

GOVERNMENT OF INDIA  
MINISTRY OF WATER RESOURCES,  
RIVER DEVELOPMENT & GANGA REJUVENATION  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 872**  
ANSWERED ON 21.07.2016

**AVAILABILITY OF WATER**

872. SHRI HUKUM SINGH

Will the Minister of WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION be pleased to state:

- (a) whether the Government has any details of the availability of water in India, if so, the details thereof, State/UT-wise and if not, the reasons therefor;
- (b) whether the Government has any details of the exploitation of groundwater across the country, if so, the details thereof, State/UT-wise and if not, the reasons therefor;
- (c) whether in some States, the groundwater levels have dipped alarmingly, if so, the details thereof and the reasons therefor; and
- (d) whether the indiscriminate construction of artificial water bodies and check dams by the Government made matters worse in some States, if so, the details thereof and steps being taken to correct the situation to protect the groundwater from any type of exploitation in future?

**ANSWER**

THE MINISTER OF STATE FOR WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION  
(DR. SANJEEV KUMAR BALYAN)

(a) & (b) As per the basin-wise assessment of water resources conducted by Central Water Commission, the average annual water availability in the country is 1869 Billion Cubic Meters (BCM). However due to topographic, hydrological and other constraints the utilizable water has been estimated to be about 1123 BCM comprising 690 BCM of surface water and 433 BCM of replenishable ground water. The net annual ground water availability is 398 BCM out of which annual ground water utilization (draft) is estimated as 245 BCM. Out of 6607 assessment units (Blocks/ Mandals/ Talukas/Fikras/ Districts) in the Country assessed during the assessment, 1071 units falling in 16 States and 2 UTs have been categorized as 'Over-exploited, whereas, 217 units have been categorized as critical and 697 as semi-critical. The overall stage of ground water development is 62%. State/UT-wise details of ground water resources availability, utilization and stage of development are given at Annexure - I.A Statement indicating the basin wise details of water resources potential and utilizable surface water resources is at Annexure II.

(c) As per the ground water level data monitored by Central Ground Water Board in the Country, Pre-monsoon (April/ May, 2016) ground water level data when compared with the decadal average (2006-2015) indicates that around 35% of the wells have registered rise and 65% wells are showing decline in ground water level, mostly in the range of 0-2 m (meters), in almost all the States/UTs of the country, except a few States namely Arunachal Pradesh, Goa, Pondicherry, Tamil Nadu and Tripura. The tabular Statement of State-wise details in this regard is given in Annexure III. The reasons for the decline in ground water level throughout the country can be attributed to increase in the withdrawal of ground water for meeting the demands as well as deficient and erratic rainfall in the previous years.

(d) Central Ground Water Board has taken up several artificial recharge projects comprising of construction of Check dams, percolation ponds as demonstrative projects in the Country during various plan periods. The impact assessment studies carried out so far have shown rise in ground water levels and enhanced sustainability of ground water abstraction structures after implementation of projects. However, no adverse effects have been reported so far in this regard. Further, CGWB has prepared a conceptual document entitled “Master Plan for Artificial Recharge to Ground Water in India” during the year 2013, which envisages construction of different types of Artificial Recharge and Rainwater Harvesting structures in the Country in an area of 9,41,541 sq.km by harnessing surplus monsoon runoff to augment ground water resources. The Master Plan has been circulated to all State Governments for implementation.

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Annexure referred to in reply to Parts (a) and (b) of the Unstarred Question No. 872 to be answered on 21.07.2016 in the Lok Sabha regarding "Availability of Water"

**STATE-WISE GROUND WATER RESOURCES AVAILABILITY, UTILIZATION AND STAGE OF DEVELOPMENT INDIA (As on 2011)**

(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	
1	Andhra Pradesh	20.7892	1.9064	18.8828	6.2694	0.7381	7.0075	37
2	Telangana	15.098	1.4138	13.6844	6.9103	0.5919	7.502	55
3	Arunachal Pradesh	4.5100	0.4500	4.0600	0.0020	0.0010	0.0030	0.08
4	Assam	28.5200	2.7300	25.7900	2.8600	0.6400	3.4900	14
5	Bihar	29.3350	2.4705	26.8645	10.2550	1.6960	11.9509	44
6	Chhattisgarh	12.4200	0.7900	11.6300	3.4300	0.6200	4.0500	35
7	Delhi	0.3105	0.0234	0.2871	0.1402	0.2519	0.3922	137
8	Goa	0.2424	0.0970	0.1454	0.0101	0.0311	0.0411	28
9	Gujarat	18.5686	0.9832	17.5854	10.7477	1.1074	11.8551	67
10	Haryana	10.7800	0.9900	9.7900	12.3500	0.7100	13.0500	133
11	Himachal Pradesh	0.5590	0.0280	0.5311	0.2506	0.1272	0.3778	71
12	Jammu & Kashmir	4.2512	0.4251	3.8261	0.1988	0.6077	0.8065	21
13	Jharkhand	6.3100	0.5500	5.7600	1.3100	0.5500	1.8600	32
14	Karnataka	17.0266	2.2154	14.8112	8.5916	0.8198	9.4114	64
15	Kerala	6.6864	0.6134	6.0730	1.3046	1.5310	2.8355	47
16	Madhya Pradesh	35.0406	1.7520	33.2886	17.4809	1.3527	18.8335	57
17	Maharashtra	33.9474	1.7955	32.1519	16.1460	1.0293	17.1754	53
18	Manipur	0.4401	0.0440	0.3961	0.0033	0.0007	0.0040	1.02
19	Meghalaya	1.7805	0.1780	1.6024	0.0015	0.0002	0.0017	0.08
20	Mizoram	0.0304	0.0030	0.0273	0.0000	0.0010	0.0010	3.52
21	Nagaland	0.6159	0.0616	0.5543	0.0000	0.0340	0.0340	6.13
22	Odisha	17.7768	1.0859	16.6909	3.8126	0.9162	4.7288	28
23	Punjab	22.5300	2.2100	20.3200	34.1700	0.7100	34.8800	172
24	Rajasthan	11.9414	1.1125	10.8290	13.1332	1.7098	14.8430	137
25	Sikkim*	-	-	0.0442	0.0027	0.0086	0.0113	26
26	Tamil Nadu	21.5326	2.1533	19.3793	13.1688	1.7638	14.9326	77
27	Tripura	2.5866	0.2286	2.3580	0.0932	0.0694	0.1626	7
28	Uttar Pradesh	77.1900	5.5300	71.6600	48.7400	4.0400	52.7800	74
29	Uttarakhand	2.0403	0.0449	1.9954	1.1033	0.0298	1.1331	57
30	West Bengal	29.2511	2.6688	26.5823	9.7195	0.9731	10.6926	40
	<b>Total States</b>	<b>432.11</b>	<b>34.55</b>	<b>397.60</b>	<b>222.21</b>	<b>22.66</b>	<b>244.85</b>	<b>62</b>
	<b>Union Territories</b>							
1	Andaman & Nicobar	0.3080	0.0216	0.2865	0.0006	0.0121	0.0127	4.44
2	Chandigarh	0.0216	0.0022	0.0194	0.0000	0.0000	0.0000	0
3	D & N Haveli	0.0622	0.0031	0.0591	0.0072	0.0056	0.0129	22
4	Daman & Diu	0.0181	0.0012	0.0169	0.0145	0.0019	0.0164	97
5	Lakshadweep	0.0105	0.0070	0.0035	0.0000	0.0023	0.0023	67
6	Puducherry	0.1893	0.0190	0.1703	0.1237	0.0293	0.1530	90
	<b>Total UTs</b>	<b>0.6100</b>	<b>0.0500</b>	<b>0.5600</b>	<b>0.1500</b>	<b>0.0500</b>	<b>0.2000</b>	<b>36</b>
	<b>Grand Total</b>	<b>432.7200</b>	<b>34.6000</b>	<b>398.1600</b>	<b>222.3600</b>	<b>22.7100</b>	<b>245.0500</b>	<b>62</b>

\* Note: Net ground water availability in Sikkim has been estimated based on spring discharge and is not reflected in the corresponding total annual replenishable resource. This results in a difference of 0.044 bcm in the State Total and Grand Total.

Annexure referred to in reply to Parts (a) and (b) of the Unstarred Question No. 872 to be answered on 21.07.2016 in the Lok Sabha regarding “Availability of Water”

**WATER RESOURCES POTENTIAL OF RIVER BASINS OF INDIA**

<b>Sl. No.</b>	<b>River Basin</b>	<b>Catchment area (Sq.Km)</b>	<b>Average Water Resources Potential (BCM)*</b>	<b>Utilizable surface water resources (BCM)**</b>
1	Indus	321289	73.3	46
2	Ganga-Brahmaputra-Meghna			
	(a) Ganga	861452	525	250
	(b) Brahmaputra	194413	537.2	24
	(c) Barak & others	41723	48.4	
3	Godavari	312812	110.5	76.3
4	Krishna	258948	78.1	58
5	Cauvery	81155	21.4	19
6	Subernarekha	29196	12.4	6.8
7	Brahmani-Baitarni	51822	28.5	18.3
8	Mahanadi	141589	66.9	50
9	Pennar	55213	6.3	6.9
10	Mahi	34842	11	3.1
11	Sabarmati	21674	3.8	1.9
12	Narmada	98796	45.6	34.5
13	Tapi	65145	14.9	14.5
14	West Flowing Rivers from Tapi to Tadri	55940	87.4	11.9
15	West Flowing Rivers from Tadri to Kanyakumari	56177	113.5	24.3
16	East Flowing Rivers between Mahanadi and Pennar	86643	22.5	13.1
17	East Flowing Rivers between Pennar & Kanyakumari	100139	16.5	16.5
18	West Flowing Rivers of Kutch and Saurashtra including Luni	321851	15.1	15
19	Area of Inland Drainage in Rajasthan	---	Negligible	--
20	Minor Rivers draining into Myanmar (Burma) and Bangladesh	36302	31	--
	<b>Total</b>		<b>1,869.4</b>	<b>690</b>

\*CWC Publication “Reassessment of Water Resources Potential of India, 1993”

\*\* CWC Publication “Water Resources of India, 1988”

Annexure referred to in reply to Part (c) of the Unstarred Question No. 872 to be answered on 21.07.2016 in the Lok Sabha regarding "Availability of Water"

**State-wise Decadal Water Level Fluctuation with Mean [Pre-monsoon (2006 to 2015)] and Pre-monsoon 2016**

S. No.	Name of State	No. of wells Analyzed	Rise		Fall	
			No	%	No	%
1	Andhra Pradesh	547	236	43	308	56
2	Arunachal Pradesh	14	10	71	4	29
3	Assam	182	84	46	98	54
4	Bihar	551	180	33	369	67
5	Chandigarh	11	4	36	7	64
6	Chhattisgarh	616	165	27	451	73
7	Dadra & Nagar Haveli	12	6	50	6	50
8	Daman & Diu	10	2	20	8	80
9	Delhi	115	26	23	89	77
10	Goa	70	41	59	29	41
11	Gujarat	738	254	34	475	64
12	Haryana	302	111	37	191	63
13	Himachal Pradesh	95	36	38	59	62
14	Jammu & Kashmir	225	83	37	142	63
15	Jharkhand	212	86	41	126	59
16	Karnataka	1380	415	30	949	69
17	Kerala	1240	454	37	779	63
18	Madhya Pradesh	1343	502	37	838	62
19	Maharashtra	1487	437	29	1041	70
20	Meghalaya	17	6	35	11	65
21	Odisha	1103	395	36	705	64
22	Pondicherry	6	5	83	1	17
23	Punjab	238	59	25	179	75
24	Rajasthan	829	346	42	481	58
25	Tamil Nadu	587	345	59	242	41
26	Telangana	377	66	18	308	82
27	Tripura	28	21	75	7	25
28	Uttar Pradesh	629	95	15	534	85
29	Uttarakhand	44	21	48	23	52
30	West Bengal	899	310	34	589	66
<b>Total</b>		<b>13907</b>	<b>4801</b>	<b>34.5</b>	<b>9049</b>	<b>65.1</b>

**Note:** About 0.4% of wells have not shown any change in GW levels.