

GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES,
RIVER DEVELOPMENT & GANGA REJUVENATION
LOK SABHA
UNSTARRED QUESTION NO. 2738
ANSWERED ON 02.08.2018

STORAGE CAPACITY OF RESERVOIRS

2738. DR. SHRIKANT EKNATH SHINDE DR. PRITAM GOPINATH MUNDE
 SHRI SHRIRANG APPA BARNE SHRI VINAYAK BHAURAO RAUT
 SHRI DHARMENDRA YADAV SHRI ANANDRAO ADSUL
 SHRI KUNWAR PUSHPENDRA SINGH CHANDEL
 SHRI ADHALRAO PATIL SHIVAJIRAO

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

- (a) the total number of reservoirs in the country along with those that generate hydropower of more than 60 MW and the total storage capacity of all the major reservoirs created in the country so far, State-wise;
- (b) whether shortage of water in the country's 91 major reservoirs has been noticed during May to June, 2018 and if so, the details thereof;
- (c) whether this shortage of water is worst as compared with the average of corresponding period of last ten years and if so, the details thereof;
- (d) whether the Government has made any study of rain/river water flowing into the sea/ocean and if so, the quantum of rain/river water that flows into the sea/ocean which can be efficiently channelised for drinking and irrigation purposes; and
- (e) whether there is any proposal to divert the surplus water of Himalayan and peninsular rivers to increase the storage of reservoirs and if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION & PARLIAMENTARY AFFAIRS

(SHRI ARJUN RAM MEGHWAL)

(a) Central Water Commission (CWC) maintains National Register of Large Dams (NRLD) based on information provided by State Govts/ dam owners. As per NRLD, total numbers of large dams (having reservoirs) completed in the country are 5264 and under construction dams are 437. Dams having hydro-power component are 296 as per NRLD. The live storage capacity of major reservoirs created in the country is 257.812 billion cubic meter (BCM). The State wise total storage capacity of major reservoirs in the country is given at **Annexure-I**.

(b) & (c) CWC monitors live storage status of 91 reservoirs of the country and issues weekly bulletin on every Thursday. The storage of reservoirs during May to June 2018 is slightly less as compared to average of last 10 years on all India basis. The detail of the weekly live storage of 91 reservoirs for the month of May and June 2018 is given at **Annexure II**.

(d) The average annual water resources potential in the country was assessed as 1869 BCM and published in CWC report titled 'Reassessment of Water Resources Potential of India' (1993). In view of topographical constraints and hydrological features, the utilizable water has been estimated as 1,137 BCM (690 BCM surface water as assessed by CWC and 447 BCM ground water as assessed by Central Ground Water Board). The rest of the water flows into sea/neighboring states.

CWC maintains the hydrological observation sites on various rivers in the country. A table showing average annual flows of terminal sites of CWC on major rivers for last 20 years is at **Annexure-III**.

(e) National Water Development Agency (NWDA) under the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR,RD&GR) has identified 30 links (16 under Peninsular Component and 14 under Himalayan Component) for preparation of Feasibility Reports under the National Perspective Plan (NPP) for water resources development through inter basin transfer of water, for transferring water from water surplus basins to water-deficit basins.

The pre-feasibility report of the all 30 links have been prepared and circulated to the concerned State Governments by the NWDA. Feasibility Reports of 14 links under Peninsular Component and Feasibility Reports of 2 links and draft Feasibility Reports of 7 links (Indian portion) under Himalayan Component have been completed. Present status, States concerned, rivers to be linked of Inter Basin Water Transfer Links are at **Annexure-IV**.

Annexure-I

Annexure referred to in reply to part (a) of Unstarred Question No. 2738 to be answered in Lok Sabha on 02.08.2018 regarding “Storage Capacity of Reservoirs “

State wise total Live Storage Capacity.

STATE/ UT	Total Live Storage capacity (BCM)
Andaman & Nicobar	0.019
Arunachal Pradesh	0.000006
Andhra Pradesh (Erstwhile)	28.716
Assam	0.012
Bihar	2.613
Chattisgarh	6.736
Goa	0.290
Gujarat	22.553
Himachal	13.792
Jammu & Kashmir	0.029
Jharkhand	2.436
Karnataka	31.903
Kerala	9.768
Maharashtra	37.358
Madhya Pradesh	33.075
Manipur	0.532
Meghalaya	0.479
Nagaland	1.220
Orissa	24.032
Punjab	2.402
Rajasthan	9.708
Sikkim	0.007
Tamil Nadu	7.859
Tripura	0.312
Uttarakhand	5.670
Uttar Pradesh	14.263
West Bengal	2.027
Mizoram	0
TOTAL	257.812

Annexure referred to in reply to parts (b) & (c) of Unstarred Question No. 2738 to be answered in Lok Sabha on “Storage Capacity of Reservoirs ”

Storage capacity of 91 Reservoirs of India during May and June, 2018.

Date	Live Storage available in 91 Reservoirs (BCM)	% of total live storage	% of live storage as compared to live storage of last 10 years
03.05.2018	35.219	22	90.3
10.05.2018	33.186	20	92.2
17.05.2018	31.072	19	89.8
24.05.2018	29.296	18	90.9
31.05.2018	27.659	17	88.9
07.06.2018	26.742	17	89.1
14.06.2018	28.409	18	97.2
21.06.2018	29.668	18	98.8
28.06.2018	29.752	18	94.4

Annexure referred to in reply to part (d) of Unstarred Question No. 2738 to be answered in Lok Sabha on “Storage Capacity of Reservoirs ”

Details of Average Annual Flow at terminal sites of CWC on major rivers in the country

S. No.	Name of River	Name of Last Discharge Observation Station	State	Average Annual Flow (MCM)	
				1997 to 2007	2007 to 2017
1	Ganga	Farakka	West Bengal	3,58,911	3,16,464
2	Brahmaputra	Panchratna	Assam	4,77,014	4,81,460
3	Teesta	Domohani	West Bengal	21,255	21,665
4	Krishna	Wadenpally	Andhra Pradesh	17,282	14,034
5	Godavari	Polavaram	Andhra Pradesh	80,322	75,497
6	Mahanadi	Tikrapara	Odisha	44,844	46,768
7	Cauvery	Musiri	Tamil Nadu	7,159	5,645*
8	Brahmani	Jenapur	Odisha	17,345	15,453
9	Subernrekha	Ghatshila	Jharkhand	6,528	7,569
10	Narmada	Garudeshwar	Gujarat	26,900	16,840
11	Baitarni	Anandpur	Odisha	4,793	4,604
12	Mahi	Khanpur	Gujarat	4,888	4,100
13	Sabarmati	Voutha	Gujarat	2,239**	2,334

Note: Year has been taken as Water Year from June to May

*Data of 2013 - 14 not available

** Data from 1999 onwards

Annexure referred to in reply to part (e) of Unstarred Question No. 2738 to be answered in Lok Sabha on “Storage Capacity of Reservoirs ”

Present status of Inter Basin Water Transfer Links, the States involved, name of rivers and status of Feasibility Reports/Detailed Project Report

Sl. No	Name	Rivers	States concerned	Status
Peninsular Component				
1	Mahanadi (Manibhadra) - Godavari (Dowlaiswaram) link	Mahanadi & Godavari	Odisha, Maharashtra, Andhra Pradesh, Karnataka, & Chattisgarh	FR Completed
2	Godavari (Inchampalli) - Krishna (Pulichintala) link	Godavari & Krishna	-do-	FR Completed
3	Godavari (Inchampalli) - Krishna (Nagarjunasagar) link	Godavari & Krishna	Odisha, Maharashtra, Madhya Pradesh, Andhra Pradesh, Karnataka & Chattisgarh,	FR Completed
4	Godavari (Polavaram) - Krishna (Vijayawada) link	Godavari & Krishna	Odisha, Maharashtra, Andhra Pradesh, Karnataka, & Chattisgarh	FR Completed
5	Krishna (Almatti) – Pennar link	Krishna & Pennar	-do-	FR Completed
6	Krishna (Srisailem) – Pennar link	Krishna & Pennar	-do-	FR Completed
7	Krishna (Nagarjunasagar) - Pennar (Somasila) link	Krishna & Pennar	Maharashtra, Andhra Pradesh & Karnataka,	FR Completed
8	Pennar (Somasila) - Cauvery (Grand Anicut) link	Pennar & Cauvery	Andhra Pradesh, Karnataka, Tamil Nadu, Kerala & Puducherry	FR Completed
9	Cauvery (Kattalai) - Vaigai -Gundar link	Cauvery, Vaigai & Gundar	Karnataka, Tamil Nadu, Kerala & Puducherry	FR Completed
10	Ken-Betwa link	Ken & Betwa	Uttar Pradesh & Madhya Pradesh	FR & DPR (Ph-I&II) Completed
11	Parbati -Kalisindh-Chambal link	Parbati, Kalisindh & Chambal	Madhya Pradesh, Rajasthan & Uttar Pradesh (UP requested to be consulted during consensus building)	FR Completed
12	Par-Tapi-Narmada link	Par, Tapi & Narmada	Maharashtra & Gujarat	FR & DPR Completed
13	Damanganga - Pinjal link	Damanganga & Pinjal	Maharashtra & Gujarat	FR & DPR Completed
14	Bedti - Varda link	Bedti & Varda	Maharashtra, Andhra Pradesh & Karnataka	PFR Completed
15	Netravati – Hemavati link	Netravati & Hemavati	Karnataka, Tamil Nadu & Kerala	PFR Completed
16	Pamba - Achankovil - Vaippar link	Pamba, Achankovil &	Kerala & Tamil Nadu,	FR Completed

Sl. No	Name	Rivers	States concerned	Status
		Vaippar		
Himalayan Component				
1.	Manas-Sankosh-Tista-Ganga (M-S-T-G) link	Manas-Sankosh-Tista-Ganga	Assam, West Bengal, Bihar & Bhutan	PFR completed
2.	Kosi-Ghaghra link	Kosi & Ghaghra	Bihar, Uttar Pradesh & Nepal	PFR completed
3.	Gandak-Ganga link	Gandak & Ganga	-do-	Draft FR completed (Indian portion)
4.	Ghaghra-Yamuna link	Ghaghra & Yamuna	-do-	FR completed (Indian portion)
5.	Sarda-Yamuna link	Sarda & Yamuna	Bihar, Uttar Pradesh, Haryana, Rajasthan, Uttarakhand & Nepal	FR completed (Indian portion)
6.	Yamuna-Rajasthan link	Yamuna & Sukri	Uttar Pradesh, Gujarat, Haryana & Rajasthan	Draft FR completed
7.	Rajasthan-Sabarmati link	Sabarmati	-do-	Draft FR completed
8.	Chunar-Sone Barrage link	Ganga & Sone	Bihar & Uttar Pradesh	Draft FR completed
9.	Sone Dam – Southern Tributaries of Ganga link	Sone & Badua	Bihar & Jharkhand	PFR completed
10.	Ganga(Farakka)-Damodar-Subernarekha link	Ganga, Damodar & Subernarekha	West Bengal, Odisha & Jharkhand	Draft FR completed
11.	Subernarekha-Mahanadi link	Subernarekha & Mahanadi	West Bengal & Odisha	Draft FR Completed
12.	Kosi-Mechi link	Kosi & Mechi	Bihar, West Bengal & Nepal	PFR completed Entirely lies in Nepal
13.	Ganga (Farakka)-Sunderbans link	Ganga & Ichhamati	West Bengal	Draft FR completed
14.	Jogighopa-Tista-Farakka link (Alternative to M-S-T-G)	Manas, Tista & Ganga	-do-	(Alternative to M-S-T-G Link) dropped

PFR- Pre Feasibility Report, FR- Feasibility Report, DPR- Detailed Project Report