

BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 15.12.2016)

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 **15.12.2016**, live storage available in these reservoirs is **98.32 BCM**, which is **62%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **77.712 BCM** and the average of last 10 years live storage was **100.188 BCM**. Thus, the live storage available in 91 reservoirs **as per 15.12.2016 Bulletin** is **127%** of the live storage of corresponding period of last year and **98%** of storage of average of last ten years.

The overall storage position is **better than the** corresponding period of last year in the country as a whole but is **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 **15.12.2016**, the total live storage available in these reservoirs is **9.54 BCM** which is **53%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **61%** and average storage of last ten years during corresponding period was **62%** 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.

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 **15.12.2016**, the total live storage available in these reservoirs is **15.40 BCM** which is **82%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **59%** and average storage of last ten years during corresponding period was **69%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the corresponding period of last year and is also better 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 **15.12.2016**, the total live storage available in these reservoirs is **20.11 BCM** which is **74%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **45%** and average storage of last ten years during corresponding period was **69%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year and is also better 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 **15.12.2016**, the total live storage available in these reservoirs is **33.44 BCM** which is **79%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **61%** and average storage of last ten years during corresponding period was **59%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year and is also 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 **15.12.2016**, the total live storage available in these reservoirs is **19.82 BCM** which is **38%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **34%** and average storage of last ten years during corresponding period was **63%** 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.

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 4, better than normal storage is available in Narmada, Mahi, , Ganga, Sabarmati, Godavari, Tapi and Mahanadi & neighbouring East Flowing Rivers. NIL in Close to Normal and Deficient in Indus, Rivers of Kutch, West Flowing Rivers of South and Krishna and Highly Deficient in Cauvery & neighbouring EFRs Basin.
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storage more than last year are **58** and reservoirs having storage more than average of last ten years are **45**. The numbers of reservoirs having storage less than 20% with respect to last year is **6** and having storage less than 20% with reference to average of last ten years is **9**. The number of reservoirs having storage less than or equal to 50% with respect to last year are **13** and having storage less than or equal to 50% with reference to average of last ten years are **18**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 15.12.2016

- 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 **15.12.2016** is **98.320** BCM (**62** percent of the live storage capacity at FRL).The current year's storage is nearly **127** percent of last year's storage and **98** 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.)	-	1	1	-	-	-	4	-	H.P.	-22 %	
									PUNJAB	-15 %	
									RAJASTHAN	13 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	4	1	3	3	1	1	1	1	JHARKHAND	20 %	
									ODISHA	17 %	
									W. BENGAL	30 %	
									TRIPURA	92 %	
WEST (Guj.& Mah.), (27 Resv.)	1	4	5	7	2	3	1	4	GUJARAT	6 %	
									MAH.	9 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	-	1	3	4	2	1	1	-	U.P.	56 %	
									UTTARAKHAND	-8 %	
									M.P.	43 %	
									CHHATISGARH	14 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	-	2	1	-	1	6	1	20	AP&TG	-47 %	
									A,P	-27 %	
									TG	80 %	
									KARNATAKA	-40 %	
									KERALA	-38 %	
									T.N.	-81 %	
Status of 91 reservoirs	5	9	13	14	6	11	8	25			

4 Basin wise storage position:

Better than normal: Ganga,Sabarmati,Godavari,Mahi, Narmada ,Tapi and Mahanadi & Neighbouring EFRS.

Close to normal: NIL

Deficient: Indus ,Rivers of Kutch,West Flowing Rivers of South and Krishna.

Highly deficient: Cauvery & neighbouring EFRS.

- 5 Out of 91 reservoirs, **60** reservoirs reported more than 80% of normal storage & **31** reservoirs reported 80% or below of normal storage. Out of these **31** reservoirs **18** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%
SHOLAYAR	0	PARAMBIKULAM	27
VAIGAI	4	BHADRA	39
TUNGABHADRA	13	MALAPRABHA(RENUKA)	39
ALIYAR	13	NARAYANPUR	45
BHADAR	15	KALLADA(PARAPPAR)	47
PERIYAR	17	MALAMPUZHA	49
LOWER BHAWANI	19		
KRISHNARAJA SAGRA	19		
METTUR(STANLEY)	19		
NAGARJUNA SAGAR	21		
VANIVILAS SAGAR	22		
HEMAVATHY	25		

13 reservoirs having storage 51% to 80% of normal storage.		
51% to 60%	61% to 70%	71% to 80%
3	3	7

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

19 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 :- 15.12.2016

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	21.272	75.71%	15.377	54.73%	15.434	54.93%	37.83
INDUS	14.730	7.198	48.87%	9.261	62.87%	9.146	62.09%	-21.30
NARMADA	17.414	13.984	80.30%	11.585	66.53%	11.197	64.30%	24.89
TAPI	7.394	5.895	79.73%	3.934	53.21%	5.153	69.69%	14.40
MAHI	4.012	3.210	80.01%	2.348	58.52%	2.722	67.85%	17.93
SABARMATI	0.735	0.585	79.59%	0.503	68.44%	0.432	58.78%	35.42
RIVERS OF KUTCH	0.887	0.255	28.75%	0.596	67.19%	0.460	51.86%	-44.57
GODAVARI	15.394	11.681	75.88%	6.059	39.36%	9.336	60.65%	25.12
KRISHNA	32.831	13.335	40.62%	7.022	21.39%	20.650	62.90%	-35.42
MAHANADI & NEIGHBOURING EFRS	13.181	11.107	84.27%	7.455	56.56%	9.611	72.92%	15.57
CAUVERY & NEIGHBOURING EFRS	8.359	1.955	23.39%	5.196	62.16%	5.246	62.76%	-62.73
WEST FLOWING RIVERS OF SOUTH	14.766	7.843	53.12%	8.376	56.72%	10.801	73.15%	-27.39
TOTAL	157.799	98.320		77.712		100.188		
PERCENTAGE								-1.86

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 15.12.2016

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	492.04	6.229	3.143	15-12-2016	50	76	71	676	1200
*2	PONG DAM	423.67	410.29	6.157	3.067	14-12-2016	50	61	58	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	507.32	2.344	0.988	15-12-2016	42	33	50	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	279.65	1.711	1.569	15-12-2016	92	75	70	63	140
5	JHAKAM	359.50	357.00	0.132	0.107	15-12-2016	81	64	63	28	-
*6	RANA PRATAP SAGAR	352.81	348.56	1.436	0.669	15-12-2016	47	29	55	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	260.30	0.821	0.429	15-12-2016	52	44	43	-	-
8	MAITHON	146.3	148.66	0.471	0.471	15-12-2016	100	33	85	342	-
*9	PANCHET HILL	124.97	127.22	0.184	0.184	15-12-2016	100	22	85	\$	80
10	KONAR	425.81	425.32	0.176	0.167	15-12-2016	95	70	78	\$	-
11	TILAIYA	368.81	369.25	0.142	0.142	15-12-2016	100	73	77	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	191.69	5.378	4.608	15-12-2016	86	72	84	153	307
*13	BALIMELA	462.08	459.00	2.676	2.114	15-12-2016	79	69	61	-	360
14	SALANADI	82.30	69.01	0.558	0.197	15-12-2016	35	6	41	42	-
*15	RENGALI	123.50	122.75	3.432	3.432	15-12-2016	100	52	68	3	200
*16	MACHKUND(JALPUT)	838.16	836.11	0.893	0.719	15-12-2016	81	85	84	-	115
*17	UPPER KOLAB	858.00	856.39	0.935	0.783	15-12-2016	84	80	61	89	320
*18	UPPER INDRAVATI	642.00	638.97	1.456	1.133	15-12-2016	78	51	71	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	115.32	0.480	0.220	15-12-2016	46	21	44	227	-
20	KANGSABATI	134.14	129.91	0.914	0.573	15-12-2016	63	25	44	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	91.80	0.312	0.232	14-12-2016	74	80	39	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	102.49	6.615	5.233	13-12-2016	79	56	71	348	300
23	SABARMATI(DHAROI)	189.59	187.98	0.735	0.585	15-12-2016	80	68	59	95	1
*24	KADANA	127.7	126.82	1.472	1.101	15-12-2016	75	47	65	200	120
25	SHETRUNJI	55.53	53.52	0.300	0.166	15-12-2016	55	87	72	36	-
26	BHADAR	107.89	101.10	0.188	0.017	15-12-2016	9	46	59	27	-
27	DAMANAGANGA	79.86	78.75	0.502	0.426	13-12-2016	85	83	89	51	1
28	DANTIWADA	184.1	171.92	0.399	0.072	15-12-2016	18	63	34	45	-
29	PANAM	127.41	125.55	0.697	0.433	15-12-2016	62	42	67	36	2
*30	SARDAR SAROVAR	121.92	120.31	1.566	1.274	13-12-2016	81	55	78	2120	1450
31	KARJAN	115.25	107.90	0.523	0.322	13-12-2016	62	51	84	51	3

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 15.12.2016

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	462.41	2.171	1.629	15-12-2016	75	10	46	227	-
*33	KOYANA	657.90	653.77	2.652	2.070	14-12-2016	78	59	85	-	1920
34	BHIMA(UJJANI)	496.83	496.91	1.517	1.517	14-12-2016	100	0	74	125	12
35	ISAPUR	441.00	434.71	0.965	0.442	14-12-2016	46	24	62	104	-
36	MULA	552.30	551.48	0.609	0.565	14-12-2016	93	31	71	139	-
37	YELDARI	461.77	454.27	0.809	0.228	15-12-2016	28	7	47	78	-
38	GIRNA	398.07	396.23	0.524	0.428	14-12-2016	82	4	44	79	-
39	KHADAKVASLA	582.47	580.71	0.056	0.033	14-12-2016	59	55	57	78	8
*40	UPPER VAITARNA	603.50	602.82	0.331	0.309	14-12-2016	93	58	87	-	61
41	UPPER TAPI	214.00	213.65	0.255	0.234	14-12-2016	92	83	93	45	-
*42	PENCH (TOTALADOH)	490.00	480.53	1.091	0.435	14-12-2016	40	47	59	127	160
43	UPPER WARDHA	342.50	341.10	0.564	0.445	15-12-2016	79	66	76	70	-
44	BHATSA	142.07	136.28	0.942	0.790	14-12-2016	84	70	81	29.378	15
45	DHOM	747.70	743.90	0.331	0.300	14-12-2016	91	50	73	36.2	2
46	DUDHGANGA	646.00	643.11	0.664	0.583	15-12-2016	88	56	86	2.441	24
47	MANIKDOH (KUKADI)	711.25	704.21	0.288	0.174	14-12-2016	60	21	46	2.2	6
48	BHANDARDARA	342.50	341.10	0.304	0.299	15-12-2016	79	66	76	70	-
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	305.50	0.707	0.344	14-12-2016	49	62	60	-	30
*50	RIHAND	268.22	264.35	5.649	3.982	05-12-2016	70	33	41	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	350.30	2.196	1.193	15-12-2016	54	64	70	1897	198
*52	TEHRI	830.00	813.75	2.615	1.964	15-12-2016	75	68	71	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	398.98	6.827	6.065	15-12-2016	89	79	54	220	115
54	TAWA	355.40	352.35	1.944	1.504	15-12-2016	77	70	74	247	-
*55	BARGI	422.76	420.15	3.180	2.492	15-12-2016	78	80	74	157	90
*56	BANSAGAR	341.64	340.45	5.166	4.637	15-12-2016	90	52	56	488	425
*57	INDIRA SAGAR	262.13	260.01	9.745	8.031	15-12-2016	82	65	56	2380	1000
58	BARNA	348.55	347.10	0.456	0.361	15-12-2016	79	54	55	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	354.84	3.046	2.108	15-12-2016	69	45	64	-	120
60	MAHANADI	348.70	348.65	0.767	0.762	15-12-2016	99	48	77	319	10
SOUTHERN REGION											
A.P. & TG											
*61	SRISAILAM	269.75	264.96	8.288	3.828	15-12-2016	46	18	62	0	770
*62	NAGARJUNA SAGAR	179.83	159.78	6.841	0.719	15-12-2016	11	0	50	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	93.66	1.994	1.075	15-12-2016	54	94	74	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	331.99	2.300	2.284	15-12-2016	99	8	52	411	27
65	LOWER MANAIR	280.42	279.46	0.621	0.605	15-12-2016	97	16	66	199	60

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA CENTRAL WATER COMMISSION

WEEK ENDING :- 15.12.2016

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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	738.50	1.163	0.167	15-12-2016	14	64	75	79	-
*67	TUNGABHADRA	497.74	484.25	3.276	0.253	15-12-2016	8	27	60	529	72
68	GHATAPRABHA	662.95	655.13	1.391	0.869	14-12-2016	62	27	60	317	-
69	BHADRA	657.76	645.00	1.785	0.604	14-12-2016	34	58	87	106	39
70	LINGANAMAKKI	554.43	546.14	4.294	2.183	15-12-2016	51	52	75	-	55
71	NARAYANPUR	492.25	488.36	0.863	0.318	15-12-2016	37	44	81	425	-
72	MALAPRABHA(RENUKA)	633.83	625.10	0.972	0.196	14-12-2016	20	15	52	215	-
73	KABINI(Sancherla Tank)	696.16	689.50	0.444	0.122	15-12-2016	27	37	30	85	-
74	HEMAVATHY	890.63	873.26	0.927	0.105	15-12-2016	11	15	44	265	-
75	HARANGI	871.42	858.77	0.220	0.057	15-12-2016	26	2	19	53	-
76	SUPA	564.00	545.42	4.120	2.181	15-12-2016	53	44	64	-	-
77	VANIVILAS SAGAR	652.28	633.52	0.802	0.034	14-12-2016	4	13	19	123	-
*78	ALMATTI	519.60	516.38	3.105	1.837	15-12-2016	59	15	64	@	290
*79	GERUSOPPA	55.00	50.53	0.130	0.105	15-12-2016	81	72	82	83	240
<u>KERALA</u>											
80	KALLADA(PARAPPAR)	115.82	100.93	0.507	0.202	15-12-2016	40	92	86	62	-
*81	IDAMALAYAR	169.00	154.15	1.018	0.612	15-12-2016	60	56	74	33	75
*82	IDUKKI	732.43	714.23	1.460	0.587	15-12-2016	40	59	69	-	780
*83	KAKKI	981.46	967.78	0.447	0.254	15-12-2016	57	74	83	23	300
*84	PERIYAR	867.41	859.62	0.173	0.020	15-12-2016	12	100	68	84	140
85	MALAPMUZHA	115.06	107.26	0.224	0.080	15-12-2016	36	55	72	21	3
<u>TAMIL NADU</u>											
86	LOWER BHAWANI	278.89	262.30	0.792	0.098	15-12-2016	12	55	67	105	8
*87	METTUR(STANLEY)	240.79	216.08	2.647	0.327	15-12-2016	12	65	64	122	360
88	VAIGAI	279.20	264.44	0.172	0.004	15-12-2016	2	78	56	61	6
89	PARAMBIKULAM	556.26	540.26	0.380	0.083	15-12-2016	22	73	82	101	-
90	ALIYAR	320.04	304.22	0.095	0.011	15-12-2016	12	98	86	#	60
*91	SHOLAYAR	1002.79	957.46	0.143	0.000	15-12-2016	0	34	67	-	95
TOTAL FOR 91 RESERVOIRS				157.799	98.320						
PERCENTAGE							62	49	63		

Sd/-

Director

W. M. , CWC

* HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

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. 30th 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