

GOVERNMENT OF INDIA  
MINISTRY OF JAL SHAKTI,  
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA  
REJUVENATION  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 900**  
ANSWERED ON 27.06.2019

**GROUNDWATER RESOURCES IN INDIA**

900. SHRI NALIN KUMAR KATEEL

Will the Minister of JAL SHAKTI be pleased to state:

- (a) whether the Government is aware that there is constant pressure on groundwater resources in the country and if so, the details thereof;
- (b) whether it is also true that water shortage in most parts of the country poses an economic, environmental threat to India;
- (c) whether the Government proposes any study to understand the gravity of the situation; and
- (d) if so, the details thereof?

**ANSWER**

THE MINISTER OF STATE FOR JAL SHAKTI & SOCIAL JUSTICE AND EMPOWERMENT  
(SHRI RATTAN LAL KATARIA)

(a) to (d) Yes, Sir. Ground water levels in various parts of the Country are declining because of continuous withdrawal due to reasons such as increased demand of fresh water for various uses, vagaries of rainfall, increased population, industrialization & urbanization etc. Water security is the key for better economic, social and environmental scenario of the country.

Central Ground Water Board (CGWB) carries out ground water monitoring, four times a year, on regional scale through a network of observation wells in the Country. As per the pre-monsoon water level data (2018), the deeper ground water level (more than 40 meters below ground level) has been observed in the isolated pockets in some of the States/UTs. State-wise depth to water level and distribution of percentage of wells for the Period of Pre-monsoon, 2018 is given at **Annexure I**.

In order to assess the declining/rising trend in water level on a long-term basis, pre-monsoon water level data 2018 has been compared with the decadal average (2008-2017) water level. Analysis of data indicates decline in ground water level in about 52% of the wells and rise in 48% wells being monitored. State-wise details are given at **Annexure II**.

The annual replenishable ground water resource of the country is also being estimated jointly by Central Ground Water Board (CGWB) and State Governments at periodical intervals. As per latest assessment (2013), Annual replenishable Ground Water Resources is 447 Billion Cubic Meter (BCM) and the Net Annual Ground Water Availability is 411 BCM. The Annual Ground Water Draft (utilization) for all uses is 253 BCM. The Stage of Ground Water Development is 62% (**Annexure III**).

As per the 2013 assessment, out of the total 6584 assessment units (Block/ Talukas/ Mandals/ watersheds/ Firkas) in the Country, 1034 units in 17 States/UTs have been categorized as 'Over-exploited' where ground water extraction is more than net ground water availability and there is significant long-term decline in water levels. 253 units have been categorized as 'Critical', 681 units as 'Semi-Critical' and 4520 units as 'Safe', Categorization of Blocks/ Mandals/ Talukas in India (2013) are given at **Annexure IV**.

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**ANNEXURE I**

**Annexure referred to in reply to parts (a) to (d) of Unstarred Question No. 900 to be answered in Lok Sabha on 27.06.2019 regarding “GROUNDWATER RESOURCES IN INDIA”**

**State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of Pre-monsoon, 2018**

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (mbgl)		Number & Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of											
			Min	Max	0-2		2-5		5-10		10-20		20-40		> 40	
					No	%	No	%	No	%	No	%	No	%	No	%
1	Andaman & Nicobar Island	104	0.06	7.3	84	81	18	17	2	1.9	0	0.0	0	0	0	0
2	Andhra Pradesh	718	0.09	49.30	59	8.22	319	44.43	250	34.8	83	11.56	5	0.70	2	0.28
3	Arunachal Pradesh	8	2.27	11.58	0	0.00	5	62.50	1	12.50	2	25.00	0	0.00	0	0.00
4	Assam	155	0.18	18.83	35	22.58	91	58.71	25	16.13	4	2.58	0	0.00	0	0.00
5	Bihar	642	0.53	15.80	12	1.87	257	40.03	335	52.18	38	5.92	0	0.00	0	0.00
6	Chandigarh	9	4.29	42.38	0	0.00	1	11.11	2	22.22	3	33.33	2	22.22	1	11.11
7	Chhattisgarh	490	1.30	34.10	8	1.63	89	18.16	302	61.63	83	16.94	8	1.63	0	0.00
8	Dadra & Nagar Haveli	17	3.02	15.91	0	0.00	5	29.41	8	47.06	4	23.53	0	0.00	0	0.00
9	Daman & Diu	10	3.24	11.80	0	0.00	2	20.00	7	70.00	1	10.00	0	0.00	0	0.00
10	Delhi	82	0.71	65.00	1	1.22	16	19.51	16	19.51	24	29.27	16	19.51	9	10.98
11	Goa	70	0.86	14.95	6	8.57	29	41.43	26	37.14	9	12.86	0	0.00	0	0.00
12	Gujarat	758	0.54	62.20	15	1.98	127	16.75	254	33.51	264	34.83	92	12.14	6	0.79
13	Haryana	284	1.28	81.83	8	2.82	54	19.01	77	27.11	78	27.46	57	20.07	10	3.52
14	Himachal Pradesh	86	0.56	28.56	6	6.98	33	38.37	27	31.40	17	19.77	3	3.49	0	0.00
15	Jammu & Kashmir	252	0.75	35.50	18	7.14	112	44.44	84	33.33	28	11.11	10	3.97	0	0.00
16	Jharkhand	260	0.74	18.92	4	1.54	41	15.77	179	68.85	36	13.85	0	0.00	0	0.00
17	Karnataka	1343	0.22	30.70	140	10.42	353	26.28	540	40.21	294	21.89	16	1.19	0	0.00
18	Kerala	1441	0.09	65.40	96	6.66	424	29.42	627	43.51	267	18.53	24	1.67	3	0.21
19	Madhya Pradesh	1330	0.90	40.25	16	1.20	144	10.83	587	44.14	525	39.47	57	4.29	1	0.08
20	Maharashtra	1646	0.01	55.10	73	4.43	282	17.13	768	46.66	463	28.13	57	3.46	3	0.18
21	Meghalaya	22	0.20	5.06	2	9.09	18	81.82	2	9.09	0	0.00	0	0.00	0	0.00
22	Odisha	1261	0.12	15.73	142	11.26	540	42.82	540	42.82	39	3.09	0	0.00	0	0.00
23	Pondicherry	5	2.35	3.08	0	0.00	5	100.00	0	0.00	0	0.00	0	0.00	0	0.00
24	Punjab	225	0.45	42.18	9	4.00	34	15.11	50	22.22	61	27.11	68	30.22	3	1.33
25	Rajasthan	994	0.27	114.00	21	2.11	104	10.46	224	22.54	257	25.86	187	18.81	201	20.22
26	Tamil Nadu	529	0.00	82.60	28	5.29	138	26.09	213	40.26	118	22.31	19	3.59	13	2.46
27	Telangana	575	0.11	69.50	22	3.83	105	18.26	228	39.65	173	30.09	41	7.13	6	1.04
28	Tripura	25	0.17	6.75	7	28.00	12	48.00	6	24.00	0	0.00	0	0.00	0	0.00
29	Uttar Pradesh	567	0.74	39.35	6	1.06	147	25.93	258	45.50	131	23.10	25	4.41	0	0.00
30	Uttaranchal	31	2.86	72.58	0	0.00	9	29.03	11	35.48	7	22.58	2	6.45	2	6.45
31	West Bengal	652	0.40	27.12	54	8.28	232	35.58	237	36.35	106	16.26	23	3.53	0	0.00
	<b>Total</b>	<b>14591</b>			<b>872</b>	<b>5.98</b>	<b>3746</b>	<b>25.67</b>	<b>5886</b>	<b>40.34</b>	<b>3115</b>	<b>21.35</b>	<b>712</b>	<b>4.88</b>	<b>260</b>	<b>1.8</b>

**ANNEXURE - II**

Annexure referred to in reply to parts (a) to (d) of Unstarred Question No. 900 to be answered in Lok Sabha on 27.06.2019 regarding “GROUNDWATER RESOURCES IN INDIA”

S. No.	Name of State	No. of wells Analysed	Rise		Fall		Wells showing no change	
			No.	%	No.	%	No.	%
1	Andhra Pradesh	714	290	41	423	59	1	0.1
2	Arunachal Pradesh	8	5	63	3	38	0	0.0
3	Assam	154	98	64	56	36	0	0.0
4	Bihar	619	268	43	350	57	1	0.2
5	Chandigarh	9	2	22	7	78	0	0.0
6	Chhattisgarh	458	181	40	271	59	6	1.3
7	Dadra & Nagar Haveli	17	8	47	9	53	0	0.0
8	Daman & Diu	10	5	50	5	50	0	0.0
9	Delhi	82	20	24	62	76	0	0.0
10	Goa	70	50	71	20	29	0	0.0
11	Gujarat	756	345	46	401	53	10	1.3
12	Haryana	273	68	25	205	75	0	0.0
13	Himachal Pradesh	86	21	24	65	76	0	0.0
14	Jammu & Kashmir	244	47	19	197	81	0	0.0
15	Jharkhand	255	168	66	87	34	0	0.0
16	Karnataka	1343	792	59	542	40	9	0.7
17	Kerala	1431	773	54	654	46	4	0.3
18	Madhya Pradesh	1330	546	41	782	59	2	0.2
19	Maharashtra	1632	774	47	857	53	1	0.1
20	Meghalaya	22	9	41	13	59	0	0.0
21	Odisha	1254	766	61	485	39	3	0.2
22	Puducherry	5	3	60	2	40	0	0.0
23	Punjab	216	35	16	181	84	0	0.0
24	Rajasthan	929	474	51	454	49	1	0.1
25	Tamil Nadu	528	209	40	318	60	1	0.2
26	Telangana	568	295	52	268	47	5	0.9
27	Tripura	25	21	84	4	16	0	0.0
28	Uttar Pradesh	563	97	17	466	83	0	0.0
29	Uttarakhand	28	8	29	20	71	0	0.0
30	West Bengal	614	408	66	205	33	1	0.2
<b>Total</b>		<b>14243</b>	<b>6786</b>	<b>48</b>	<b>7412</b>	<b>52</b>	<b>45</b>	<b>0.3</b>

**ANNEXURE - III**

Annexure referred to in reply to parts (a) to (d) of Unstarred Question No. 900 to be answered in Lok Sabha on 27.06.2019 regarding “GROUNDWATER RESOURCES IN INDIA”

**State-Wise Ground Water Resources Availability, Utilization and Stage of Development, India (As on 31st March 2013)**

(in bcm)

Sl. No.	States / Union Territories	Annual Replenishable Ground Water Resource	Natural Discharge during non-monsoon season	Net Annual Ground Water Availability	Annual Ground Water Draft			Stage of Ground Water Development (%)
					Irrigation	Domestic and industrial uses	Total	
	<b>States</b>							
1	Andhra	20.39	1.91	18.48	7.29	0.81	8.1	44
2	Arunachal	4.433	0.443	3.99	0.002	0.007	0.01	0.23
3	Assam	32.11	3.21	28.9	4.06	0.68	4.74	16
4	Bihar	31.31	2.82	28.49	10.36	2.37	12.73	45
5	Chhattisgarh	12.8	0.9	11.9	3.76	0.64	4.4	37
6	Delhi	0.34	0.03	0.31	0.14	0.25	0.39	127
7	Goa	0.24	0.1	0.15	0.02	0.03	0.05	37
8	Gujarat	20.85	1.07	19.79	12.3	1.14	13.44	68
9	Haryana	11.36	1.06	10.3	13.32	0.6	13.92	135
10	Himachal	0.56	0.03	0.53	0.16	0.11	0.27	51
11	Jammu &	5.25	0.43	4.82	0.2	0.98	1.18	24
12	Jharkhand	6.56	0.57	5.99	0.63	0.72	1.35	23
13	Karnataka	17	2.16	14.83	8.76	0.99	9.76	66
14	Kerala	6.27	0.6	5.66	1.18	1.45	2.63	47
15	Madhya	35.98	1.82	34.16	17.95	1.41	19.36	57
16	Maharashtra	33.19	1.71	31.48	15.93	1.14	17.07	54
17	Manipur	0.474	0.047	0.426	0.004	0.001	0.004	1.01
18	Meghalaya	3.31	0.33	2.98	0.008	0.004	0.012	0.4
19	Mizoram	0.03942	0.00394	0.03548	0	0.00104	0.00104	2.9
20	Nagaland	1.94	0.194	1.75	0	0.03	0.03	2
21	Odisha	17.78	1.09	16.69	4.14	0.87	5.02	30
22	Punjab	25.91	2.52	23.39	34.05	0.77	34.81	149
23	Rajasthan	12.51	1.26	11.26	13.79	1.92	15.71	140
24	Sikkim	-	-	-	-	-	-	-
25	Tamil Nadu	20.65	2.07	18.59	12.98	1.38	14.36	77
26	Telangana	14.74	1.35	13.39	7	0.76	7.77	58
27	Tripura	2.471	0.202	2.269	0.093	0.072	0.165	7.3
28	Uttar Pradesh	76.34	4.75	71.58	48.35	4.41	52.76	74
29	Uttarakhand	2	0.03	1.97	0.84	0.15	0.99	50
30	West Bengal	29.33	2.77	26.56	10.84	1	11.84	45
	<b>Total (States)</b>	<b>446.14</b>	<b>35.49</b>	<b>410.65</b>	<b>228.16</b>	<b>24.71</b>	<b>252.87</b>	<b>62</b>
	<b>Union</b>							
1	Andaman & Nicobar	0.42	0.042	0.378	0.0001	0.0035	0.0037	1
2	Chandigarh	0.022	0.0022	0.0194	0	0	0	0
3	Dadra & Nagar Haveli	0.07	0.007	0.063	0.008	0.013	0.02	32
4	Daman & Diu	0.015	0.001	0.014	0.008	0.002	0.01	70
5	Lakshadweep	0.01055	0.00704	0.0035	0	0.00237	0.00237	68
6	Puducherry	0.193	0.019	0.174	0.124	0.029	0.153	88
	<b>Total (UTs)</b>	<b>0.73</b>	<b>0.08</b>	<b>0.65</b>	<b>0.139</b>	<b>0.05</b>	<b>0.189</b>	<b>29</b>
	<b>Grand Total</b>	<b>446.87</b>	<b>35.56</b>	<b>411.3</b>	<b>228.3</b>	<b>24.76</b>	<b>253.06</b>	<b>62</b>

**ANNEXURE -IV**

Annexure referred to in reply to parts (a) to (d) of Unstarred Question No. 900 to be answered in Lok Sabha on 27.06.2019 regarding "GROUNDWATER RESOURCES IN INDIA"

**CATEGORIZATION OF BLOCKS/ MANDALS/ TALUKAS IN INDIA  
(2013)**

Sl.No.	States / Union Territories	Total No. of Assessed Units	Safe		Semi-critical		Critical		Over-exploited		Saline	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
	<b>States</b>											
1	Andhra Pradesh	670	497	74	54	8	17	3	61	9	41	6
2	Arunachal Pradesh	11	11	100	0	0	0	0	0	0	0	0
3	Assam	27	27	100	0	0	0	0	0	0	0	0
4	Bihar	534	520	97	14	3	0	0	0	0	0	0
5	Chhattisgarh	146	125	86	18	12	2	1	1	1	0	0
6	Delhi	27	5	19	7	26	0	0	15	56	0	0
7	Goa	12	12	100	0	0	0	0	0	0	0	0
8	Gujarat	223	175	78	9	4	6	3	23	10	10	4
9	Haryana	119	30	25	11	9	14	12	64	54	0	0
10	Himachal Pradesh	8	6	75	0	0	1	13	1	13	0	0
11	Jammu & Kashmir	22	22	100	0	0	0	0	0	0	0	0
12	Jharkhand	260	244	94	10	4	2	1	4	2	0	0
13	Karnataka	176	98	56	21	12	14	8	43	24	0	0
14	Kerala	152	131	86	18	12	2	1	1	1	0	0
15	Madhya Pradesh	313	228	73	58	19	2	1	25	8	0	0
16	Maharashtra	353	324	92	19	5	1	0	9	3	0	0
17	Manipur	9	9	100	0	0	0	0	0	0	0	0
18	Meghalaya	11	11	100	0	0	0	0	0	0	0	0
19	Mizoram	22	22	100	0	0	0	0	0	0	0	0
20	Nagaland	11	11	100	0	0	0	0	0	0	0	0
21	Odisha	314	308	98	0	0	0	0	0	0	6	2
22	Punjab	138	26	19	3	2	4	3	105	76	0	0
23	Rajasthan	248	44	18	28	11	9	4	164	66	3	1
24	Sikkim	-	-	-	-	-	-	-	-	-	-	-
25	Tamil Nadu	1139	429	38	212	19	105	9	358	31	35	3
26	Telangana	443	311	70	74	17	12	3	46	10	0	0
27	Tripura	39	39	100	0	0	0	0	0	0	0	0
28	Uttar Pradesh	820	603	74	45	5	59	7	113	14	0	0
29	Uttarakhand	18	16	89	1	6	1	6	0	0	0	0
30	West Bengal	268	191	71	76	28	1	0	0	0	0	0
	<b>Total (States)</b>	<b>6533</b>	<b>4475</b>	<b>68</b>	<b>678</b>	<b>10</b>	<b>252</b>	<b>4</b>	<b>1033</b>	<b>16</b>	<b>95</b>	<b>1</b>
	<b>Union Territories</b>											
1	Andaman & Nicobar	34	34	100	0	0	0	0	0	0	0	0
2	Chandigarh	1	1	100	0	0	0	0	0	0	0	0
3	Dadra & Nagar Haveli	1	1	100	0	0	0	0	0	0	0	0
4	Daman & Diu	2	1	50	0	0	1	50	0	0	0	0
5	Lakshadweep	9	6	67	3	33	0	0	0	0	0	0
6	Puducherry	4	2	50	0	0	0	0	1	25	1	25
	<b>Total (UTs)</b>	<b>51</b>	<b>45</b>	<b>88</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>
	<b>Grand Total</b>	<b>6584</b>	<b>4520</b>	<b>69</b>	<b>681</b>	<b>10</b>	<b>253</b>	<b>4</b>	<b>1034</b>	<b>16</b>	<b>96</b>	<b>1</b>

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