

BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 22.09.2016)

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 **22.09.2016**, live storage available in these reservoirs is **111.037 BCM**, which is **70%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **94.836 BCM** and the average of last 10 years live storage was **120.945 BCM**. Thus, the live storage available in 91 reservoirs **as per 22.09.2016 Bulletin** is **117%** of the live storage of corresponding period of last year and **92%** 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 **22.09.2016**, the total live storage available in these reservoirs is **14.01 BCM** which is **78%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **84%** and average storage of last ten years during corresponding period was **84%** 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 **22.09.2016**, the total live storage available in these reservoirs is **15.06 BCM** which is **80%** 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 **76%** 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 **22.09.2016**, the total live storage available in these reservoirs is **20.90 BCM** which is **77%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **62%** and average storage of last ten years during corresponding period was **80%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year but 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

22.09.2016, the total live storage available in these reservoirs is **37.72 BCM** which is **89%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **77%** and average storage of last ten years during corresponding period was **72%** 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 **22.09.2016**, the total live storage available in these reservoirs is **23.34 BCM** which is **45%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **35%** and average storage of last ten years during corresponding period was **76%** 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 8, better than normal storage is available in Narmada, Mahi, , Ganga, Sabarmati and Godavari.. Close to Normal in Tapi, Mahanadi & neighbouring East Flowing Rivers and Indus and Deficient in Rivers of Kutch, West Flowing Rivers of South, Krishna and Cauvery & neighbouring EFRs Basin .
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storage more than last year are **56** 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 **2** and having storage less than 20% with reference to average of last ten years is **5**. The number of reservoirs having storage less than or equal to 50% with respect to last year are **8** and having storage less than or equal to 50% with reference to average of last ten years are **17**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 22.09.2016

- 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 **22.09.2016** is **111.037** BCM (**70** percent of the live storage capacity at FRL).The current year's storage is nearly **117** percent of last year's storage and **92** 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	1	-	3	-	-	-	-	H.P.	-17 %	
									PUNJAB	11 %	
									RAJASTHAN	19 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	4	2	3	4	-	1	1	-	JHARKHAND	13 %	
									ODISHA	0 %	
									W. BENGAL	46 %	
									TRIPURA	60 %	
WEST (Guj.& Mah.), (27 Resv.)	7	5	2	1	5	2	1	4	GUJARAT	-5 %	
									MAH.	-1 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	2	6	1	1	1	1	-	-	U.P.	51 %	
									UTTARAKHAND	-2 %	
									M.P.	27 %	
									CHHATISGARH	-8 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	1	1	1	1	2	5	5	15	AP&TG	-61 %	
									A,P	-30 %	
									TG	-4 %	
									KARNATAKA	-34 %	
									KERALA	-34 %	
									T.N.	-35 %	
Status of 91 reservoirs	16	15	7	10	8	9	7	19			

4 Basin wise storage position:

Better than normal: Ganga,Sabarmati,Godavari,Mahi and Narmada

Close to normal: Indus, Tapi and Mahanadi & Neighbouring EFRS.

Deficient: Rivers of Kutch,West Flowing Rivers of South,Krishna and Cauvery & neighbouring EFRS.

Highly deficient: NIL

- 5 Out of 91 reservoirs, **59** reservoirs reported more than 80% of normal storage & **32** reservoirs reported 80% or below of normal storage. Out of these **32** reservoirs **17** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%
NAGARJUNA SAGAR	4	KALLADA(PARAPPAR)	46
ALIYAR	6	SHOLAYAR	47
BHADAR	9	MALAMPUZHA	48
VAIGAI	10	LOWER MANAIR	50
HEMAVATHY	20	MALAPRABHA(RENUKA)	50
YELDARI	25		
KRISHNARAJA SAGRA	26		
PERIYAR	31		
LOWER BHAWANI	32		
TUNGABHADRA	41		
VANIVILAS SAGAR	41		
PARAMBIKULAM	45		

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

51% to 60%	61% to 70%	71% to 80%
4	6	5

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

18 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 :- 22.09.2016

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	24.660	87.77%	19.361	68.91%	18.072	64.32%	36.45
INDUS	14.730	10.754	73.01%	12.235	83.06%	12.384	84.07%	-13.16
NARMADA	17.414	16.305	93.63%	15.515	89.09%	14.844	85.24%	9.84
TAPI	7.394	5.781	78.19%	5.444	73.63%	6.000	81.15%	-3.65
MAHI	4.012	3.505	87.36%	3.132	78.07%	3.196	79.66%	9.67
SABARMATI	0.735	0.709	96.46%	0.660	89.80%	0.527	71.70%	34.54
RIVERS OF KUTCH	0.887	0.297	33.48%	0.797	89.85%	0.558	62.91%	-46.77
GODAVARI	15.394	10.219	66.38%	6.922	44.97%	10.129	65.80%	0.89
KRISHNA	32.831	16.922	51.54%	10.912	33.24%	26.838	81.75%	-36.95
MAHANADI & NEIGHBOURING EFRS	13.181	10.409	78.97%	9.052	68.67%	11.145	84.55%	-6.60
CAUVERY & NEIGHBOURING EFRS	8.359	2.948	35.27%	3.037	36.33%	5.416	64.79%	-45.57
WEST FLOWING RIVERS OF SOUTH	14.766	8.528	57.75%	7.769	52.61%	11.836	80.16%	-27.95
TOTAL	157.799	111.037		94.836		120.945		
PERCENTAGE								-8.19

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 22.09.2016

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	503.04	6.229	4.584	22-09-2016	74	94	90	676	1200
*2	PONG DAM	423.67	417.28	6.157	4.449	22-09-2016	72	85	85	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	519.59	2.344	1.721	22-09-2016	73	50	66	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	281.50	1.711	1.711	22-09-2016	100	99	86	63	140
5	JHAKAM	359.50	359.65	0.132	0.132	22-09-2016	100	92	84	28	-
*6	RANA PRATAP SAGAR	352.81	352.65	1.436	1.416	22-09-2016	99	78	79	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	259.77	0.821	0.407	22-09-2016	50	52	44	-	-
8	MAITHON	146.3	149.27	0.471	0.471	22-09-2016	100	54	92	342	-
*9	PANCHET HILL	124.97	128.50	0.184	0.184	22-09-2016	100	21	88	\$	80
10	KONAR	425.81	425.93	0.176	0.176	22-09-2016	100	82	89	\$	-
11	TILAIYA	368.81	371.64	0.142	0.142	22-09-2016	100	100	83	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	191.05	5.378	4.200	21-09-2016	78	82	94	153	307
*13	BALIMELA	462.08	458.27	2.676	2.005	21-09-2016	75	62	57	-	360
14	SALANADI	82.30	73.58	0.558	0.299	21-09-2016	54	46	56	42	-
*15	RENGALI	123.50	122.64	3.432	3.150	21-09-2016	92	57	81	3	200
*16	MACHKUND(JALPUT)	838.16	836.28	0.893	0.730	21-09-2016	82	88	83	-	115
*17	UPPER KOLAB	858.00	855.69	0.935	0.716	21-09-2016	77	80	65	89	320
*18	UPPER INDRAVATI	642.00	638.69	1.456	1.106	21-09-2016	76	53	79	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	119.16	0.480	0.389	22-09-2016	81	51	62	227	-
20	KANGSABATI	134.14	132.76	0.914	0.828	22-09-2016	91	30	58	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	92.40	0.312	0.258	21-09-2016	83	98	52	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	102.43	6.615	5.202	22-09-2016	79	79	84	348	300
23	SABARMATI(DHAROI)	189.59	189.24	0.735	0.709	22-09-2016	96	90	72	95	1
*24	KADANA	127.7	127.66	1.472	1.244	22-09-2016	85	64	72	200	120
25	SHETRUNJI	55.53	53.37	0.300	0.157	22-09-2016	52	100	77	36	-
26	BHADAR	107.89	100.55	0.188	0.012	22-09-2016	6	87	73	27	-
27	DAMANAGANGA	79.86	79.45	0.502	0.459	22-09-2016	91	94	89	51	1
28	DANTIWADA	184.1	175.00	0.399	0.128	22-09-2016	32	84	48	45	-
29	PANAM	127.41	125.30	0.697	0.418	22-09-2016	60	52	77	36	2
*30	SARDAR SAROVAR	121.92	121.48	1.566	1.486	22-09-2016	95	87	93	2120	1450
31	KARJAN	115.25	104.23	0.523	0.245	22-09-2016	47	67	92	51	3

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 22.09.2016

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	461.86	2.171	1.438	22-09-2016	66	4	51	227	-
*33	KOYANA	657.90	659.16	2.652	2.647	21-09-2016	100	75	97	-	1920
34	BHIMA(UJJANI)	496.83	495.32	1.517	1.042	21-09-2016	69	0	77	125	12
35	ISAPUR	441.00	433.32	0.965	0.356	21-09-2016	37	35	67	104	-
36	MULA	552.30	551.70	0.609	0.577	21-09-2016	95	50	81	139	-
37	YELDARI	461.77	451.37	0.809	0.106	22-09-2016	13	14	53	78	-
38	GIRNA	398.07	394.93	0.524	0.366	22-09-2016	70	11	48	79	-
39	KHADAKVASLA	582.47	582.47	0.056	0.056	21-09-2016	100	20	79	78	8
*40	UPPER VAITARNA	603.50	603.47	0.331	0.330	21-09-2016	100	70	92	-	61
41	UPPER TAPI	214.00	213.29	0.255	0.213	22-09-2016	84	70	75	45	-
*42	PENCH (TOTALADOH)	490.00	485.66	1.091	0.711	22-09-2016	65	88	86	127	160
43	UPPER WARDHA	342.50	342.48	0.564	0.562	22-09-2016	100	100	92	70	-
44	BHATSA	142.07	141.72	0.942	0.934	21-09-2016	99	78	95	29.378	15
45	DHOM	747.70	747.65	0.331	0.331	22-09-2016	100	53	88	36.2	2
46	DUDHGANGA	646.00	645.91	0.664	0.664	22-09-2016	100	77	97	2.441	24
47	MANIKDOH (KUKADI)	711.25	705.92	0.288	0.200	22-09-2016	69	27	59	2.2	6
48	BHANDARDARA	342.50	342.48	0.304	0.303	22-09-2016	100	100	92	70	-
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	308.46	0.707	0.641	21-09-2016	91	77	90	-	30
*50	RIHAND	268.22	265.39	5.649	4.427	22-09-2016	78	37	48	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	349.57	2.196	1.154	22-09-2016	53	77	68	1897	198
*52	TEHRI	830.00	824.65	2.615	2.394	22-09-2016	92	89	81	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	399.89	6.827	6.607	21-09-2016	97	92	62	220	115
54	TAWA	355.40	355.49	1.944	1.944	22-09-2016	100	100	98	247	-
*55	BARGI	422.76	422.15	3.180	3.044	22-09-2016	96	91	91	157	90
*56	BANSAGAR	341.64	341.62	5.166	5.166	21-09-2016	100	68	68	488	425
*57	INDIRA SAGAR	262.13	261.44	9.745	9.142	22-09-2016	94	88	79	2380	1000
58	BARNA	348.55	348.35	0.456	0.444	21-09-2016	97	82	84	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	354.65	3.046	2.080	20-09-2016	68	64	76	-	120
60	MAHANADI	348.70	347.79	0.767	0.680	21-09-2016	89	62	86	319	10
SOUTHERN REGION											
A.P. & TG											
*61	SRISAILAM	269.75	266.46	8.288	4.427	22-09-2016	53	21	80	0	770
*62	NAGARJUNA SAGAR	179.83	156.67	6.841	0.195	22-09-2016	3	0	74	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	89.00	1.994	0.621	22-09-2016	31	13	45	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	328.94	2.300	1.423	22-09-2016	62	10	57	411	27
65	LOWER MANAIR	280.42	271.76	0.621	0.186	22-09-2016	30	19	60	199	60

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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
KARNATAKA											
66	KRISHNARAJA SAGRA	752.50	740.58	1.163	0.259	21-09-2016	22	55	87	79	-
*67	TUNGABHADRA	497.74	491.58	3.276	1.157	22-09-2016	35	64	86	529	72
68	GHATAPRABHA	662.95	658.91	1.391	1.100	22-09-2016	79	38	92	317	-
69	BHADRA	657.76	648.94	1.785	0.899	22-09-2016	50	67	94	106	39
70	LINGANAMAKKI	554.43	547.25	4.294	2.409	22-09-2016	56	50	88	-	55
71	NARAYANPUR	492.25	492.05	0.863	0.714	22-09-2016	83	78	86	425	-
72	MALAPRABHA(RENUKA)	633.83	627.48	0.972	0.344	22-09-2016	35	27	71	215	-
73	KABINI(Sancherla Tank)	696.16	691.77	0.444	0.216	21-09-2016	49	65	58	85	-
74	HEMAVATHY	890.63	875.84	0.927	0.169	21-09-2016	18	51	90	265	-
75	HARANGI	871.42	866.01	0.220	0.110	21-09-2016	50	63	92	53	-
76	SUPA	564.00	545.97	4.120	2.228	22-09-2016	54	43	73	-	-
77	VANIVILAS SAGAR	652.28	634.04	0.802	0.041	22-09-2016	5	6	12	123	-
*78	ALMATTI	519.60	519.60	3.105	3.105	22-09-2016	100	52	94	@	290
*79	GERUSOPPA	55.00	53.19	0.130	0.119	22-09-2016	92	70	81	83	240
KERALA											
80	KALLADA(PARAPPAR)	115.82	98.40	0.507	0.169	20-09-2016	33	30	72	62	-
*81	IDAMALAYAR	169.00	152.73	1.018	0.579	20-09-2016	57	51	78	33	75
*82	IDUKKI	732.43	716.73	1.460	0.688	20-09-2016	47	54	67	-	780
*83	KAKKI	981.46	970.04	0.447	0.280	20-09-2016	63	48	77	23	300
*84	PERIYAR	867.41	860.13	0.173	0.027	21-09-2016	16	31	51	84	140
85	MALAPMUZHA	867.41	860.13	0.224	0.090	21-09-2016	16	31	51	84	140
TAMIL NADU											
86	LOWER BHAWANI	278.89	264.71	0.792	0.151	21-09-2016	19	38	60	105	8
*87	METTUR(STANLEY)	240.79	230.93	2.647	1.415	21-09-2016	53	34	63	122	360
88	VAIGAI	279.20	265.60	0.172	0.007	21-09-2016	4	16	41	61	6
89	PARAMBIKULAM	556.26	544.10	0.380	0.146	21-09-2016	38	68	86	101	-
90	ALIYAR	320.04	302.67	0.095	0.005	21-09-2016	5	83	87	#	60
*91	SHOLAYAR	1002.79	988.62	0.143	0.065	21-09-2016	45	66	96	-	95
TOTAL FOR 91 RESERVOIRS				157.799	111.037						
PERCENTAGE							70	60	77		

Sd/-

* HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

Director

\$ 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. 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