

GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES,
RIVER DEVELOPMENT & GANGA REJUVENATION
LOK SABHA
STARRED QUESTION NO. 380
ANSWERED ON 11.08.2016

AVAILABILITY OF WATER

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

- (a) the annual per capita availability of water in the country at present *vis-a-vis* international norms prescribed for the purpose;
- (b) the average use of groundwater in the country particularly Punjab, Haryana, Delhi and Rajasthan;
- (c) whether poor monsoon and excessive use of groundwater during the last two years has contributed towards scarcity of water in the country and if so, the details and facts thereof;
- (d) the steps taken to overcome the issue of scarcity of water; and
- (e) the plan of the Government for development of alternative sources of water apart from underground water sources?

ANSWER

THE MINISTER OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA
REJUVENATION
(SUSHRI UMA BHARTI)

- (a) to (e) A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF STARRED QUESTION No.*380 TO BE ANSWERED IN LOK SABHA ON 11.08.2016 REGARDING AVAILABILITY OF WATER

(a) The average annual per capita availability of water in the country taking into consideration the population of the country as per the 2011 census is 1545 cubic metres /year.

According to Falkenmark Water Stress Indicator, annual per-capita water availability of less than 1700 cubic metres is considered as water stressed condition, whereas annual per-capita water availability below 1000 cubic metres is considered as water scarcity condition.

(b) As per the latest assessment of ground water resources (2011), jointly carried out by Central Ground Water Board (CGWB) and State Governments, the total use of ground water in the country is 245 Billion Cubic Meter (BCM). The ground water use in the States of Punjab, Haryana, Delhi and Rajasthan is 35 BCM, 13 BCM, 0.39 BCM and 15 BCM respectively. State-wise details of ground water availability, utilization are given at **Annexure-I**

(c) As per the information of the Indian Metrological Department (IMD), rain fall deficit (with respect to Long Period Average) in country as a whole during monsoon 2014 and 2015 was 12% and 14% respectively. Deficit rainfall in turn caused less storage in the reservoirs. During 2015-16, drought was declared by a few States namely Karnataka (for both Kharif and Rabi crops), Chhattisgarh, Maharashtra, Madhya Pradesh, Odisha, Telangana, Uttar Pradesh (for both Kharif and Rabi crops), Andhra Pradesh, Jharkhand and Rajasthan. Gujarat has also declared some areas as water scarcity and some other states have also experienced low rainfall and water scarcity

As per the ground water level data monitored by CGWB, Pre-monsoon (April/May, 2016) water level data when compared with the decadal average (2006-2015) indicates that 65% of the wells have registered decline in ground water level, mostly in the range of 0-2 meters, in almost all the States/UTs, except a few namely Arunachal Pradesh, Goa, Pondicherry, Tamil Nadu and Tripura. The tabular statement of State-wise details is given at **Annexure II**.

(d) Water being a State subject, steps for augmentation, conservation and efficient management to ensure sustainability of water resources are undertaken by the respective State Governments. Central Government provides Central Assistance to the State Governments through various schemes/programmes such as Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) and its components like Accelerated Irrigation Benefits Programme (AIBP); Repair, Renovation and Restoration of Water Bodies, etc.

Steps/measures taken by the Central Government to improve the situation include:

- “Master Plan for Artificial Recharge to Ground Water in India” has been prepared, which envisages construction of different types of Artificial Recharge and Rainwater Harvesting structures in the country. The Master Plan has been circulated to all State Governments for implementation.
- To increase availability of drinking water, the Ministry of Drinking Water & Sanitation has suggested all States to adopt water conservation measures like roof top rainwater harvesting, erecting sustainability structures for water conservation etc. For creating such sustainability structures, 10% of National Rural Drinking Water Programme (NRDWP) fund is provided to the States.
- CGWB has undertaken the Demonstrative Rain Water Harvesting and Artificial Recharge Projects in XI Plan under the scheme of “Ground Water Management & Regulation”, in priority areas.

- CGWB has taken up Aquifer Mapping and Management programme during XII Plan, under the scheme of Ground Water Management and Regulation. As on March 2016, mapping of 2.28 lakh sq.km area has been achieved.
 - The Ministry has circulated a Model Bill to all the States/UTs to enable them to enact suitable ground water legislation for its regulation and development which includes provision of rain water harvesting. So far, 15 States have adopted and enacted suitable legislations on the line of Model Bill.
 - This Ministry has also launched 'Jal Kranti Abhiyan' (2015-16 to 2017-18) in order to consolidate water conservation and management in the country through a holistic and integrated approach involving all stakeholders, making it a mass movement. 'Jal Gram Yojana' component of 'Jal Kranti Abhiyan' envisages selection of two villages in every district, preferably 'over-exploited' or facing acute water scarcity, as 'Jal Grams' to ensure optimum and sustainable utilization of water.
 - The National Water Mission (NWM) has been set up for "conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management".
- (e) Artificial recharge of ground water to increase the ground water potential, inter-basin water transfers wherever feasible, recycling and reuse of water, desalination of saline water, water harvesting, watershed development and revival of traditional water storage structures are some of the strategies for enhancing the utilizable water.

The Government of India has formulated a National Perspective Plan for Water Resources Development which envisages transfer of water from surplus basins to water deficit basins. The inter-basin transfer proposals envisage additional utilization of available water to bring additional area under irrigation. NWDA has identified 30 links (16 under Peninsular Component & 14 under Himalayan Component) for preparation of Feasibility Reports. After survey and investigations feasibility Reports of 14 links under Peninsular Component and two links in the Himalayan components have been prepared. The DPRs of Ken-Betwa Phase I & II, Daman-Ganga-Pinjal, Par-Tapi-Narmada have been prepared and shared with the States. Pre-Feasibility Reports of 36 Intra-State link proposals out of 46 proposals of Intra-State links have been completed.

These DPRs are at various stages of approval. The in-principle approval of the Standing Committee of the National Wild Life Board has been received for the Ken-Betwa link Project. In order to speed up the implementation of Inter-Linking of River Programme and to arrive at a consensus on the link proposals between the States, a 'Special Committee for Interlinking of Rivers', has been constituted by this Ministry in September, 2014. Ten meetings of the Special Committee for Interlinking of Rivers (ILR) have been held so far, wherein State Irrigation/ Water Resources Ministers along with the Secretaries of various States attended the meetings. The Committee after considering the views of all the stakeholders is taking all necessary steps for expediting the objectives of interlinking rivers programme as per terms of reference of the Committee.

ANNEXURE –I

Annexure referred in reply to part 'b' of Lok Sabha Starred Question No. *380 for 11.08.2016 regarding "Availability of Water"

STATE-WISE GROUND WATER RESOURCES AVAILABILITY, UTILIZATION AND STAGE OF DEVELOPMENT
(As on March 2011)
(unit in BCM/yr)

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 (exploitation in %)
					Irrigation	Domestic and industrial uses	Total	
1	2	3.	4.	5.	6.	7.	8.	9.
	States							
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

(unit in BCM/yr)

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 (exploitation in %)
					Irrigation	Domestic and industrial uses	Total	
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
	Total States	432.11	34.55	397.60	222.21	22.66	244.85	62
	Union Territories							
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	Dadara & Nagar 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	Lakshdweep	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
	Total Uts	0.6100	0.0500	0.5600	0.1500	0.0500	0.2000	36
	Grand Total	432.72	34.60	398.16	222.36	22.71	245.05	62

Annexure II

Annexure referred in reply to part 'c' of Lok Sabha Starred Question No. *380 for 11.08.2016 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 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	Andhra Pradesh	547	181	33.1	29	5.3	26	4.8	214	39.1	59	10.8	35	6.4	236	43.14	308	56.31
2	Arunachal Pradesh	14	9	64.3	0	0.0	1	7.1	4	28.6	0	0.0	0	0.0	10	71.43	4	28.57
3	Assam	182	72	39.6	10	5.5	2	1.1	85	46.7	9	4.9	4	2.2	84	46.15	98	53.85
4	Bihar	551	166	30.1	10	1.8	4	0.7	313	56.8	48	8.7	8	1.5	180	32.67	369	66.97
5	Chandigarh	11	3	27.3	1	9.1	0	0.0	6	54.5	1	9.1	0	0.0	4	36.36	7	63.64
6	Chhattisgarh	616	111	18.0	34	5.5	20	3.2	313	50.8	98	15.9	40	6.5	165	26.79	451	73.21
7	Dadra & Nagar Haveli	12	4	33.3	2	16.7	0	0.0	3	25.0	2	16.7	1	8.3	6	50.00	6	50.00
8	Daman & Diu	10	2	20.0	0	0.0	0	0.0	4	40.0	4	40.0	0	0.0	2	20.00	8	80.00
9	Delhi	115	19	16.5	4	3.5	3	2.6	52	45.2	19	16.5	18	15.7	26	22.61	89	77.39
10	Goa	70	36	51.4	5	7.1	0	0.0	28	40.0	1	1.4	0	0.0	41	58.57	29	41.43
11	Gujarat	738	171	23.2	63	8.5	20	2.7	284	38.5	99	13.4	92	12.5	254	34.42	475	64.36
12	Haryana	302	97	32.1	10	3.3	4	1.3	117	38.7	44	14.6	30	9.9	111	36.75	191	63.25
13	Himachal Pradesh	95	30	31.6	3	3.2	3	3.2	47	49.5	9	9.5	3	3.2	36	37.89	59	62.11
14	Jammu & Kashmir	225	78	34.7	2	0.9	3	1.3	122	54.2	16	7.1	4	1.8	83	36.89	142	63.11
15	Jharkhand	212	69	32.5	12	5.7	5	2.4	109	51.4	14	6.6	3	1.4	86	40.57	126	59.43
16	Karnataka	1380	319	23.1	56	4.1	40	2.9	596	43.2	221	16.0	132	9.6	415	30.07	949	68.77
17	Kerala	1240	414	33.4	27	2.2	13	1.0	699	56.4	60	4.8	20	1.6	454	36.61	779	62.82
18	Madhya Pradesh	1343	345	25.7	100	7.4	57	4.2	581	43.3	156	11.6	101	7.5	502	37.38	838	62.40
19	Maharashtra	1487	333	22.4	80	5.4	24	1.6	605	40.7	259	17.4	177	11.9	437	29.39	1041	70.01
20	Meghalaya	17	5	29.4	0	0.0	1	5.9	11	64.7	0	0.0	0	0.0	6	35.29	11	64.71
21	Odisha	1103	345	31.3	45	4.1	5	0.5	636	57.7	61	5.5	8	0.7	395	35.81	705	63.92
22	Pondicherry	6	5	83.3	0	0.0	0	0.0	1	16.7	0	0.0	0	0.0	5	83.33	1	16.67
23	Punjab	238	48	20.2	8	3.4	3	1.3	116	48.7	41	17.2	22	9.2	59	24.79	179	75.21
24	Rajasthan	829	219	26.4	74	8.9	53	6.4	230	27.7	117	14.1	134	16.2	346	41.74	481	58.02
25	Tamil Nadu	587	243	41.4	71	12.1	31	5.3	178	30.3	45	7.7	19	3.2	345	58.77	242	41.23
26	Telangana	377	51	13.5	7	1.9	8	2.1	136	36.1	81	21.5	91	24.1	66	17.51	308	81.70
27	Tripura	28	19	67.9	2	7.1	0	0.0	7	25.0	0	0.0	0	0.0	21	75.00	7	25.00
28	Uttar Pradesh	629	84	13.4	7	1.1	4	0.6	432	68.7	83	13.2	19	3.0	95	15.10	534	84.90
29	Uttarakhand	44	18	40.9	2	4.5	1	2.3	19	43.2	2	4.5	2	4.5	21	47.73	23	52.27
30	West Bengal	899	263	29.3	32	3.6	15	1.7	390	43.4	141	15.7	58	6.5	310	34.48	589	65.52
Total		13907	3759	27.0	696	5.0	346	2.5	6338	45.6	1690	12.2	1021	7.3	4801	34.52	9049	65.07

Note: 0.41% wells are showing no change

