1034	990.8	964	4%	7%	Normal
25	Rajanna Sircilla	924	1080.1	778	-14%	19%	Normal
26	Rangareddy	749	548.2	658	37%	14%	Normal
27	Sangareddy	892	804.8	795	11%	12%	Normal
28	Siddipet	916	730	709	26%	29%	Excess
29	Suryapet	868	572.5	735	52%	18%	Normal
30	Vikarabad	931	758.5	763	23%	22%	Excess
31	Wanaparthy	947	540.1	648	75%	46%	Excess
32	Warangal	1074	1084.9	1000	-1%	7%	Normal
33	Yadadri Bhuvanagiri	683	616.1	656	11%	4%	Excess
	State Total	**988**	**872**	**819**	**13%**	**21%**	**Excess**

Category was defined based on the departures from normal values: **Normal**: -19% to 19%; **Excess**: 20% to 59%; **L. Excess**: > 60%; **Deficit**: -20% to -59%

5.0 GROUND WATER LEVEL SCENARIO (November 2024)

5.1 SHALLOW AQUIFER (UNCONFINED)

5.1.1 DEPTH TO WATER LEVEL

Depth to Water Level in Unconfined Aquifer (November 2024)

Analysis of depth to water level data of 595 wells shows water levels vary between 0.1 m bgl (Khammam district) to 50.1 m bgl (Nizamabad district). Water level of lessthan 2 m bgl is recorded in 19% of wells, between 2 and 5 m bgl in 29% of wells,between 5 and 10 m bgl in 30% of wells, between 10 and 20 m bgl in 16% of wells, between 20 and 40 m bgl in 4% of wells and >40 m bgl in 2% of wells.

Shallow water level of less than 2 m bgl majorly observed in parts of Mahabubabad, Mulugu, Hanumakonda, Jagtial, Peddapalle, Warangal, Khammam districts covering only an area of 4.1% of the State. Water levels of 2–5 mbgl, covering 61% of the area, are widespread across the state, especially in the eastern, northeastern, and southeastern regions. 5 to 10 m bgl of water levels covering an area of 30.6% of State is mainly observed in parts of Kamareddy, Nagarkurnool, Vikarabad, Y. Bhuvanagiri, Rajanna Sircilla, Jogulamba Gadwal, M. Malkajgiri, Siddipet, Wanaparthy, Rangareddy, Sangareddy, Adilabad, Mahabubnagar and Hyderabad districts. While 3.9% of the State is covered by 10 – 20 m bgl water levels in Medak, Sangareddy, Rangareddy, Siddipet, Nizamabad, Nalgonda, Nagarkurnool, Adilabad, Kamareddy, Y Bhuvanagiri and Kumaram Bheem Asifabad districts. Deeper water levels exceeding 20 meters cover less than 1% of the area, found in small patches across Nagarkurnool, Adilabad, Medak and Komarambheem Asifabad districts.

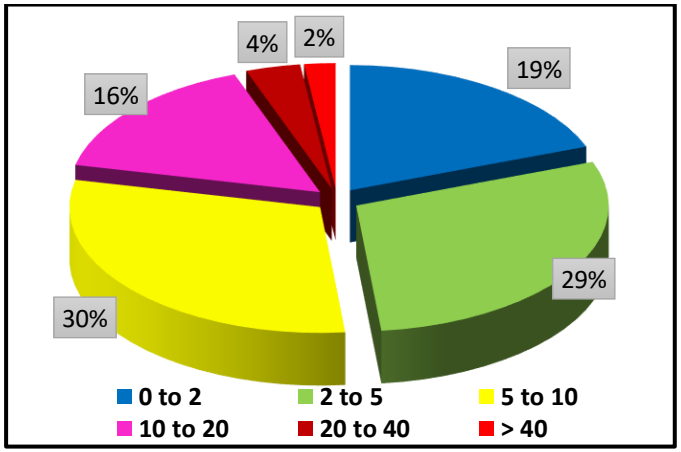

Figure-4: Percentage of wells in different water level ranges in unconfined aquifer.

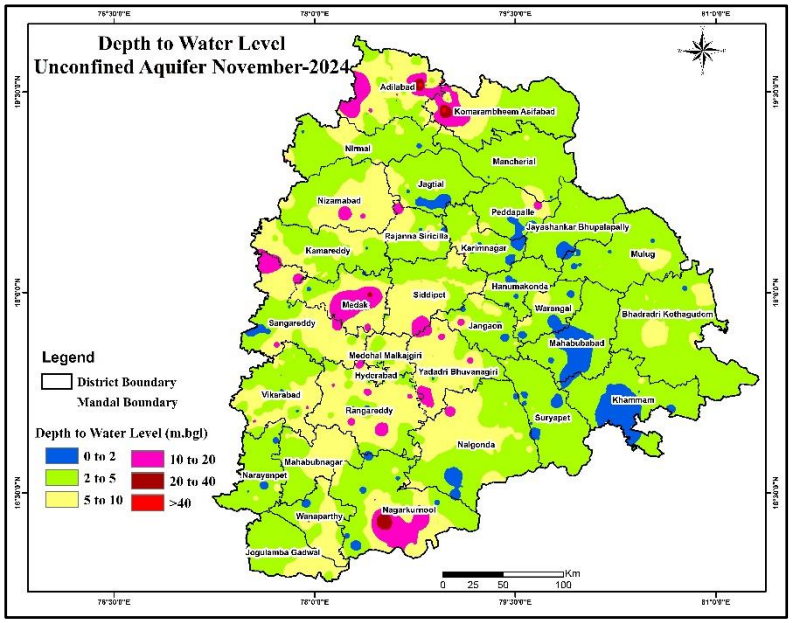

Figure-5: Depth to water level of unconfined aquifer during November 2024.

5.1.2 SEASONAL FLUCTUATION IN WATER LEVEL

Seasonal Fluctuation of Water Level in Unconfined Aquifer (May 2024 to November 2024)

Analysis of data of 607 wells shows that water level rise is recorded in 88% wells (536 wells), water level fall is recorded in 12% wells (71 wells).

Rise in Water Levels:

Out of 536 wells, water level rise of less than 2 m is recorded in 20% wells, 2 to 4 m in 33% wells and more than 4 m in 47% of the wells. Water level rise of less than 2 m is seen occurs as isolated patches throughout the state. Water level rise of 2 to 4 m is observed mainly in parts of Mahabubabad, B. Kothagudem, Jagtial, Peddapalle, Rangareddy, Rajanna Sircilla, Kamareddy, Nirmal, Mancherial, Suryapet, Khammam, Hanumakonda, Warangal, Nalgonda and Karimnagar districts. Rise of more than 4 m is mainly observed in parts of Adilabad, K. Asifabad, Nizamabad, Nirmal, Rajanna Sircilla, Medak, Nagakurnool, Sangareddy, Suryapet, Vikarabad, Jangaon, Wanaparthy, Warangal, Narayanpet, J Gadwal, Siddipet and Hanumakonda districts.

Fall in Water Levels:

Out of 71 wells that have registered fall in water levels, 38% have recorded less than 2 m while 24% in the range of 2 to 4 m and remaining 38% wells registered water level fall of more than 4 m. Fall of less than 2 m is mainly observed in parts of Y. Bhuvanagiri, Nalgonda, Medak, Kamareddy and M. Malkajgiri districts. Fall of 2 to 4 m is observed mainly in Y. Bhuvanagiri, Mulugu, J Bhupalpally, Macherial, Rangareddy, Adilabad, Nalgonda and Nirmal districts. Fall of >4 m is mainly observed in Medchal Malkajgiri, Karimnagar, Nizamabad, Kamareddy, Rangareddy, Mulugu, Y. Bhuvanagiri and Mancherial districts.

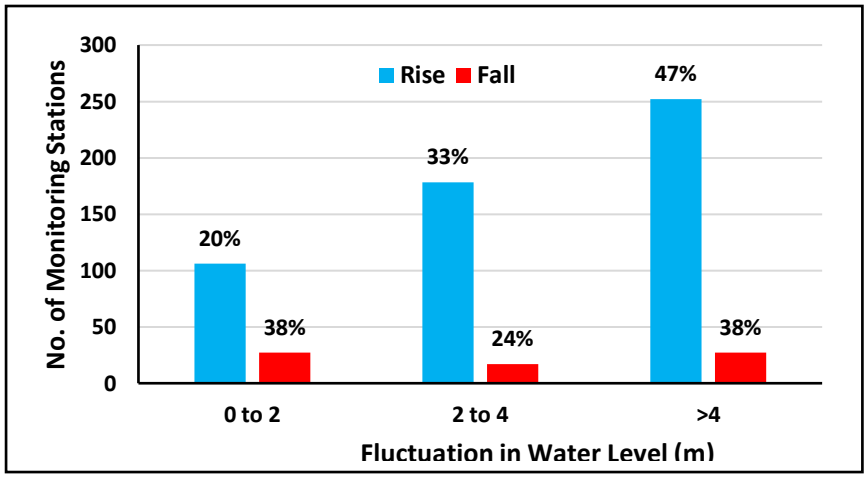

Figure-6: Percentage of wells showing rise and fall in WL in unconfined aquifer (May 2024 to November 2024)

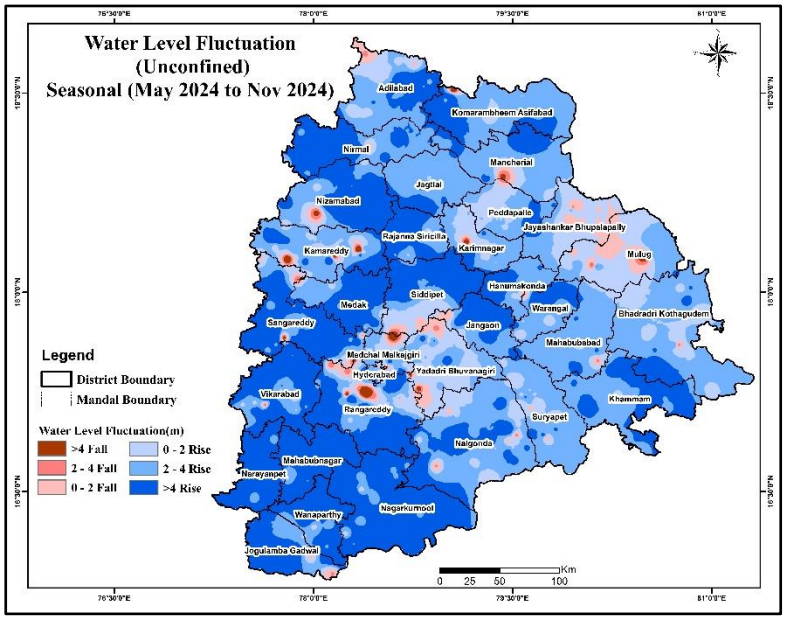

Figure-7: Seasonal water level fluctuation in unconfined aquifer(May 2024 to November 2024)

5.1.3 ANNUAL FLUCTUATION IN WATER LEVEL

Annual Fluctuation of Water Level in Unconfined Aquifer (November 2023 to November 2024)

Analysis of data of 590 wells shows that water level rise is recorded only in 68% wells (404 wells), water level fall is recorded in 32% wells (186 wells).

Rise in Water Levels:

Out of 590 wells, water level rise of less than 2 m is recorded in 69 % wells, 2 to 4 m in 19 % wells and more than 4 m in 12 % of the wells. Water level rise of less than 2 m is widely spread across the state and seen in almost all districts. Water level rise of 2 to 4 m is mainly observed in Nalgonda, Nagarkurnool, Siddipet, Wanaparthy, Sangareddy, J Gadwal, Suryapet, Mahabubnagar, Nirmal, B Kothagudem and Khammam districts. Water level rise of more than 4 m is significantly observed in parts of Suryapet, Nalgonda, Nagarkurnool, Wanaparthy, Sangareddy and J Gadwal districts.

Fall in Water Levels:

Out of the 186 wells that have registered fall in water levels, 70% have recorded less than 2 m while 16 % in the range of 2 to 4 m and remaining 14 % wells registered water level fall of more than 4 m. Fall of less than 2 m is observed in Medak, Kamareddy, Adilabad, K Asifabad, J Bhupalpally, Mulugu, Peddapalle, Siddipet, Y Bhuvanagiri, Mancherial and Vikarabad districts of the state. Fall of 2 to 4 m, recorded in Adilabad, Jangaon, Siddipet, Medak, Rangareddy and M. Malkajgiri districts. Fall beyond 4 m is recorded mainly in parts of Adilabad, Jangaon, Sangareddy and Rangareddy districts.

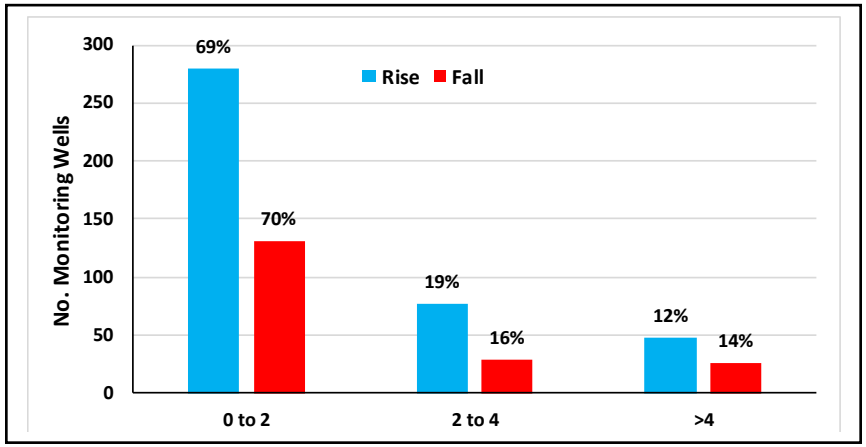

Figure-8: Percentage of wells showing rise and fall in WL in unconfined Aquifer (November 2023 to November 2024)

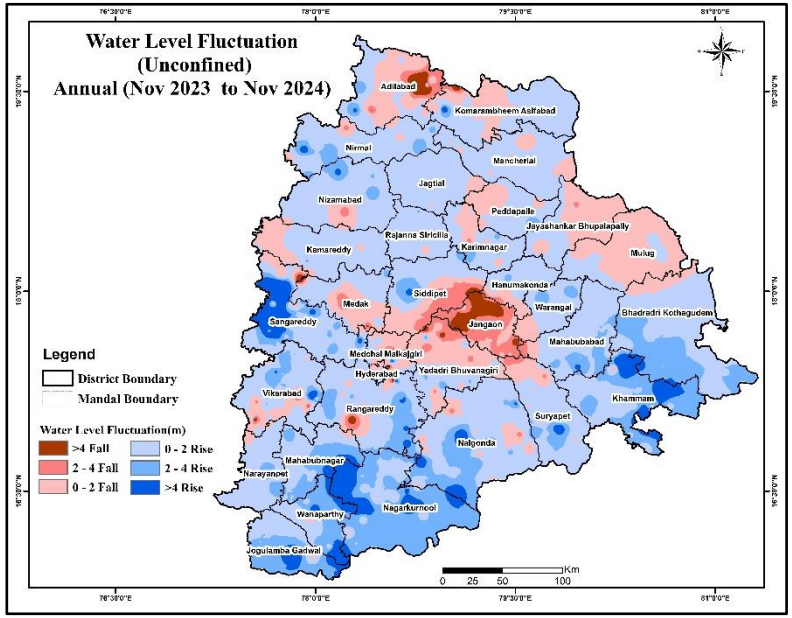

Figure-9: Annual water level fluctuation in unconfined Aquifer (November 2023 to November 2024)

5.1.4 DECADAL FLUCTUATION IN WATER LEVEL

Decadal Fluctuation of Water Level in Unconfined Aquifer (Decadal Mean to November 2024)

Analysis of data of 472 wells shows that water level rise is recorded in 58.50 % wells (276 wells), water level fall is recorded in 41.50% wells (196 wells).

Rise in Water Levels:

Out of 472 wells, water level rise of less than 2 m is recorded in 54 % wells, 2 to 4 m in 23 % wells and more than 4 m in 22 % of the wells. Water level rise of less than 2 m is seen in isolated patches throughout the State. Water level rise of 2 to 4 m is mainly observed in Nagarkurnool, J. Gadwal, Rangareddy, Karimnagar, Nizamabad districts etc. Water level rise of more than 4 m is significantly observed in parts of Mahabubnagar, Sangareddy, Medak, Nagarkurnool, Wanaparthy, J. Gadwal, Rangareddy, Siddipet, Nizamabad and Khammam districts.

Fall in Water Levels:

Out of the 196 wells that have registered fall in water levels, 78 % have recorded less than 2 m while 12 % in the range of 2 to 4 m and remaining 10 % wells registered water level fall of more than 4 m. Fall of less than 2 m is recorded in in north-eastern, eastern and south-eastern parts of the state. Fall of 2 to 4 m is observed in Nagarkurnool, Rajanna Sircilla, Nirmal, Nalgonda and Vikarabad districts. Fall beyond 4 m is recorded mainly in parts of Sangareddy, Nagarkurnool, Jangaon, Nalgonda, Rangareddy, Vikarabad, Kamareddy, Rajanna Sircilla and Hyderabad districts.

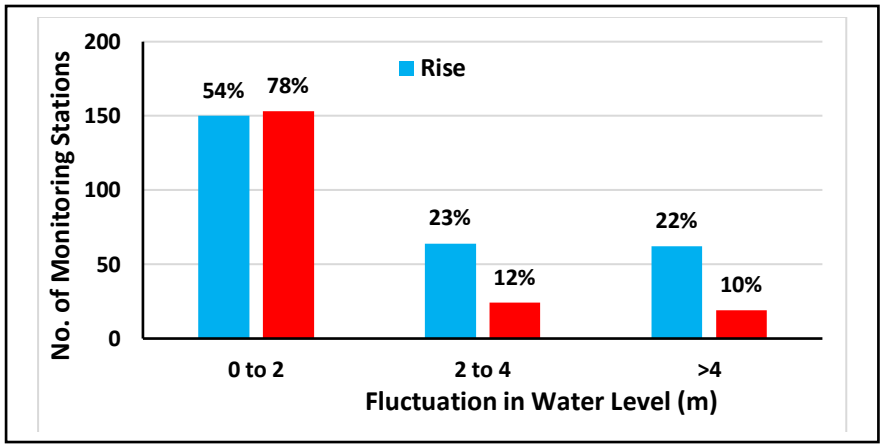

Figure-10: Percentage of wells showing rise and fall in WL in unconfined Aquifer (Decadal Mean to November 2024)

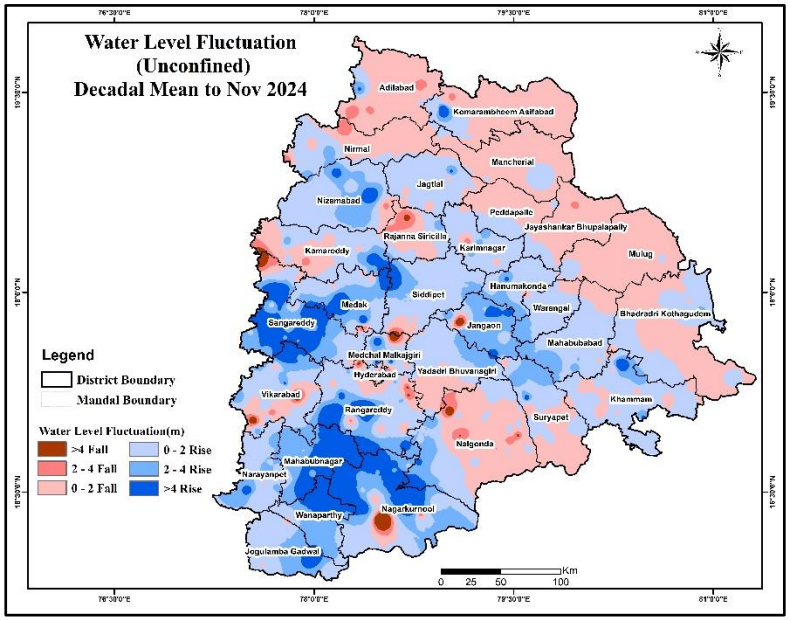

Figure-11: Decadal water level fluctuation in unconfined Aquifer (Decadal Mean to November 2024)

5.2 DEEPER AQUIFER (CONFINED/ SEMI-CONFINED)

5.2.1 DEPTH TO PIEZOMETRIC LEVEL

Depth to Piezometric Level in Confined/Semi-Confined Aquifer (November 2024)

Analysis of piezometric level data of 604 wells shows piezometric levels vary between 0.1 m bgl (Khammam) to 68.1 m bgl (Siddipet district). Piezometric level of less than 2 m bgl is recorded in 19% of wells, between 2 and 5 m bgl in 28% of wells, between 5 and 10 m bgl in 30% of wells, between 10 and 20 m bgl in 17 % of wells, between 20 and 40 m bgl in 4% of wells and piezometric level more than 40 m bgl is registered in 2 % of wells.

Shallow piezometric level of less than 2 m bgl is majorly noticed in Mahabubabad, Bhadradri Kothagudem, Mulugu, Jagtial, Khammam and Nagarkurnool districts covering an area of 6.8 % of the State. Piezometric level of 2 to 5 m bgl mainly observed in parts of Mulugu, Bhadradri Kothagudem, Khammam, Mahabubabad, Warangal, Suryapet, Jagtial, Mancherial, Karimnagar, Wanaparthy, Mahabubnagar, Narayanpet, J Gadwal, Jangaon, Hanumakonda and Nalgonda districts covering an area of 37% of the State. 38.6 % area of the State is covered by depth to piezometric level of 5 to 10 m bgl throughout the State. Piezometric level of 10 to 20 m bgl is covered in 14.7% of the State area in Rangareddy, Sangareddy, Vikarabad, Kamareddy, Adilabad, K.B. Asifabad, Medak, Siddipet, Nagarkurnool, Nizamabad, Bhadradi Kothagudem, Rajanna Sircilla and Hanumakonda districts. Deeper piezometric levels of more than 20 m covers 3% area of the State, exist as isolated patches and mainly observed in parts of Bhadradi Kothagudem, Medak, Rangareddy, K.B. Asifabad, Adilabad, Siddipet, Vikarabad, Nizamabad and Sangareddy districts.

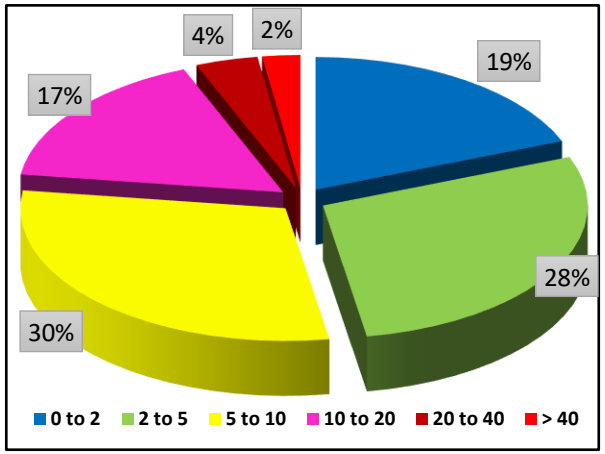

Figure-14: Percentage of wells in different piezometric levels (November 2024)

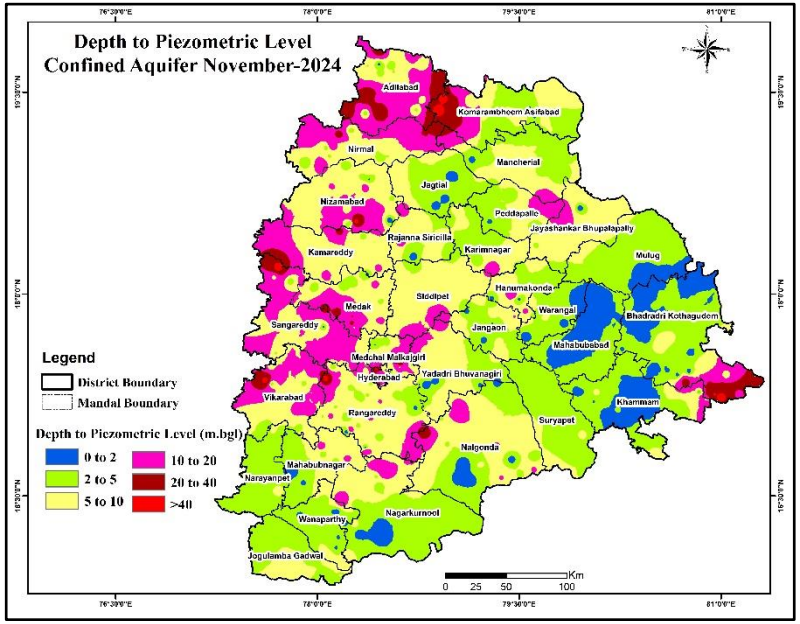

Figure-15: Depth to piezometric Level in deeper aquifer in November 2024.

5.2.2 SEASONAL FLUCTUATION IN PIEZOMETRIC LEVEL

Seasonal Fluctuation of Piezometric Level in Confined/ Semi-Confined Aquifer (May 2024 to November 2024)

Analysis of data of 572 wells shows that water level rise is recorded in 87% wells (502 wells), water level fall is recorded in 13% wells (70 wells).

Rise in Piezometric Levels:

Out of 572 wells, a piezometric level rise of less than 2 meters was recorded in 15% of the wells, 2 to 4 meters in 26%, and more than 4 meters in 59%. The rise of less than 2 meters was primarily observed in Mulugu, B. Kothagudem, M. Malkajgiri, Kamareddy, Warangal, Y. Bhuvanagiri, Rajanna Sircilla, Siddipet, and Nalgonda districts. A rise of 2 to 4 meters was found mainly in patches extending from the north-eastern to the south-western parts and in the south-eastern part of the state. A rise of more than 4 meters was observed in majority parts of the state such as Sangareddy, Rangareddy, Nirmal, Nagarkurnool, Siddipet districts.

Fall in Piezometric Levels:

Out of 70 wells that have registered fall in piezometric levels, 33% have recorded less than 2 m while 17% in the range of 2 to 4 m and remaining 50% wells registered piezometric level fall of more than 4 m. Fall of less than 2 m is mainly observed in Nalgonda, Kamareddy, K Asifabad, Mancherial and Nizamabad districts. Fall of 2 to 4 m is observed mainly observed in Nalgonda, Kamareddy, K Asifabad, Mancherial, Nizamabad and Vikarabad districts. Fall of beyond 4 m is observed mainly in parts of Nalgonda, Kamareddy, K Asifabad, Mancherial, Nizamabad, Sangareddy, Adilabad and Vikarabad districts.

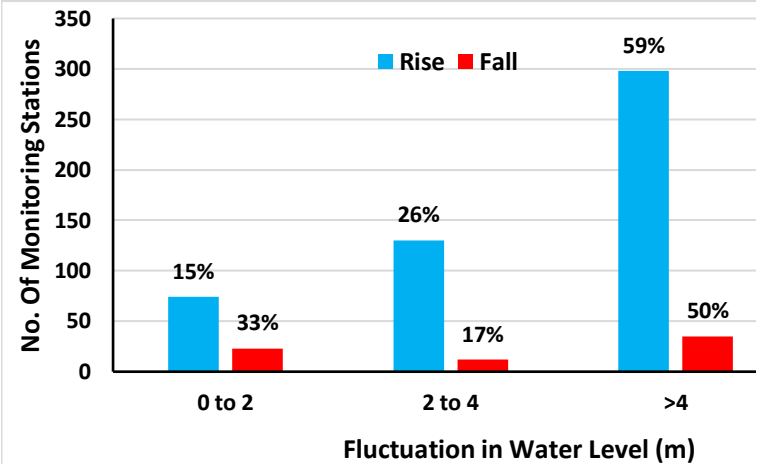

Figure-16: Percentage of wells showing rise and fall in piezometric level in confined/semi-confined aquifer (May 2024 to November 2024).

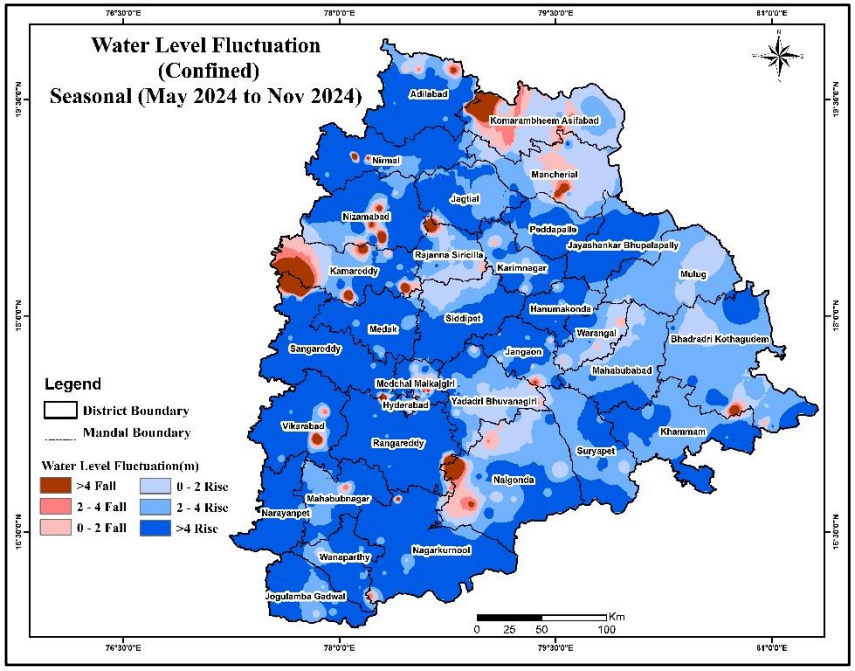

Figure-17: Annual water level fluctuation in piezometric level in confined/ semi-confined aquifer (May 2024 to November 2024)

5.2.3 ANNUAL FLUCTUATION IN WATER LEVEL

Annual Fluctuation of Water Level in Unconfined Aquifer (November 2023 to November 2024)

Analysis of data of 555 wells shows that water level rise is recorded in 63% Wells (355 wells) while water level fall is recorded in 37% wells (200 wells).

Rise in Water Levels:

Out of 555 wells, water level rise of less than 2 m is recorded in 62% wells, 2 to 4 m in 18% wells and more than 4 m in 20% of the wells. Water level rise of less than 2 m is seen in all the districts, significantly throughout the State. Water level rise of 2 to 4 m is observed mainly in parts of Mahabubnagar, Nalgonda, Nagarkurnool, Jayashankar Bhupalapally, Mahabubabad, Sangareddy and Vikarabad districts. Water level rise of more than 4 m mainly observed in parts of Rangareddy, Mahabubnagar, Nalgonda, Nagarkurnool, Jayashankar Bhupalapally, Adilabad, Sangareddy, Nirmal, Hanumakonda, Peddapalle, Mancherial, Jagtial and B Kothagudem districts.

Fall in Water Levels:

Out of the 200 wells that have registered fall in water levels, 43% have recorded less than 2 m while 19% in the range of 2 to 4 m and remaining 39 % wells registered water level fall of more than 4 m. Fall of less than 2 m is observed in central, northern and north-western parts of the district. Fall of 2 to 4 m, recorded in parts of Bhadradri kothagudem, Adilabad, K. Asifabad, Nizamabad, Kamareddy, Siddipet, Sangareddy and Vikarabad district. Fall beyond 4 m is recorded mainly in parts of Adilabad, Komarambheem Asifabad, Nizamabad, Vikarabad, M Malkajgiri, Hyderabad, Siddipet, Jangaon, Rangareddy and Y Bhuvanagiri districts.

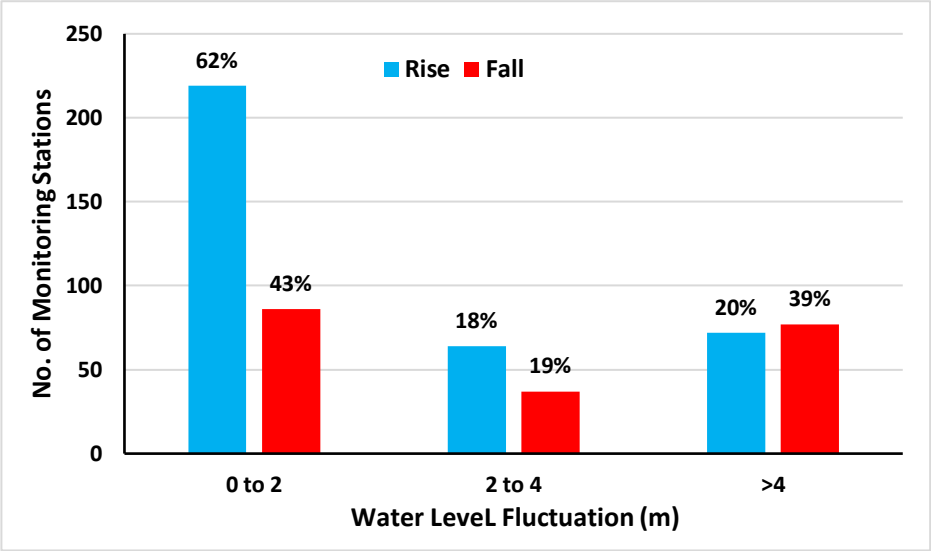

Figure-18: Percentage of wells showing rise and fall in piezometric level in confined/semi-confined aquifer (November 2023 to November 2024).

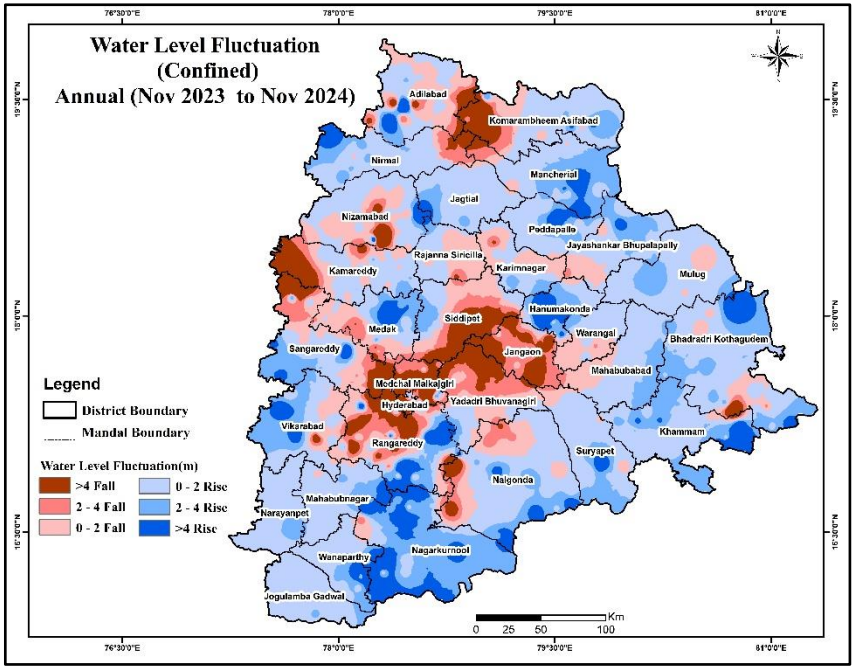

Figure-19: Annual water level fluctuation in piezometric level in confined/ semi-confined aquifer (November 2023 to November 2024)

5.2.3 DECADAL FLUCTUATION IN WATER LEVEL

Decadal Fluctuation of Water Level in Unconfined Aquifer (Decadal Mean to November 2024)

Analysis of data of 344 wells shows that water level rise is recorded in 41.86 % wells (144 wells), water level fall is recorded in 58.14% wells (200 wells).

Rise in Water Levels:

Out of 344 wells, water level rise of less than 2 m is recorded in 48 % wells, 2 to 4 m in 17 % wells and more than 4 m in 35 % of the wells. Water level rise of less than 2 m is seen in isolated patches throughout the State. Water level rise of 2 to 4 m is mainly observed in Nagarkurnool, Rangareddy, Sangareddy, Karimnagar, Nizamabad districts. Water level rise of more than 4 m is significantly observed in parts of Mahabubnagar, Sangareddy, Nagarkurnool, Rangareddy, Siddipet, Nalgonda, Vikarabad and Jangaon districts.

Fall in Water Levels:

Out of the 200 wells that have registered fall in water levels, 65 % have recorded less than 2 m while 15 % in the range of 2 to 4 m and remaining 21 % wells registered water level fall of more than 4 m. Fall of less than 2 m is recorded in north-eastern, eastern and south-eastern parts of the state. Fall of 2 to 4 m is observed in Rajanna Sircilla, Nirmal, Nalgonda, Siddipet, Medak, Kamareddy and Vikarabad districts. Fall beyond 4 m is recorded mainly in parts of Nalgonda, Rangareddy, Vikarabad, Sangareddy, Rajanna Sircilla, Adilabad, K Asifabad, Nirmal, B Kothagudem and Hyderabad districts.

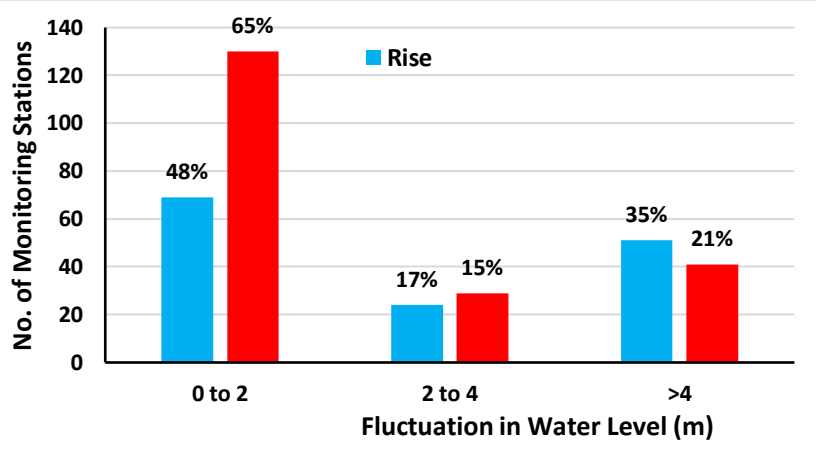

Figure-20: Percentage of wells showing rise and fall in WL in confined Aquifer(Decadal Mean to November 2024)

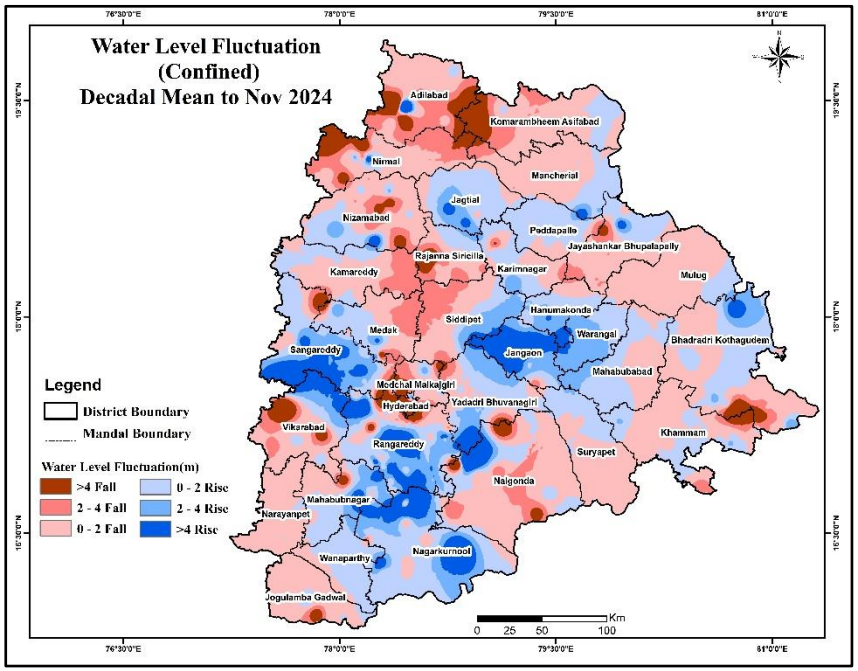

Figure-21: Decadal water level fluctuation in confined Aquifer (Decadal Mean to November 2024)

6.0 SUMMARY

As a component of the National Ground Water Monitoring Programme, the CGWB, SR, Hyderabad conducts monitoring of the ground water conditions on a quarterly basis: in January, pre-monsoon May, August, and post- monsoon November. Additionally, a yearly assessment of ground water quality is performed in May. As of August 31, 2024, the Southern Region of the Central Ground Water Board supervises 274 dug wells and 1007 piezometers. This comprehensive report aims to portray the variations in the state's groundwater conditions across different aquifers.

During November 2024, roughly 94% of the state's territory exhibited a water depth of up to 10 meters below the ground level in unconfined aquifers, while 82.4% of the area showed the same depth in confined and semiconfined aquifers. Areas with deeper water levels exceeding 20 meters accounted for 1% of the state's territory in unconfined aquifers and 3% in confined and semiconfined aquifers, mainly in Rangareddy, Vikarabad, Hyderabad, Medak, Sangareddy, Nizamabad, Nirmal, Adilabad, K. Asifabad, and B. Kothagudem districts.

The groundwater level in Telangana State during November 2024 has been significantly impacted by a notable rise in rainfall from June 2024 to October 2024, resulting in a 21% departure from normal rainfall levels for the same period in the previous year, classifying the region as experiencing excess rainfall. This significant excess in rainfall has further contributed to the rise of groundwater levels in November 2024.

A comparison of the annual water level with the previous year, November 2023 to November 2024, shows that about 68% and 65% of wells in unconfined and confined/semi confined wells respectively experienced a rise in water levels due to the excess rainfall of the 2024 monsoon season. Additionally, 58.5% and 41.86% of wells in unconfined and confined aquifers, respectively, experienced a rise in water levels in the decadal mean water level fluctuation of 2014-2023 compared to November 2024