

GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI,
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA
REJUVENATION
RAJYA SABHA

UNSTARRED QUESTION NO. 2168

ANSWERED ON 20.03.2023

DEPLETION OF GROUNDWATER

2168. SHRI DEREK O' BRIEN

Will the Minister of **JAL SHAKTI** be pleased to state:

- (a) the status of groundwater in the 21 cities which as per assessment of NITI Aayog would run out of groundwater by 2020;
- (b) the measures which have been taken to prevent NITI Aayog's prediction that 21 major cities will run out of groundwater by 2020; and
- (c) the expected number of people who will be affected by the depletion of groundwater in major cities?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI BISHWESWAR TUDU)

(a) Central Ground Water Board (CGWB) is periodically monitoring the ground water levels throughout the country including cities (with population greater than 10.00 Lakhs) on a regional scale, through a network of monitoring wells. In order to assess the decline in water level on a long-term basis, the water level data of urban areas including certain cities identified by the NITI Aayog collected by CGWB during November 2022 have been compared with the decadal average (Nov 2012-Nov 2021). Analysis of water level data indicates that about 59.8% of the wells monitored across 55 cities have registered rise in ground water levels. Details are given at **Annexure**.

(b) Water being a State subject effective rainwater harvesting/recharge of groundwater for its sustainable management in the country including cities falls under States' mandate however, a number of steps have been taken by Central government which can be accessed through web-link

http://jalshaktidowr.gov.in/sites/default/files/Steps%20taken%20by%20the%20Central%20Govt%20for%20water_depletion_july2022.pdf . Some of them are listed as under.

- i. Government of India is implementing Jal Shakti Abhiyan (JSA) in the country including urban areas. First JSA was launched in 2019 in water stressed blocks of 256 districts which continued during the years 2021, 2022 (across entire country both rural and urban areas) with the primary aim to effectively harvest the monsoon rainfall through creation of artificial recharge structures,

watershed management, recharge and reuse structures, intensive afforestation and awareness generation etc. JSA for the year 2023 have been launched by Hon'ble President of India on 04 Mar 2023 with the theme "Source Sustainability for Drinking Water".

- ii. Hon'ble Prime Minister has launched Amrit Sarovar Mission on 24th April 2022. The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country as a part of celebration of Azadi ka Amrit Mahotsav.
- iii. Central Ground Water Authority (CGWA) has been constituted under Section 3(3) of the "Environment (Protection) Act, 1986" for the purpose of regulation and control of ground water by industries, mining projects, infrastructure projects etc in the country. The latest guideline in this regard with pan-India applicability was notified by the Ministry on 24 September 2020. CGWA and States issue No Objection Certificate (NOC) for extraction of groundwater to various industries/project proponents as per their jurisdiction and as per the extant guidelines.
- iv. CGWB is implementing National Aquifer Mapping Program (NAQUIM) in the country and entire mappable area of 25.15 lakh Sq Km of the country has been covered under the NAQUIM studies. The NAQUIM study report along-with management plans are shared with States/UTs for suitable interventions.
- v. Master Plan for Artificial Recharge to Groundwater- 2020 has been prepared by the CGWB with States/UTs providing a broad outline of the project and expected investments. The Master Plan envisages construction of about 1.42 crore Rain water harvesting and artificial recharge structures in the Country to harness 185 Billion Cubic Metre (BCM) of water. The Master plan has been shared with States/UTs for suitable intervention.
- vi. Ministry of Housing & Urban Affairs (MoHUA) has formulated Model Building Bye Laws (MBBL), 2016 for the States/UTs, wherein adequate focus has been given on requirement of rainwater harvesting and water conservation measures. As per MBBL, all buildings having a plot size of 100 Sq.m. or, more shall mandatorily include the complete proposal of rainwater harvesting. 35 States/ UTs, including Karnataka, have adopted the features of the Bye Laws.

(c) Ground-water being replenishable resource gets replenished every year on account of recharge from rainfall and other sources. Also a number of steps (as mentioned above) have already been taken to address the water availability in the country. If groundwater is managed sustainably, adverse effects on people can be avoided.

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 2168 TO BE ANSWERED IN RAJYA SABHA ON 20.03.2023 REGARDING “DEPLETION OF GROUND WATER”.

Decadal Water Level Fluctuation with Mean [NOVEMBER (2012 to 2021)] and NOVEMBER 2022 in Urban Areas of the Country

S. No.	Name of the City	No. of wells Analysed	Rise						Fall						Rise		Fall	
			0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		No	%	No	%
			No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Mumbai City	6	1	16.7	0	0.0	0	0.0	5	83.3	0	0.0	0	0.0	1	16.7	5	83.3
2	Mumbai Suburban	17	5	29.4	1	5.9	0	0.0	11	64.7	0	0.0	0	0.0	6	35.3	11	64.7
3	Delhi	84	31	36.9	11	13.1	18	21.4	12	14.3	6	7.1	6	7.1	60	71.4	24	28.6
4	Kolkata(Confined)	24	1	4.2	1	4.2	2	8.3	10	41.7	8	33.3	2	8.3	4	16.7	20	83.3
5	Chennai	18	11	61.1	4	22.2	2	11.1	1	5.6	0	0.0	0	0.0	17	94.4	1	5.6
6	Bangalore	18	11	61.1	2	11.1	2	11.1	3	16.7	0	0.0	0	0.0	15	83.3	3	16.7
7	Hyderabad	36	12	33.3	4	11.1	9	25.0	9	25.0	1	2.8	1	2.8	25	69.4	11	30.6
8	Ahmedabad	3	2	66.7	0	0.0	0	0.0	1	33.3	0	0.0	0	0.0	2	66.7	1	33.3
	Ahmedabad	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
9	Nagpur	70	46	65.7	13	18.6	5	7.1	6	8.6	0	0.0	0	0.0	64	91.4	6	8.6
10	Nashik	3	1	33.3	0	0.0	0	0.0	1	33.3	0	0.0	1	33.3	1	33.3	2	66.7
11	Pune	13	8	61.5	0	0.0	1	7.7	4	30.8	0	0.0	0	0.0	9	69.2	4	30.8
12	Vasai Virar	2	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0	1	50.0	1	50.0
13	Aurangabad	6	3	50.0	0	0.0	0	0.0	1	16.7	1	16.7	1	16.7	3	50.0	3	50.0
14	Kannur	6	5	83.3	0	0.0	0	0.0	1	16.7	0	0.0	0	0.0	5	83.3	1	16.7
15	Kochi	3	2	66.7	0	0.0	0	0.0	1	33.3	0	0.0	0	0.0	2	66.7	1	33.3
16	Kollam	3	3	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	100.0	0	0.0
17	Kozhikode	10	8	80.0	0	0.0	0	0.0	2	20.0	0	0.0	0	0.0	8	80.0	2	20.0
18	Malappuram	6	3	50.0	0	0.0	0	0.0	3	50.0	0	0.0	0	0.0	3	50.0	3	50.0
19	Thiruvananthapura	5	2	40.0	0	0.0	1	20.0	2	40.0	0	0.0	0	0.0	3	60.0	2	40.0
20	Thrissur	12	7	58.3	0	0.0	0	0.0	5	41.7	0	0.0	0	0.0	7	58.3	5	41.7
21	Patna	6	5	83.3	0	0.0	0	0.0	1	16.7	0	0.0	0	0.0	5	83.3	1	16.7
22	Ranchi	13	11	84.6	1	7.7	0	0.0	1	7.7	0	0.0	0	0.0	12	92.3	1	7.7
23	Dhanbad	2	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0	2	100.0
24	Jamshedpur	1	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
25	Bhopal	15	4	26.7	1	6.7	0	0.0	8	53.3	1	6.7	1	6.7	5	33.3	10	66.7
26	Indore	20	3	15.0	0	0.0	0	0.0	8	40.0	8	40.0	1	5.0	3	15.0	17	85.0
27	Jabalpur	17	3	17.6	0	0.0	0	0.0	11	64.7	2	11.8	1	5.9	3	17.6	14	82.4
28	Gwalior	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
29	Guwahati	34	12	35.3	3	8.8	1	2.9	13	38.2	3	8.8	2	5.9	16	47.1	18	52.9

S. No.	Name of the City	No. of wells Analysed	Rise						Fall						Rise		Fall	
			0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		No	%	No	%
			No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
30	Ludhiana	14	4	28.6	0	0.0	0	0.0	7	50.0	3	21.4	0	0.0	4	28.6	10	71.4
31	Amritsar	12	3	25.0	0	0.0	0	0.0	8	66.7	1	8.3	0	0.0	3	25.0	9	75.0
32	Faridabad	3	0	0.0	0	0.0	1	33.3	2	66.7	0	0.0	0	0.0	1	33.3	2	66.7
33	Chandigarh-UT	15	7	46.7	0	0.0	0	0.0	3	20.0	3	20.0	2	13.3	7	46.7	8	53.3
34	Coimbatore	6	3	50.0	0	0.0	3	50.0	0	0.0	0	0.0	0	0.0	6	100.0	0	0.0
35	Thiruchirapalli	6	2	33.3	1	16.7	1	16.7	2	33.3	0	0.0	0	0.0	4	66.7	2	33.3
36	Madurai	11	1	9.1	4	36.4	6	54.5	0	0.0	0	0.0	0	0.0	11	100.0	0	0.0
37	Vijayawada	3	1	33.3	0	0.0	0	0.0	1	33.3	1	33.3	0	0.0	1	33.3	2	66.7
38	Vishakapatnam	16	7	43.8	1	6.3	1	6.3	5	31.3	2	12.5	0	0.0	9	56.3	7	43.8
39	Rajkot*	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
40	Surat	1	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
41	Vadodara	4	3	75.0	0	0.0	0	0.0	0	0.0	0	0.0	1	25.0	3	75.0	1	25.0
42	Jaipur	12	1	8.3	1	8.3	0	0.0	0	0.0	2	16.7	8	66.7	2	16.7	10	83.3
43	Jodhpur	5	3	60.0	0	0.0	1	20.0	0	0.0	1	20.0	0	0.0	4	80.0	1	20.0
44	Kota	2	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0	1	50.0	1	50.0
45	Bhubaneswar	41	22	53.7	2	4.9	1	2.4	14	34.1	2	4.9	0	0.0	25	61.0	16	39.0
46	Agra	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
47	Allahabad	4	0	0.0	1	25.0	0	0.0	2	50.0	1	25.0	0	0.0	1	25.0	3	75.0
48	Ghaziabad	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
49	Kanpur	7	5	71.4	0	0.0	0	0.0	2	28.6	0	0.0	0	0.0	5	71.4	2	28.6
50	Lucknow	3	0	0.0	0	0.0	0	0.0	1	33.3	0	0.0	2	66.7	0	0.0	3	100.0
51	Meerut	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
52	Varanasi	1	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
53	Raipur	6	1	16.7	0	0.0	0	0.0	4	66.7	1	16.7	0	0.0	1	16.7	5	83.3
54	Bhilai	6	2	33.3	1	16.7	0	0.0	2	33.3	1	16.7	0	0.0	3	50.0	3	50.0
55	Dehradun	45	20	44.4	5	11.1	3	6.7	13	28.9	0	0.0	4	8.9	28	62.2	17	37.8
TOTAL		681	290	42.6	59	8.7	58	8.5	192	28.2	49	7.2	33	4.8	407	59.8	274	40.2
