

BRIEF NOTE ON STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 07.01.2016)

1. ALL INDIA STATUS

Central Water Commission is monitoring live storage status of 91 reservoirs of the country on weekly basis and is issuing weekly bulletin on every Thursday. Out of these reservoirs, 37 reservoirs have hydropower benefit with installed capacity of more than 60 MW. The total live storage capacity of these 91 reservoirs is 157.799 BCM which is about 62% of the live storage capacity of 253.388 BCM which is estimated to have been created in the country. As per reservoir storage bulletin dated **07.01.2016**, live storage available in these reservoirs is **69.593 BCM**, which is **44%** of total live storage capacity of these reservoirs. This storage is **78%** of the storage of corresponding period of last year and **75%** of storage of average of last ten years.

The overall storage position is **less than the** corresponding period of last year in the country as a whole and is also **less than the** average storage of last ten years during the corresponding period.

2. REGION WISE STORAGE STATUS:

a) NORTHERN REGION

The northern region includes States of Himachal Pradesh, Punjab and Rajasthan. There are 6 reservoirs under CWC monitoring having total live storage capacity of 18.01 BCM. As per Reservoir Storage Bulletin dated **07.01.2016**, the total live storage available in these reservoirs is **9.35 BCM** which is **52%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **47%** and average storage of last ten years during corresponding period was **54%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the corresponding period of last year but is less than the average storage of last ten years during the corresponding period.

b) EASTERN REGION

The Eastern region includes States of Jharkhand, Odisha, West Bengal and Tripura. There are 15 reservoirs under CWC monitoring having total live storage capacity of 18.83 BCM. As per Reservoir Storage Bulletin dated **07.01.2016**, the total live storage available in these reservoirs is **10.70 BCM** which is **57%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **71%** and average storage of last ten years during corresponding period was **67%** of live storage capacity of these reservoirs. Thus, storage during current year is less than the corresponding period of last year and is also less than the average storage of last ten years during the corresponding period.

c) WESTERN REGION

The Western region includes States of Gujarat and Maharashtra. There are 27 reservoirs under CWC monitoring having total live storage capacity of 27.07 BCM. As per Reservoir Storage Bulletin dated **07.01.2016**, the total live storage available in these reservoirs is **10.72 BCM** which is **40%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **60%** and average storage of last ten years during corresponding period was **67%** of live storage capacity of these reservoirs. Thus, storage during current year is less than the storage of last year and is also less than the average storage of last ten years during the corresponding period.

d) CENTRAL REGION

The Central region includes States of Uttar Pradesh, Uttarakhand, Madhya Pradesh and Chhattisgarh. There are 12 reservoirs under CWC monitoring having total live storage capacity of 42.30 BCM. As per Reservoir Storage Bulletin dated **07.01.2016**, the total live storage available in these reservoirs is **23.06 BCM**

which is **55%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **66%** and average storage of last ten years during corresponding period was **50%** of live storage capacity of these reservoirs. Thus, storage during current year is less than the storage of last year but is better than the average storage of last ten years during the corresponding period.

e) SOUTHERN REGION

The Southern region includes States of Andhra Pradesh, Telangana, AP&TG (2 combined projects in both states) Karnataka, Kerala and Tamil Nadu. There are 31 reservoirs under CWC monitoring having total live storage capacity of 51.59 BCM. As per Reservoir Storage Bulletin dated **07.01.2016**, the total live storage available in these reservoirs is **15.76 BCM** which is **31%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **46%** and average storage of last ten years during corresponding period was **60%** of live storage capacity of these reservoirs. Thus, storage during current year is less than the corresponding period of last year and is also less than the average storage of last ten years during the corresponding period.

The region wise and reservoir wise details are given in the following pages of the Bulletin.

BROAD ANALYSIS OF OTHER TABLES IN THE BULLETIN

- Normal storage means average storage of last ten years, Close to normal storage means where shortfall is upto 20% of normal, deficient storage is where shortfall is more than 20% of the normal and upto 60% of the normal, highly deficient means where shortfall is more than 60% of normal.
- In the table on page 8, better than normal storage is available in Ganga, Narmada, Sabarmati and Rivers of Kutch. Close to Normal in Indus, Mahi and Cauvery & neighbouring EFRs. Deficient in Tapi, Godavari, Mahanadi & neighbouring East Flowing Rivers and West Flowing rivers of South and Highly Deficient in Krishna basin.
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storage more than last year are **15** and reservoirs having storage more than average of last ten years are **20**. The numbers of reservoirs having storage less than 20% with respect to last year is **5** and having storage less than 20% with reference to average of last ten years is **8**. The number of reservoirs having storage less than or equal to 50% with respect to last year are **20** and having storage less than or equal to 50% with reference to average of last ten years are **23**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

- 1 Central Water Commission is monitoring storage status of 91 important reservoirs spread all over the country, in which **37** reservoirs have hydropower benefit each with installed capacity of more than 60 MW. These reservoirs are identified thus(*) in the enclosed weekly report.
- 2 The total live storage in 91 important reservoirs in different parts of the country, monitored by CWC as on **07.01.2016** is **69.593** BCM (**44** percent of the live storage capacity at FRL). The current year's storage is nearly **78** percent of last year's storage and **75** percent of the average of last ten years.

3 Region wise storage status:-

REGION (Monitoring No. of Reservoirs)	Filling position of 91 reservoirs w.r.t. FRL								Departure from Normal storage	
	100%	91%-99%	81%-90%	71%-80%	61%-70%	51%-60%	41%-50%	40% & below		
NORTH (HP, Punjab & Rajasthan), (6 Resv.)	-	-	-	-	2	-	2	2	H.P. PUNJAB RAJASTHAN	5 % -45 % -11 %
EAST (Jharkhand, Odisha, Tripura & W. Bengal (15 Resv.)	-	-	-	3	3	2	2	5	JHARKHAND ODISHA W. BENGAL TRIPURA	-37 % -13 % -46 % 159 %
WEST (Guj. & Mah.), (27 Resv.)	-	-	-	2	2	6	7	10	GUJARAT MAH.	-26 % -54 %
CENTRAL (MP, UP, Uttarakhand & Chh.), (12 Resv)	-	-	-	2	-	5	4	1	U.P. UTTARAKHAND M.P. CHHATISGARH	-10 % -9 % 26 % -34 %
SOUTH (Karnataka, TN, AP & TG, AP, TG, & Kerala), (31 Resv.)	-	-	5	2	1	7	2	14	AP & TG A.P TG KARNATAKA KERALA T.N.	-84 % 20 % -83 % -44 % -10 % -17 %
Status of 91 reservoirs	0	0	5	9	8	20	17	32		

4 Basin wise storage position:

Better than normal: Ganga, Narmada, Sabarmati and Rivers of Kutch.

Close to normal: Indus, Mahi and Cauvery & neighbouring EFRS.

Deficient: Tapi, Godavari, Mahanadi & Neighbouring EFRS and West Flowing rivers of south.

Highly deficient: Krishna.

- 5 Out of 91 reservoirs, **41** reservoirs reported more than 80% of normal storage & **50** reservoirs reported 80% or below of normal storage. Out of these **50** reservoirs **23** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%	Name of reservoir	%
NAGARJUNA SAGAR	0	PANCHET HILL	24	HEMAVATHY	43
BHIMA(UJJANI)	0	ALMATTI	25	MAYURAKSHI	44
GIRNA	8	SRISAILAM	26	NARAYANPUR	45
SALANADI	12	MULA	28		
YELDARI	15	HARANGI	30		
SRIRAMSAGAR	15	MALAPRABHA(RENUKA)	32		
JAYAKWADI(PAITHON)	17	TUNGABHADRA	32		
SHOLAYAR	18	BHANDARDARA	36		
LOWER MANAIR	22	MAITHON	36		
MANIKDOH	23	ISAPUR	37		

27 reservoirs having storage 51% to 80% of normal storage.

51% to 60%	61% to 70%	71% to 80%
8	12	7

- 6 Out of **37** reservoirs with significant(*) hydropower generation, the storage build up is less than or equal to normal in

27 reservoirs.

NOTE : **Normal:** Average of previous ten years, **Close to normal:** Where shortfall is up to 20% of the normal, **Deficient:** Where shortfall is more than 20% of the normal and up to 60% of the normal, **Highly deficient:** Where shortfall is more than 60% of the normal

WEEKLY REPORT - BASINWISE

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 07.01.2016

NAME OF BASIN	LIVE CAP. AT FRL	THIS YEAR'S STORAGE		LAST YEAR'S STORAGE		LAST 10 YEARS' AVG. STORAGE		% DEPARTURE W.R.T. AVE. OF 10 YEARS'
GANGA	28.096	14.011	49.87%	16.143	57.46%	13.146	46.79%	6.58
INDUS	14.730	7.755	52.65%	6.698	45.47%	7.877	53.48%	-1.55
NARMADA	17.414	9.908	56.90%	11.770	67.59%	9.433	54.17%	5.04
TAPI	7.394	3.612	48.85%	4.479	60.58%	4.963	67.12%	-27.22
MAHI	4.012	2.027	50.52%	2.807	69.97%	2.497	62.24%	-18.82
SABARMATI	0.735	0.433	58.91%	0.322	43.81%	0.385	52.38%	12.47
RIVERS OF KUTCH	0.887	0.477	53.78%	0.165	18.60%	0.382	43.07%	24.87
GODAVARI	15.394	5.569	36.18%	8.455	54.92%	9.117	59.22%	-38.92
KRISHNA	32.831	6.230	18.98%	12.999	39.59%	19.668	59.91%	-68.32
MAHANADI & NEIGHBOURING EFRS	13.181	7.237	54.90%	10.240	77.69%	9.562	72.54%	-24.31
CAUVERY & NEIGHBOURING EFRS	8.359	4.434	53.04%	4.883	58.42%	4.880	58.38%	-9.14
WEST FLOWING RIVERS OF SOUTH	14.766	7.900	53.50%	10.453	70.79%	10.294	69.71%	-23.26
TOTAL	157.799	69.593		89.414		92.204		
PERCENTAGE								-24.52

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 07.01.2016

S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	STORAGE AS % OF LIVE CAPACITY AT FRL			BENEFITS	
							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
NORTHERN REGION											
<u>HIMACHAL PRADESH</u>											
*1	GOBIND SAGAR(BHAKRA)	512.06	500.05	6.229	4.156	06-01-2016	67	60	62	676	1200
*2	PONG DAM	423.67	410.25	6.157	3.061	06-01-2016	50	34	49	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	497.82	2.344	0.538	07-01-2016	23	39	42	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	275.40	1.711	1.086	07-01-2016	63	72	60	63	140
5	JHAKAM	359.50	351.00	0.132	0.061	07-01-2016	46	57	50	28	-
*6	RANA PRATAP SAGAR	352.81	347.04	1.436	0.445	07-01-2016	31	31	48	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	258.17	0.821	0.348	07-01-2016	42	47	44	-	-
8	MAITHON	146.3	139.73	0.471	0.150	07-01-2016	32	70	89	342	-
*9	PANCHET HILL	124.97	121.21	0.184	0.040	07-01-2016	22	63	91	\$	80
10	KONAR	425.81	422.18	0.176	0.115	07-01-2016	65	85	72	\$	-
11	TILAIYA	368.81	366.90	0.142	0.078	07-01-2016	55	89	63	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	190.36	5.378	3.774	04-01-2016	70	75	83	153	307
*13	BALIMELA	462.08	456.22	2.676	1.723	06-01-2016	64	85	59	-	360
14	SALANADI	82.30	56.10	0.558	0.032	07-01-2016	6	47	47	42	-
*15	RENGALI	123.50	118.16	3.432	1.730	06-01-2016	50	77	66	3	200
*16	MACHKUND(JALPUT)	838.16	835.90	0.893	0.702	06-01-2016	79	82	80	-	115
*17	UPPER KOLAB	858.00	855.73	0.935	0.720	06-01-2016	77	85	59	89	320
*18	UPPER INDRAVATI	642.00	634.93	1.456	0.740	06-01-2016	51	84	71	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	110.73	0.480	0.094	07-01-2016	20	22	45	227	-
20	KANGSABATI	134.14	123.98	0.914	0.228	07-01-2016	25	27	41	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	91.70	0.312	0.228	06-01-2016	73	12	28	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	98.53	6.615	3.415	07-01-2016	52	61	68	348	300
23	SABARMATI(DHAROI)	189.59	186.22	0.735	0.433	07-01-2016	59	44	52	95	1
*24	KADANA	127.7	121.59	1.472	0.641	07-01-2016	44	72	64	200	120
25	SHETRUNJI	55.53	54.42	0.300	0.218	07-01-2016	73	29	67	36	-
26	BHADAR	107.89	103.83	0.188	0.059	07-01-2016	31	32	51	27	-
27	DAMANAGANGA	79.86	77.15	0.502	0.358	07-01-2016	71	71	82	51	1
28	DANTIWADA	184.1	177.97	0.399	0.200	07-01-2016	50	4	21	45	-
29	PANAM	127.41	121.55	0.697	0.239	07-01-2016	34	61	66	36	2
*30	SARDAR SAROVAR	121.92	115.60	1.566	0.590	07-01-2016	38	73	72	2120	1450
31	KARJAN	115.25	104.22	0.523	0.245	07-01-2016	47	73	84	51	3

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 07.01.2016

S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	STORAGE AS % OF LIVE CAPACITY AT FRL			BENEFITS	
							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
MAHARASHTRA											
32	JAYAKWADI(PAITHON)	463.91	456.61	2.171	0.183	06-01-2016	8	29	50	227	-
*33	KOYANA	657.90	645.82	2.652	1.415	06-01-2016	53	79	82	-	1920
34	BHIMA(UJJANI)	496.83	490.29	1.517	0.000	06-01-2016	0	76	77	125	12
35	ISAPUR	441.00	430.41	0.965	0.207	07-01-2016	21	54	58	104	-
36	MULA	552.30	539.61	0.609	0.117	05-01-2016	19	51	68	139	-
37	YELDARI	461.77	449.65	0.809	0.054	07-01-2016	7	34	46	78	-
38	GIRNA	398.07	382.92	0.524	0.019	07-01-2016	4	34	44	79	-
39	KHADAKVASLA	582.47	580.25	0.056	0.028	06-01-2016	50	79	54	78	8
*40	UPPER VAITARNA	603.50	598.20	0.331	0.169	06-01-2016	51	68	86	-	61
41	UPPER TAPI	214.00	212.66	0.255	0.178	06-01-2016	70	100	87	45	-
*42	PENCH (TOTALADOH)	490.00	480.83	1.091	0.449	06-01-2016	41	40	50	127	160
43	UPPER WARDHA	342.50	339.33	0.564	0.315	07-01-2016	56	62	70	70	-
44	BHATSA	142.07	128.28	0.942	0.607	06-01-2016	64	73	75	29.378	15
45	DHOM	747.70	734.19	0.331	0.137	06-01-2016	41	80	68	36.2	2
46	DUDHGANGA	646.00	634.07	0.664	0.328	06-01-2016	49	86	84	2.441	24
47	MANIKDOH (KUKADI)	711.25	686.22	0.288	0.032	06-01-2016	11	40	48	2.2	6
48	BHANDARDARA	342.50	339.33	0.304	0.087	07-01-2016	56	62	70	70	-
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	306.32	0.707	0.419	06-01-2016	59	47	52	-	30
*50	RIHAND	268.22	258.78	5.649	1.778	05-01-2016	31	36	37	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	350.74	2.196	1.218	07-01-2016	55	83	64	1897	198
*52	TEHRI	830.00	799.80	2.615	1.481	07-01-2016	57	67	59	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	396.90	6.827	4.861	06-01-2016	71	59	40	220	115
54	TAWA	355.40	349.24	1.944	1.069	07-01-2016	55	63	61	247	-
*55	BARGI	422.76	419.60	3.180	2.338	07-01-2016	74	74	64	157	90
*56	BANSAGAR	341.64	335.07	5.166	2.528	06-01-2016	49	82	48	488	425
*57	INDIRA SAGAR	262.13	256.61	9.745	5.464	07-01-2016	56	66	45	2380	1000
58	BARNA	348.55	344.39	0.456	0.202	06-01-2016	44	53	49	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	349.08	3.046	1.339	05-01-2016	44	84	64	-	120
60	MAHANADI	348.70	343.68	0.767	0.362	31-12-2015	47	98	81	319	10
SOUTHERN REGION											
A.P. & TG											
*61	SRISAILAM	269.75	253.60	8.288	1.364	07-01-2016	16	0	63	0	770
*62	NAGARJUNA SAGAR	179.83	154.90	6.841	0.000	07-01-2016	0	31	46	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	97.62	1.994	1.626	07-01-2016	82	55	68	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	320.04	2.300	0.176	07-01-2016	8	21	51	411	27
65	LOWER MANAIR	280.42	268.64	0.621	0.096	07-01-2016	15	38	71	199	60

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

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							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
<u>KARNATAKA</u>											
66	KRISHNARAJA SAGRA	752.50	746.69	1.163	0.659	06-01-2016	57	87	73	79	-
*67	TUNGABHADRA	497.74	487.59	3.276	0.545	07-01-2016	17	56	51	529	72
68	GHATAPRABHA	662.95	644.13	1.391	0.351	06-01-2016	25	50	48	317	-
69	BHADRA	657.76	650.42	1.785	1.026	06-01-2016	57	90	91	106	39
70	LINGANAMAKKI	554.43	545.90	4.294	2.134	06-01-2016	50	70	71	-	55
71	NARAYANPUR	492.25	488.64	0.863	0.344	07-01-2016	40	76	88	425	-
72	MALAPRABHA(RENUKA)	633.83	623.58	0.972	0.128	06-01-2016	13	44	42	215	-
73	KABINI(Sancherla Tank)	696.16	690.52	0.444	0.163	06-01-2016	37	70	35	85	-
74	HEMAVATHY	890.63	874.50	0.927	0.138	06-01-2016	15	37	35	265	-
75	HARANGI	871.42	849.75	0.220	0.008	06-01-2016	4	5	12	53	-
76	SUPA	564.00	540.22	4.120	1.777	06-01-2016	43	67	63	-	-
77	VANIVILAS SAGAR	652.28	637.38	0.802	0.102	06-01-2016	13	9	20	123	-
*78	ALMATTI	519.60	509.47	3.105	0.430	07-01-2016	14	44	55	@	290
*79	GERUSOPPA	55.00	51.05	0.130	0.107	07-01-2016	82	78	84	83	240
<u>KERALA</u>											
80	KALLADA(PARAPPAR)	115.82	113.69	0.507	0.439	07-01-2016	87	89	82	62	-
*81	IDAMALAYAR	169.00	152.06	1.018	0.563	07-01-2016	55	80	69	33	75
*82	IDUKKI	732.43	720.36	1.460	0.840	07-01-2016	58	73	67	-	780
*83	KAKKI	981.46	974.08	0.447	0.331	07-01-2016	74	77	80	23	300
*84	PERIYAR	867.41	866.78	0.173	0.154	07-01-2016	89	62	54	84	140
85	MALAPMUZHA	867.41	866.78	0.224	0.088	07-01-2016	89	62	54	84	140
<u>TAMIL NADU</u>											
86	LOWER BHAWANI	278.89	272.00	0.792	0.406	07-01-2016	51	60	66	105	8
*87	METTUR(STANLEY)	240.79	230.19	2.647	1.340	07-01-2016	51	61	60	122	360
88	VAIGAI	279.20	275.39	0.172	0.094	07-01-2016	55	17	50	61	6
89	PARAMBIKULAM	556.26	549.65	0.380	0.246	07-01-2016	65	74	79	101	-
90	ALIYAR	320.04	317.05	0.095	0.076	07-01-2016	80	94	76	#	60
*91	SHOLAYAR	1002.79	970.59	0.143	0.011	07-01-2016	8	36	43	-	95
TOTAL FOR 91 RESERVOIRS				157.799	69.593						
PERCENTAGE							44	57	58		

Sd/-

Director

* HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

W. M. , CWC

TOTAL CCA 101 TH. HA OF PARAMBIKULAM & ALIYAR

@ TOTAL CCA 425 TH. HA. OF NARAYANPUR AND ALMATTI

† SABARMATI RESERVOIR IS SUPPLEMENTED WITH NARMADA WATER THROUGH PIPELINE.

Sl. No. 19th The FRL of S.S.P. 138.38 M and Live capacity at FRL will be 5.760 BCM. However at present the lowest block of the dam is at the level of 121.92 M. and the live capacity at this level is 1.566 BCM

(At sl. 30th) 0.444 BCM, Live storage at FRL of Kabini reservoir is intrim